**GASTRO INTESTINAL DISORDERS [GIT]. ALICE**

**OBJECTIVES**

By the end of the lesson the student should be able to acquire knowledge skills and attitude to be able to define Establish the , causes , predisposing/Risk factors , investigate, manage,[ medical and nursing ,specific and general] nursing care for the following gastrointestinal disorders in adults.

DIS0RDERS

1. Cancer of esophagus
2. cancer of the stomach
3. Hernia
4. Peptic ulcer disease
5. . Liver cirrhosis
6. liver cancer
7. Pancreatitis
8. . Acute abdomen
9. Intestinal obstruction
10. Appendicitis
11. Peritonitis
12. ulcerative colitis
13. colorectal cancer
14. . hemorrhoids

1. CANCER OF OESOPHAGUS

Definition

This is the carcinoma of the esophagus .The esophagus is approximately 25cm in average. It is usually the squamous cell type. The tumor cells may involve the esophageal mucosa and the muscle layer and can spread to the lymphatic .Its primarily found in the distal esophagus and gastro esophageal junction and if the tumor r cells are adenocarcinoma which, may have originated from the stomach In latter stages it may obstruct the esophagus, perforate the mediastinum and erode into the great vessels.

TYPES

1. Squamous cell carcinoma.[ most predominant cells]

2. Adenocarcinoma

CAUSES

The cause is not known[idiopathic] though there are risk factors predisposing factors

PREDISPOSING FACTORS/RISK FACTORS

1.Gender[ male]

2.Race [African American]

3.ge greater risk 5TH Decade of life [50-70]yrs.

 4 .Geographical locality [common in china and northern Iran]

5 .Chronic ingestion exceptionally of hot drinks/beverage and food.

6 .Chronic esophageal irritation.

7. Cigarette smocking or chronic alcohol exposure

8. Gastro-esophageal reflux disease.[GERD]

9 .Achalasia which is untreated.

10. Chronic irritation from Hiatus hernia

11. Barrett’s esophagus

11. Associated to use of opium pipes

12. Nutritional deficiencies

14 .poor oral hygiene

15. Environmental exposure to nitrosamines.

16. Medical conditions as caustic injury

17. Food poisoning

18.Familial history of cancer

PATHOPHYSIOLOGY

Esophageal cancer can be of two types, adenocarcinoma and squamous cell carcinoma. They tumor cells may spread beneath the esophageal mucosa and directly into ,through beyond the muscle layers into the lymphatic’s .In the latter stages obstruction of the esophagus is noted ,with possible perforation into the mediastinum and mediasternal structures.

DIAGNOSTIC INVESTICATIONS

1 .Biopsy to determine cell differentiation if the cells are adenocarcinomas or squamous cell carcinoma.e.g nodal biopsy.

2. Brushings

3. Endoscopy

4 .Bronchoscopy

 5. Mediastenoscopy

7. Ct scan of the chest and abdomen beneficial in detecting metastatic disease especially of the lungs, liver and kidney.

8. PET[.Positron Emission Therapy] to detect metastasis and has more sensitivity than ct scan.

9 .Endoscopic ultrasound is done to detect of the cancer has spread to the lymph nodes and other mediastinal structures. It can also determine the size and invasiveness of the tumor.

10 .EGD esophagogastroduodenoscopy.

11. Explorative Laparoscopy- opening through an incision made on the chest the best method of finding positive lymph nodes in the patient with distal lymph nodes.

12. Explorative laparotomy can be done to explore the cause and ascertain metastasis o the disease

13. Barium swallows

14. Oesophagoscopy

15 stool for occult blood

16.History taking

17.Physical examination

CLINICAL FEATURES SIGNS AND SYMPTOMS

Many patients may have advanced ulcerated lesions of the esophagus before symptoms are manifested. This symptoms include

1.Dysphagia ,initially with solid food, and eventually with liquids.

2.A feeling/sensation of mass/lump on the throat

3.Painfull swallowing [odynophagia]

4.substernal pain or swallowing or fullness

5.Regurgitation of indigested food and saliva with foul breath and hiccups as a result of phrenic nerve irritation .The patient first becomes aware of intermittent and increasing difficulty in swallowing.

6.chronic cough

7.choking after eating

8.hoarseness of the voice

9. Massive haemoptysis

TREATMENT/MANAGEMENT

Staging of the cancer of esophagus is done to determine the extent and treatment modality to be applied.

1 .MEDICAL MANAGEMENT

If esophageal cancer is detected at an early at an early stage treatment goals may be directed towards cure .If it is detected in late stages making the relief of symptoms the only reasonable goal of therapy. In late stage palliation is the goal of therapy.

The treatment includes, radiation chemotherapy, or combination of these modalities , depending on the cell type the extend of the disease and patient condition. The surgical treatment for a newly diagnosed patient with cancer of esophagus include the following preoperative complication of chemotherapy and radiation therapy for 4-6 weeks followed by a period of no medical intervention for 4 weeks and lastly surgical resection of the esophagus.

SURGICAL MANAGEMENT

Standard surgical management includes total resection of the oesophagectomy with removal of the tumor and wide tumor free margin and the lymph nodes of that area.

The surgical approach may be through the thorax or the abdomen, depending on the location of the tumor .When tumors occur I the cervical area esophageal continuity may be maintained by a free jejunal graft transfer, in which a tumor is removed and the area is replaced with a portion of a jejunum. A segment of the colon may be used.

An elevation of the stomach can be elevated into the chest and the proximal section of the esophagus anastomosed to the stomach.

Tumors of the lower esophagus are more amenable to surgery than the tumors located higher in the esophagus

1.The surgical resection of the esophagus is of high mortality as a result of infection, pulmonary complication, or leaking through anastomosis .post operatively nasogastric tube can be inserted.

2 .palliative treatments may be necessary to keep esophagus open. Palliation can accomplished by dilation of the esophagus , dilation ,and placement of endoprosthesis[stent] which is an artificial esophagus ,radiation or chemotherapy.

3 .Chemotheraphy

 4. Radiation-to immobilize tumor cells and rapid multiplication.

5. Palliation-to maintain esophageal patency

6. Oesophagectomy through the thorax or abdomen or free jejunal or graft transfer.

3 .NURSING MANAGEMENT

The surgical l intervention is directed towards improving the Patients nutritional or physical status in preparation for surgery, radiotherapy or chemotherapy

A program to promote weight gain based on high calorie and high protein diet I liquid or soft form for adequate oral diet needs and nutritional status is monitored throughout treatment.

The patient is informed on nature of post –operative equipment including nasogastric suction, parenteral fluid therapy and gastric intubation. To check for obstruction and no evidence of pulmonary aspiration.

General preoperative care and also care give to a patient on thoracic surgery and also immediate and if the patient is unconscious can be nursed in ICU

The patient should be put on vigorous plan on pulmonary care including, sitting up on a chair , necessary nebulization treatment chest physiotherapy .Drainage from cervical neck wound, usually saliva is indicative of leak.

The patient should be nil per mouth and total parenteral nutrition and enteral support is needed and an NG-Tube inserted during surgery.

The NG tube is inserted and takes 5-7 days after surgery and is removed , barium meal also done to access anastomotic leak

Once feeding begins a nurse encourages the patient to swallow small sips of water eventually when the diet is tolerated a soft diet is instituted and parenteral fluids are stopped. Encourage the patient to eat small frequent meals because of anorexia especially during chemotherapy there is loss of appetite and is usually depressed

Give patient antacids to relieve gastric distress .oral suction can be done on patients who cannot handle secretions to prevent aspiration into the lungs causing aspiration pneumonia

COMPLICATIONS

1 .Anastomotic leak

2 .pneumothorax

3. Hydro pneumothorax

4 Infection, poor wound healing, fistulas

5. Anastomotic leak

6 .Reflux aspiration

7complication arising from total osophagectomy with colon transplant

8 .metastasis to various organs like Lungs adrenal glands , Bone/kidneys, adrenals , supra cervical, mediastinum.

9 .Aspiration pneumonia

10 . Vagotomy syndrome-which occurs due to interruption of vagus nerve which causes alteration of storage function and pylorus emptying.

11. cardiac complications including atrial fibrillation as a result of irritation of the vague nerve at the time of surgery.

2 .CANCER OF THE STOMACH

 DEFINATION

This are epithelial tissues predominant adenocarcinomas incidence in onset and development and is difficult to diagnose in early stages. Most cancers occur in lesser curvatures than greater curvature. The cancer cells affects the antrum and gastric mucosa of the stomach and infiltrate the surrounding mucosa and metastasis to other structures like the liver ,pancreas esophagus and duodenum.

TYPES.

1.Adenocarcinoma

2.Mesenchymal cells

3.Lymphoid cells

CAUSES. Idiopathic no known cause.

REDISPOSING FACTORS

1.Low social economic status

2.Highly salted food

3 Diet.Ingestion of smoked fish/meat and lacking in fruits and vegetables.

4.It typically occurs in males

5.people older than 40 occasionally in younger people

6.chronic inflammation of the stomach.

7.Pernicious anaemia

8.Achlorhydria

9.Gastric ulcers

10.Helicobacter pylori bacteria

11.Heredity

12.Gastritis

13.stomach polyps

14.Ebstein barr syndrome

1. ured fruits and vegetables

16.Most adenocarcinomas found in distal stomach on the lesser curvature.

17.Usually well advanced when symptoms first appear.

18.Most common in the 50-70 age groups.

19.Twice as common in men.

1. Lower socio-economic classes.

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21.Smoking.

22.Alcoholism.

23.gastric polyps

DIGNOSTIC INVESTIGATIONS

a) Upper GI series

b) CT scan

c) Endoscopic exam with biopsy and/or brush cytology.

d) Exploratory laparotomy with regional lymph node resection.

e/Gastric analysis

f.Histoty taking

g.Physical examination

CLINICALFEATURES/SIGNS AND SYMPTOMS

Early symptoms may be absent though the patient may present with signs like gastric ulcers which may be relieved with antacids.

1. Vague, poorly defined symptoms.
2. Stomach upset.
3. Feeling of fullness or heaviness and moderate distension after meals.
4. With advanced disease symptoms are still relatively vague.
5. Weight loss
6. Anorexia, nausea and vomiting.
7. Weakness fatigue and anemia.
8. Pain in the epigastric, back or retrosternal areas.
9. Palpable abdominal mass.
10. Dysphagia.
11. Changes in bowel habits, positive guaiac.
12. Palpable mass
13. Mass which is couliflowerlike
14. Indigestion
15. Constipation

[L.] ]Anaemia

[M].Ascitis

[N]Dyspepsia

[O].weight loss

TREATMENT/MANAGEMENT

1. MEDICAL MANAGEMENT

1. Chemotherapy- response rates are poor with no clear cut survival benefits shown.

2. Radiotherapy is rarely effective due to wide spread involvement. It may be used palliatively to treat localized obstruction.

3. Palliative care to prevent symptoms like obstruction

4. Chemotherapy with drugs like 5D Fluorouracil, doxorubicin,[Adriamycin]Mitomycin.

5. Radiation for palliation

6. Tumor marker assessment to determine treatment effectiveness

2. SURGICAL MANAGEMENT

1.Gastrectomy

1. Type depends upon location of tumor
2. Subtotal esophagogastrectomy
3. Total gastrectomy
4. Subtotal gastrectomy

 2. surgery holds only hope for cure but has poor results with advanced stages.

1. Total pancreatectomy
2. Pancreatic duodenal resection. (Whipple procedure)

3.Palliative surgery

1. Done when there are unfavorable findings with exploratory laparotomy.
2. Relieves symptoms and may prolong survival.

3.NURSING MANAGEMENT

1. Support the patient throughout diagnostic period.
2. Explain procedures.
3. Answer questions about results of tests and disease process.
4. Prepare patient for surgical procedure.
5. Discuss procedure to be performed.
6. Explain presence of nasogastric tube.
7. Emphasize the need for coughing and deep breathing and early ambulation.
8. Assess for post-operative complications.
9. Pneumonia.
10. Infection.
11. Anastomotic leak.
12. Hemorrhage.
13. Reflux aspiration.
14. Dumping syndrome.
15. Assess for metastatic disease.
16. Liver.
17. Intraperitoneal region.
18. Pancreas
19. Lung
20. Bone
21. Other causes of death
22. Bronchopneumonia
23. Lung abscess
24. Deep vein thrombosis

COMPLICATIONS

1.Anaemia

2.Jaundice

3.lung cancer

4.colorectal cancer

5 .pancreatic cancer

6.bowel obstruction

 DDdD

3 .HERNIA

DEFINATION

Hernia refers to a protrusion of a tissue or a structure or an organ through a weak point .or protrusion of the same in a place where it is not supposed to be anatomically.

Hernias may be congenital or acquired when a muscle weakens from obesity, surgery or increased abdominal pressure.

CLASSIFICATION/TYPES

1.REDUCABLE-Hernia that goes back to its anatomical place when manipulated and no surgery done.

2.IRREDUCABLE-The hernia that does not go back to its anatomical place unless surgery is done.

COMMON TYPES OF HERNIA-umbilical , Incisional hernia, inguinal, Femoral ,Strangulated hernia,hiatal

1. INCISION HERNIAS- Due to failure of muscles to heal post operatively. Increased abdominal pressure causes herniation through the scar tissue.
2. INGUINAL HERNIAS- Occurs when a section of intestines herniates through the spermatic cord into the inguinal canal.
3. UMBILICAL HERNIAS- Due to failure of the umbilicus to close at birth or increased intra-abdominal pressure due to pregnancy or obesity.

FEMORAL HERNIAS- Caused by a a section of intestine herniating through the femoral canal due to weakness in the femoral ring.

1. HIATAL HERNIA

- A portion of the stomach herniates through the diaphragm and into the thorax.

TYPES OF HIATUS HERNIA

1.slidding hiatus hernia

2.Rolling hiatal hernia

3 para-aoesophageal hernia

ETIOLOGY AND PATHOPHYSIOLOGY

Hiatal hernia may result from congenital weakness of the diaphragm or from trauma, relaxation of tissues supporting the diaphragm, pregnancy or obesity. The function of the cardiac sphincter is lost, gastric juices enter the esophagus and edema and hyperemia may result.

DIAGNOSTIC INVESTIGATIONS

1. Diagnostic studies- will reveal protrusion of stomach through the diaphragm.
2. Upper gastrointestinal series or barium swallows.
3. Endoscopy.
4. Signs and symptoms- a)Heartburn after eating which increases in the recumbent position

 b) Sub sternal burning pain

 c) Nocturnal dyspnea

 d) Regurgitation

3.P.hysical examination

4.History taking

5.Abdominal xray

5.Ultrasound

6.ct scan.e.g vertebral hernia

7.Mri

TREATMENT

1. Medical management

a) Small, frequent, balanced feedings

b) Antacids

 2. Surgery aimed at restoring the stomach below the diaphragm.

NURSING INTERVENTIONS

1. Educate client on importance of balanced diet.
2. Encourage client not to lie down after meals and to eat slowly.
3. Administer antacids.
4. Encourage weight loss if necessary.
5. Elevate head of bed after meals.
6. Prevent constricting clothing above the waist and sharp, forward bending.
7. Post-operative care.

OTHERS .

Epigastric ,congenital diaphragmatic hernia,[common in children]vertebral hernia ,sports hernia.

GENERAL CAUSESOF HERNIA

1. Increased intra-abdominal pressure .e.g in pregnancy, lifting heavy weight .Surgery ,obesity ,ascites putting on constricting clothes.

2. Congenital-a person is born with the disorder and manifests during growth and development.

3. Debilitating illness-as a result of the illness the hernia develops. Like chronic lung diseases causing chronic cough. Cystic fibrosis.

CLINICAL FEATURES, SIGHNS AND SYMPTOMS[it depends on the type of hernia and the site.

a) Lump appearing over the herniated area when the client stands up, strains or performs an activity.

b) Sharp, steady pain when there is tension on the herniated contents.

c) Strangulation causes severe pain and may cause bowel obstruction.

d) Bowel obstruction causing anorexia.

d) Complete bowel obstruction causing fever, shock, bloody stools and absence of bowel sounds.

TREATMENT/MANAGEMENT

1. MEDICAL MANAGEMENT

A truss may be used if the hernia is reducible to push the hernia back in place.

 2 .SURGICAL MANAGEMENT

1. Hernioraphy

Replaces the contents of the hernia sac into the abdominal cavity and closes the opening.

1. Hernioplasty

Reinforces the weakened area with steel mesh or wire.

1. NURSING MANAGEMENT
2. Monitor for abdominal distension, nausea and vomiting which may be signs of intestinal obstruction.
3. Monitor for pain and abdominal distension which may develop when strangulation occurs.
4. Teach client on importance of applying the truss before he gets out of bed.
5. Post-operatively-a) Teach client to splint incision while coughing.

 b) Inform client not to lift anything heavy for 6-8 weeks.

 c) Assess incision site

 5. Assess skin for redness and irritation from truss.

 6. Teach on importance of weight reduction if client is obese.

COMPLICATIONS

1.bowel obstruction

2.infection after surgery

4.PEPTIC ULCER DISEASE

DEFINATION

This refers to ulceration /erosion of the lining of esophagus, stomach and duodenum because of continual exposure to the acid gastric juice and pepsin and the lining of the mucosa is not able to withstand the acid and eroded hence ulceration.

TYPES/CLASSIFICATION.

1 .OESOPHAGEAL ULCER

2 .GASTRIC ULCER-

3 .DUODENAL ULCER –

CAUSES.

Unknown (idiopathic)

PREDISPOSING FACTORS

1 .Genetic

 2 .Blood group of susceptible to peptic ulcer disease..

3 .Ingestion of highly spiced food

4 .Use of NSAIDS [non-steroidal anti-inflammatory drugs]

5 .Emotional stress

6 .Personality [perfectionist]

7. Achlorhydria

8. Pernicious anemia

9. Smoking

PATHOPHYSIOLOGY

1. The exact cause of peptic ulcer is not known but a peptic ulcer develops when a localized portion of the mucous membrane cannot withstand the digestive action of the acid-pepsin gastric juice.

2. In duodenal ulcers there is an increased level of acidity of gastric juices. The hyper secretion of acid continues between meals when there is no stimulus for secretion.

3. In gastric ulcer. There is no increase of acid levels but a decrease in the normal resistance of the mucosa.

DIAGNOSTIC INVESTICATION

1. Gastric analysis
2. Double-contrast barium study
3. Endoscopy
4. Stool for guaiac

CLINICAL FEATURES/SIGNS AND SYMPTOMS

1. A sensation in the epigastric region described as aching burning, cramp-like or gnawing.
2. A feeling of fullness in the upper portion of the abdomen.
3. Pain 1-3 hours after ingestion of food.
4. Nausea and vomiting.

TREATMENT/MANAGEMENT

1 .MEDICAL MANAGEMENT

2.ANTACIDS-They decrease gastric acidity and acid content of chime reaching the duodenum.

3.,HISTAMINE HYDROGEN RECEPTOR ANTAGONISTS-This include cimetidine[Tagamet]ranitidine,[zantac]They block the action of histamine on hydrogen receptors and this reduce Hydrochloric secretion and accelerates ulcer healing.

4. PROTON PUMP INHIBITOR- example omeprazole .They block ATPase enzyme that is important in secrection of gastric acid. HEY BLOCK THE

5. MESOPROSTOL [CYTOTEC]-to replace the mucosal layer and facilitate healing.

6.Acticholinergics-It binds to the re

6. MUSCARINIC ANTAGONIST.-They reduce secretion of mucus

7.Antibiotics;To prevent infecctions.

8.Bismuth has effect on repair of mucosal lining and also has some effect on h.pylori bacteria.

2 .SURGICAL MA NAGEMENT

1 .Antrectomy

2 .pyloroplasty

3.Vagotomy

4. Subtotal gastrectomy.-

1 .BILLROTH 1.Gastro duodenostomy.

2. BILLROTH 2.Gastro jejunostomy

3. NURSING MANAGEMENT

1. Administration of medications and assessment of clients compliance with drug therapy.

2. Assess client for complications of peptic ulcer disease which include;

 a) Hemorrhage

 b) Pyloric or duodenal obstruction

 c) Gastric perforation

3. Assist client to avoid stressful situations.

4. Assess for signs of pain.

5. Teach client about diet, bland diet.[diet without spices.

6. rest and avoidance of smoking, caffeine and aspirin.

7. Teach client to eat small frequent meals and avoid foods that increase gastric secretion or irritate the gastric mucosa.

8. Encourage client to seek counseling to help alleviate emotional stress.

9. Provide time for client to express his feelings and concerns.

10. Observe for signs of complications such as;

 a) Dumping syndrome

 b) Hemorrhage

 c) Pneumonia

 d) Pernicious anemia.

COMPLICATIONS

1. Hemorrhage

2. Infection

3.cancer of the stomach

5. LIVER CIRRHOSIS

DEFINATON

This is the gradual irreversible replacement of the normal liver tissues by scar/fibrosis/thinning and degeneration of the liver tissues. Diseases gradually affects the liver function and impairs liver functioning and structure and also the blood and lymph flow finally the liver fails to function s sufficiently causing hepatic insufficiency.

TYPES/CLASSIFFICATIONS

1 .Alcoholic cirrhosis

2. Portal cirrhosis, nutritional or alcoholic ( Laennec’s type)- Results aminly from malnutrition which causes scar tissue to form around the portal area.

3 .Nonalcoholic streatohepatitis NASH [caused by excessive intake of fats /high cholesterol diet ,obesity]

4. Biliary cirrhosis

5 .cardiac cirrhosis caused by rig

ht sided heart failure.

6 .Post –necrotic hepatitis after[ hepatitis]infection

7. Nutritional

CAUSES/PREDISPOSING FACTORS

1 .Excessive alcohol intake and smoking

2 .prolonged use of drugs like Acetaminophen [paracetamol]

3.malnutrition

4.right sided heart failure causing cardiac cirrhosis

5.Hepatitis

PATHOPHYSIOLOGY

Cirrhosis develops over a period of years as normal tissue is replaced by a scar tissue. There is irreversible fibrosis and degeneration f the liver. Liver function is impaired and finally ceases because the disease alters liver structure, impairs blood flow and finally causes hepatic insufficiency.

DIAGNOSTIC INVESTICATION

1. Liver scans reveals decreased uptake in liver.
2. Paracentesis reveals decreased total protein.
3. Angiographic study visualizes portal venous system.
4. Liver biopsy.
5. Elevated serum bilirubin in jaundice.
6. Elevated SGOT, SGPT, LDH.
7. Low blood glucose.

CLINCAL FEATURES/SIGHNS AND SYMTOMS

1. Anorexia
2. Indigestion
3. Nausea and vomiting
4. Constipation or diarrhea
5. Abdominal ascites
6. Mental changes
7. Bleeding tendencies
8. Jaundice
9. Fatigue
10. Hemorrhage
11. Dry skin and pruritus
12. Upper right quadrant pain
13. Hepatomegaly

TREATMENT/MANAGEMENT

1. MEDICAL MANAGEMENT
2. High protein and carbohydrate diet.
3. If in renal failure, restrict protein and fluids.
4. Avoid alcohol and sedatives.
5. Diuretics to control ascites and edema.
6. Paracentesis for relief of abdominal pain, dyspnea or reduction of intra-abdominal pressure.
7. Oxygen.
8. IV fluids and total parenteral nutrition.
9. Blood transfusions during acute bleeding periods.
10. Albumin replacement.
11. Vitamins A, B complex C, D, K and folic acid.
12. Stool softeners.
13. Antibiotics.
14. Rest and moderate exercise.
15. Avoidance of exposure to infection.
16. Blakemore-Sengstaken tube is inserted to control bleeding from esophageal avarices.
17. SURGICAL MANAGEMENT
18. Portacaval shunt to decrease portal hypertension
19. Peritoneovenous shunt (LeVeen valve) implanted in the abdominal wall to control ascites.
20. NURSING MANAGEMENT
21. Monitor vital signs, intake and output and lab data daily, weight and abdominal girth.
22. Assess for signs of bleeding.
23. Assess mental status.
24. Maintain adequate rest during acute phase.
25. Give good skin care and control pruritus.
26. Prevent complications such as ascites, bleeding esophageal avarices, hepatic coma and anemia.
27. Instruct client to avoid salt alcohol and sedatives.
28. Administer plasma proteins as ordered.
29. Provide gentle oral hygiene with special sponges or soft-bristle brush.
30. Gently wipe perineum after bowel movement to avoid trauma to hemorrhoids which could initiate bleeding.
31. Provide high protein, high carbohydrate diet. In advanced stage restrict fat and protein.
32. Administer vitamins A, B complex C, D, K and folic acid.
33. Administer diuretics as ordered.
34. Provide client and family with information about Alcoholics Anonymous when alcohol was the cause of the cirrhosis.
35. Teach client that he should not take any non-prescription drugs which may cause further liver damage or increase bleeding tendency.
36. Insertion of a tube if ordered to control esophageal varices
37. Deflate balloon 10 minutes every 2 hours to prevent necrosis.
38. Irrigate with iced saline as ordered.
39. Since the client cannot swallow his saliva, suction orally when necessary.
40. Make sure traction is maintained

COMPICATIONS

1.liver cancer

2.Abdominal ascites.

3.Edema(pitting)

4Kidney failure due to poor supply of blood.

5.Hepatic coma.

6.Infection.

7.Septicaemia.

8.Haemorrhage

9.Cogestive cardiac failure.

10.Embolism.

11.Cardiogenic shock.

1. LIVER CANCER

Primary malignant hematomas and adenocarcinomas arising from liver cells, bile duct cells and rarely diffuse mixed cells.

STAGING.

Helps to decide the type assessment.

Stage 1-Tumor in the liver and has not spread to other organs.

Stage 2-There are either several tumors that remain in the liver or has reached blood vessels.

Stage 3-Various large tumors have reached the gall bladder.

Stage 4-The cancer has metastasized to other organs.

TYPES/CLINICAL FEATURES

1..Hepatocellular hepatitis[hcc]-predominant cell in the liver

2.Cholangiocellular hepatitis[ccc]

3.Adenocarcinoma

4.Mesenchymal

5.Hepatoblastoma

6.Angiosarcoma

CAUSES-Idiopathic

PREDISPOSING FACTORS

1. Primary malignant hepatomas.
2. Originate mainly in the right lobe.
3. 80-90% of cases in low incidences regions occur in patients with ethanol-induced cirrhosis.
4. Hepatitis B&C, chronic liver diseases.
5. Mycotoxins.(aflatoxin)
6. Estrogens and androgens.
7. Irradiations
8. Parasitic infections.(Liver flukes)
9. Vinyl chloride.
10. Gender(common in men)
11. Secondary liver carcinoma
12. Metastases from kidney, lung, breast, pancreatic, stomach and colorectal tumors.
13. Result from invasive growth of nearby organs or spread via portal vein.

DIAGNOSTIC INVESTICATIONS

1. Abdominal x-ray, CT scans ultrasound.
2. Angiography.
3. Selective hepatic arteriogram.
4. Spleenoportogram.
5. Radioisotope scanning.
6. Hematologic profiles and liver function tests used mainly as baseline data to evaluate tumor response to therapy and recurrence.
7. Alpha-fetoprotein- tumor specific for primary hepatocellular carcinoma.
8. Liver biopsy-very risky with potential for intra-abdominal hemorrhage and seeding and spreading of tumor.

CLINICAL FEATURES/SIGHNS AND SYMPTOMS

1. Abdominal pain
2. Dull aching, right upper quadrant.
3. May later radiate to right scapula
4. Gradually becomes more painful and constant and aggravated by lying on right side.
5. Profound, progressive weakness.
6. Fullness in epigastric area, diarrhea or constipation.
7. Ascites.
8. Weight loss, anorexia.
9. Mild jaundice.
10. Palpable hard, nodular liver.
11. Esophageal staging.

TREATMENT/MANAGEMENT

1. MEDICAL MANAGEMENT FOR PRIMARY LIVER TUMOR

1. Adjuvant chemotherapy to eliminate free tumor cells.

2. Radiotherapy when the aim of treatment is cure but is used as an adjuvant or palliative therapy.

3. Palliative care.

 2. SURGICAL MANAGEMENT

 1. Surgical excision of solitary, localized tumor is definitive treatment.

 2. Surgical resection to debulk large multiple tumors as palliative treatment.

SURGICAL MANAGEMENT OF SECONDARY LIVER TUMORS.

1. Segmental or sub segmental resection for small lesions usually used to control tumor size, increase survival time and control symptoms.
2. Intra-arterial infusion of chemotherapeutic agents via the hepatic artery.
3. Hepatic artery embolization.
4. I-131 ant ferritin and Y-90 ant ferritin (radiation- labeled antibodies to ferritin) are being studied.

3. NURSING INTERVENTIONS

1. Prepare patient for diagnostic procedures.

2. Prepare patient for surgical procedures.

 a) Stress importance of coughing and deep breathing.

 b) Location of incision makes these activities very painful.

 c) Teach splinting techniques.

3. Observe for post-operative complications.

 a) Hemorrhage.

 b) Biliary fistula.

 c) Infection.

 d) Metabolic consequences.

 e) Sub phrenic abscess.

 f) Pneumonia, atelectasis.

 g) Portal hypertension.

 h) Clotting defects.

4. Prepare patient for chemotherapy.

 a) Discuss method of delivery- systemic or intra-arterial infusions.

 b) Discuss side effects and their management.

 c) Assess for and manage side effects.

5. Provide measures to control pain which can be severe in later stages.

6. Palliative measures to control ascites.

 a) Fluid and sodium restriction.

 b) Paracentesis.

 c) Diuretic therapy.

 d) Albumin administration.

 e) Peritoneovenous shunt

.COMPLICATIONS

1Ascitis.

2.Infection.

3.Portal hypertension.

4.cancer of stomach

5.Cancer of the colon.

6.Hepatic failure.

7.Hepatiencephalopathy.

9.Anaemia

7. PANCREATITIS

DEFINATION

Inflammation of the pancreas.

TYPES/CLASSIFICATION

1. ACUTE PANCREATITIS –a cause of acute abdomen. Takes days to weeks.

2. CHRONIC PANCREATITIS-Takes weeks/months

CAUSES The causes of pancreatitis is idiopathic.

The possible theories of the causes are suggested as follows

1. Reflux of bile
2. Reflux of duodenal contents
3. Toxic effects of alcohol
4. Complications of abdominal surgery
5. Obstruction of the pancreatic ducts

PREDISPOSING FACTORS

Acronym as follows is indicative of the causes of pancreatitis

[I GET SMASHED]

I-Idiopathic

2-Gallstones

3.Ethanol

4.trauma

5 .steroids

6. mumps/Metabolic disorders

7.Autoimune

8.scorpion/spider sting

9.Hyperlipidemia/hypercalcemia

10.Ercp

11.drugs

.PATHOPHYSIOLOGY

1. The pancreatic enzymes that are secreted by the pancreas, principally trypsin, begin to digest the cells of the pancreas. The enzymes come in contact with the pancreas because there is a disturbance to the ducts draining the cells of the pancreas. If the enzymes come in contact with the pancreatic tissue, it is strong enough to digest the tissue.
2. The agent that triggers the activation of the juice is unknown. Theories f the cause include obstruction of the pancreatic ducts, reflux of bile, reflux of duodenal contents, the toxic effects of alcohol and as a complication of abdominal surgery.

DIAGNOSTIC INVESTIGATIONS

1. WBC’s>15,00/mm3[LEUCOCYTOSIS]
2. Serum amylase>500U/dl
3. Serum albumin<3.2gm/dl
4. Serum calcium<8mg/dl
5. ERCP [Endoscopic retrogadecholangiopancreotography]
6. X-ray
7. Abdominal scan
8. Mri
9. Full -haemogram

CLINICAL FEATURES/SIGNS AND SYMPTOMS

1. Severe pain in the epigastric area
2. Onset of pain often associated with ingestion of food or alcohol
3. Persistent vomiting
4. Fever
5. Shock
6. Abdominal distension
7. Impaired glucose tolerance
8. Cardiac dysfunction
9. Hypocalcaemia
10. Jaundice
11. Sometimes mental confusion
12. Oily stool

TREATMENT/MANAGEMENT

1 .MEDICAL MANAGEMENT

a.The patient should be npo and fasting to rest the git tract

1. Analgesics for pain. Demerol is given because morphine increases sphincter of Oddi spasms.
2. Antacids such as aluminum-magnesium
3. Large volumes of electrolyte fluids are given because there may be massive fluid loss.
4. Monitor intake and output.
5. Central venous pressure is monitored.
6. NPO and NG insertion to reduce acid stimulation.
7. Cimetidine 300mg PO 30 minutes before meals is ordered if there is evidence of upper gastrointestinal bleeding.
8. Diet ordered is low fat, no alcohol, no caffeine to stimulate gastric acid.
9. Blood glucose is monitored and insulin given if necessary.
10. Anticholinergic such as Pro-Banthine 15mg TID to reduce pancreatic secretion ad duodenal spasms.
11. Bed rest and quiet environment to reduce metabolic demands and promote healing.

2 .SURGICAL MANAGEMENT

1. Laparotomy for common duct obstruction.[debridement]
2. Surgical drainage of pancreatic abscesses or cysts.[pseudocysts]

3 .NURSING MANAGEMENT

1. Relieve pain with Demerol as ordered.
2. Maintain client on bed rest to decrease metabolic rate.
3. Monitor electrolytes while client is NPO and NG tube is in place.
4. Administer IV fluids as ordered and record intake and output.
5. Assess vital signs.
6. Observe for ascites.
7. Teach client that heavy meals, spicy foods, coffee and alcohol are to be avoided.
8. Between acute attacks give client diet high in carbohydrates and low in fat and proteins.
9. Maintain client in semi-Fowler’s position to decrease pressure on diaphragm by a distended abdomen.
10. Teach client how to cough and deep breathe to improve respiratory function.
11. Teach client on importance of taking pancreatic enzymes such as amylase and lipase with each meal to improve digestion of food.
12. Help the client understand the causal relationship of pancreatitis with alcohol use and gallstones.

COMPLICATIONS

1infection

2.pancreatic cancer

3.malnutrition

4.pseudo cysts

4.septicaemia

5.Dehydration

6.septic shock

 7.disceminated intravascular coagulation[dic]

8.Diabetes

.

8 .ACUTE ABDOMEN

DEFINATION

This refers to a sudden acute abdominal pain that is life threatening in a period of 24 hours and requires surgical interventions. This is a term that is used to refer to a group of abdominal conditions in which prompt surgical treatment must be considered to treat perforation , peritonitis vascular and other intra –abdominal catastrophes.

CAUSES

1. Bowel- this include Acute appendicitis ,Perforated peptic ulcer, diverticular disease, Intestinal obstruction, and strangulation [hernia],peritonitis

2 .Vascular causes- this include-Acute vascular insufficiency raptured Aortic Aneurysm.

3. Gynecological-Raptured Ectopic pregnancy, raptured ovarian cyst, Acute salphyngitis, ovarian torsion, acute pelvic inflammatory disease.

4. Male reproductive system-Testicular torsion,

Others- This include -Acute pancreatitis, Acute cholecystitis,Acute myocardial infarction ,acute salphingitis,acute urinary tract infection,Acute cystitis,Itra-abdominal abcess,Biliary colic,Ureteric colic

DIAGNOSTIC INVESTIGATIONS

1.History taking.

2.Physical examination.

3.Pregnancy test

4.Abdominal xray.

5.Abdominal paracentesis.

6.Urea and electrolytes.

7.Blood for FHG to show infection.

8.Digital rectal examination.

9.Serum amylase to rule out acute pancreatitis.

10.Kidney urinary and bladder test(KUB)

11.Hysterosalphinogram.

CLINICAL FEATURES

1.Abdominal pain is the most prominent symptom with the pain localized in the area in which it is affected and other features depend on the underlying cause.

2.Vomiting.

3.ill- looking appearance.

4.Slowed bowel movements.

5.Feacios vomiting.

6.Flattulence.

7.constipation

8.fatique

9.Fever

10.paralytic illeus

TREATMENT/MANAGEMENT

1 .MEDICAL MANAGEMENT

This is a surgical emergency and the patient is prepared for theatre. Normal abdominal preparations for surgery protocols observed

1 .The patient is put on Nil by mouth ,nasogastric tube inserted for suctioning and check the colour and consistency of the contents.

2. Airway support by administration of oxygen

3/ I.V fluids put up.

4 .An indwelling catheter is inserted while observing for vomiting.

N/b Adults with peritonitis and inflammatory bowel disease receive fluid replacement ,antibiotic therapy ,nasosogastic suction ,analgesics and preparation of the patient for surgery. They may also require total parenteral Nutrition [TPN]

2 .SURGICAL MANAGEMENT

The surgery being an ,Emergency laparotomy is done according to the cause and managed accordingly depending on the Medical diagnosis of the patient.

3 .NURSING MANAGEMENT

The specific nursing intervention will depend on medical and surgical management of the client. If its gynecological cases patient is prepared for theatre.

1.patient to be put on NIL per oral[ NPO] and Low intermittent Nasogastric suction

2.IV fluids till the bowel sounds are back ,consider [ TPN ]monitor input and output chart,

3 .Always Nurse the patient in semi- Fowlers position.

4 .Provide Analgesics for pain and even sedation can be done.

5.Provide Antibiotics to prevent infection

6.check the incision for bleeding

 n/bDo pre and post operatic care as per a patient for abdominal surgery..

COMPLICATIONS

1.peritonitis

2.hypovolumic shock

3 .septicaemia

4. septicaemic shock

5 .paralytic ileus

6.electrolyte imbalance

7.Hypotension

8.haemorrage

9.Thrombosis

10.infection

…

9 .INTESTINAL OBSTRUCTION

DEFINATION This refers to blockade/blockage of the lumen of the of the or small or large intestine .The blockage occurs more often in the small intestine. The blockage prevents the normal flow of intestinal contents , fluid through the intestinal tract .The obstruction could be partial or complete obstruction.

TYPES/CLASSFICATIONS

The two types of processes that can impede this flow are

[A]Mechanical obstruction- [causes] This this is intraluminal obstruction or a mural obstruction from pressure in the intestinal wall .there is mechanical obstruction of the lumen of the intestine occurring on

this type of obstruction. Examples of mechanical obstruction include the following.[1].intussusception – this refers to the invagination or the telescoping of the proximal to the distal loop of the intestine.[ 2.]volvulus –This refers to the twisting of The bowel and turns on itself .the intestinal loop[3]Tumor polyoid/neoplasms –a tumor existing in the within the walls of the intestine extends into the intestinal lumen and a tumors outside the intestinal causes pressure on the wall of the intestine and also reduces the lumen of the intestine causing obstruction.[4]stenosis[5]strictures[6]adhesions[7] abscesses[8]intestinal worms [9]fecal impaction[10]foreign body[11 Adhesions this is when the loops of the intestine become adherent to areas that heal slowly or scar after abdominal surgery.]Hernias i.e. strangulated hernia whereby a tissue of the intestine is trapped/or incarcerated casing interruption with the blood supply to the intestine causing ischemia, necrosis of the tissue hence requires surgical intervention promptly since life is threatened.

[B]Functional obstruction- or paralytic ileus –[causes]This occurs in[A] clients undergoing abdominal surgery causing intestinal musculature ability to propel the contents along the bowel. This could be as a result of injury to the neuromuscular tissue injury or could be temporary paralysis of the intestine due to manipulation of the bowel during surgery. [B]Clients with prolonged intestinal obstruction[C]clients with electrolyte imbalance[D]peritonitis[E]Narcotic abuse[.F]Drugs like use of codeine .[G]Muscular dystrophy [H]Endocrine disorders like Diabetes[I]Neurological diseases like Parkinson disease.[J]Amyloidosis functional obstruction is basically caused by lack of peristaltic activity.

PATHOPHYSIOLOGY

[A] PATHOPHYSIOLOGY OF SMALL BOWEL OBSTRUCTION

Intestinal contents, fluid and gas accumulate above the intestinal obstruction. The abdominal distension and retention of fluid reduce the absorption of fluids and stimulate more gastric secretion. With increasing distension, pressure within the intestinal lumen increases, causing decrease in venous and arteriolar capillary pressure. This cause edema congestion, necrosis and eventual rupture or perforation of the intestinal wall, with resultant peritonitis.

Reflux vomiting may be caused by abdominal distension. Vomiting results in loss of hydrogen ions and potassium from the stomach, leading to reduction of chlorides and potassium in the blood and to metabolic alkalosis. Dehydration and acidosis develops from loss of water and sodium. With acute fluid loses, hypovolemic shock may occur.

 [B] PATHOPHYSIOLOGY OF LARGE BOWEL INTESTINAL OBSTRUCTION

As in small bowel obstruction, large bowel obstruction results in an accumulation of intestinal contents, fluid and gas proximal to the obstruction. Obstruction in the large bowel can lead to severe distension and perforation unless some gas and fluid can flow back through the ileal valve. Large bowel obstruction even if complete may be undramatic if the blood supply to the colon is not disturbed.

However, if the blood supply is cut off, intestinal strangulation and necrosis that is tissue death occurs. This condition is life threatening. In the large intestine, dehydration occurs more slowly than in the small intestines because the colon can absorb its fluid contents and can distend to a size beyond it’s normal full capacity.

 DIAGNOSTIC INVESTICATIONS

1. signs and symptoms
2. physical examination
3. 3 .Imaging studies[abdominal x-ray and ct scan finding to include abdominal quantities of gas, fluid or both in the intestine

4 .laboratory studies include-[electrolyte studies and complete blood cell count reveal picture of dehydration ,loss of plasma and possible infections.]Leukocytosis.

5 .MRI[magnetic resonance imaging ]reveal a distended colon in large bowel obstruction and pinpoints the site of obstruction.

N/B Barium studies are contraindicated.

CLINICALFEATURES/SIGHNS AND SYMPTOMS

1. The initial symptom is usually crampy abdominal pain and tenderness, pain that is usually wavelike and colicky like.
2. Anorexia and nausea and vomiting.

3.Vomitting occur initially when the patient first vomits the stomach contents then the bile - stained contents of the duodenum and jejunum and finally with each paroxysm of pain the darker ,faecal-like content of the ileum.

4.The patient may pass stool and mucus but no faecal matter or flatus [passage of gas].

7 .The signs of dehydration become evident which include [thirst, drowsiness, general malaise, aching and a patched tongue and mucus membrane.

8 .The abdomen becomes distended

n/b [ the lower the obstruction in the GI tract the more the marked the signs of distension]

9 .If the obstruction continues uncorrected hypovolemic shock occurs from dehydration and loss of plasma volume.

10. If the obstruction is complete the peristaltic waves initially become vigorous and eventually assume reverse direction.

11.There is reduced or even absent bowel sounds on auscultation.

 12. In large bowel obstruction, it differs with small bowel obstruction in that the symptoms progress relatively slowly. In patients with obstruction of the sigmoid colon or the rectum constipation can be the only symptom for months.

13.The shape of the stool is altered as it passes through the obstruction that is gradually increasing…

15. Blood in stool may be present and a patient with iron deficiency anemia may have weakness ,weight loss and anorexia.

16. Eventually the abdomen becomes markedly distended and loops of large bowels become visibly outlined through the abdominal wall and the patient has crampy lower abdominal pain. Finally fecal vomiting develops symptoms of shock may appear.

TREATMENT/MANAGEMENT

1 .MEDICAL MANAGEMENT

1. When the bowel is completely obstructed which is mostly common in small intestine and the possibility is strangulation it warrants surgical intervention which is acute abdomen hence an emergency .surgical intervention] done immediately. The surgical treatment of intestinal obstruction depends largely on the cause of obstruction such as hernia and adhesion to which the intestine is attached.in some cases a portion of the intestine may be removed and anastomosis preformed. The complexion of intestinal obstruction depends on the duration of the obstruction and the condition of the intestine.

2. Restoration of intravascular volume [.IV therapy] required hence a cannula and IV fluid normal saline and 5 percent dextrose are instituted immediately and correction of electrolyte abnormalities .before surgery .The iv therapy is to replace water, sodium chloride and potassium

3. Decompression of the bowel through nasogastric tube, and nasogastric aspiration as well as assessing the ….

4 .Passage of a flatus tube /rectal tube is necessary for the purpose of decompressing the area which is lower than the bowel.

5 .A colonoscopy may be performed to untwist and decompress the bowel.

6 .cecostomy where a surgical incision is made of the caecum to relieve the obstruction.[the procedure create an opening in patients who have surgical risk sand urgent need release from obstruction. This entails the provision of an outlet in releasing gas, and a small amount of drainage.

7 However, the unusual treatment in surgical resection to remove the obstructing lesion .nlb there maybe need to have a temporary or a permanent colostomy.

8 .The ileoanal anastomosis may be performed if necessary to remove the entire colon in cases of large bowel obstruction.

2 .SURGICAL MANAGEMENT

This entails the following surgical procedures-

1. surgical resection and anastomosis

2 .colostomy which can be temporary permanent done to the patient or ileostomy temporary or permanent.

3 .Ileoanal anastomosis may perform to remove the entire colon.

2 .NURSING MANAGEMENT

The nursing management of a non – surgical patient with small bowel obstruction entails the following.

1.The maintenance and function of nasogastric tube assessing and measuring the nasogastric output ,assessing the fluid and electrolyte imbalance monitoring nutritional status and assessing improvement on e.g the return of normal bowel sounds ,decreased abdominal distension and subjective improvement on abdominal pain and tenderness, passage of flatus and stool.

2 .The nurse reports discrepancies in the input and output rate.

3 .The nurse report worsening of pain

4 .Nurse should monitor abdominal distension or abdominal girth.

5 The nurse should monitor an .increase In nasogastric output ,the color and content and measure the amount.

5. If the patient is not improving the patient should inform the doctor nil per mouth and patient be prepared for surgery.[gowning shaving ,removal of dentures ,jewelry ,consent blood for grouping and cross matching hemoglobin level and the patient is prepared fully for laparotomy.

n/b. The exact nature of surgery should depends on the cause of obstruction of it is volvulus untwisting of the intestinal loop will be done In theatre .Nursing care of patient after surgical repair after small bowel obstruction is similar to that of general abdominal surgeries.

COMPLICATIONS

1.Dehydration

2.hypovolumic shock

3.Electrolyte imbalance

4.Anaemia in cases of severe haemorrhage.

10 .APPENDICITIS

DEFINATION

Appendicitis refers to the inflammation of the vermiform appendix which is attached to the caecum .It’ a fingerlike –appendage which is 10cm long that’s attached to the caecum just below the illeocaecal valve .Appendix is a lymphoid tissue upon inflammation pain is felt at mc. Burney’s point. The appendix fills with food and empties regularly into the caecum .Because it empties inefficiently and the lumen is small the appendix is prone to obstruction and is particularly prone to infection which is appendicitis .Acute appendicitis is the common cause of acute abdomen and the most common cause of emergency abdominal surgery. Al though it can occur at any age ,its more common between the age of 10-30 yrs.

TYPES/CLASSIFICATION

1 .Acute appendicitis

2 .Recurrent appendicitis

CAUSES

1. Fecalith/ fecal mass

2.Foreighn body

3.Tumour

4.Intestinal worms

5.Infection [viral ,Bacterial]

6 .stricture

7 .Ingestion

PREDISPOSING FACTORS

1 .Age [common in ages between [10-30] it is uncommon in an elderly population.

PATHOPHYSIOLOGY

The appendix becomes inflamed and edematous as a result of becoming kinked / occluded /obstructed by a fecalith [a hardened mass of stool], tumor of foreign body .The obstruction sets off an inflammatory process that can lead to infection thrombosis and necrosis and perforation.

 The inflammatory process increases intra-luminal pressure initiating g a severe generalized or periumbirical pain that becomes localized to the right lower quadrant of the abdomen at the mc Burney’s point, within few hours.

Eventually the inflamed appendix is filled with pus. The inflamed appendix will perforate accessing the peritoneum causing peritonitis.

DIAGNOSTIC INVESTICATIONS

1. Abdominal x-ray reveals appearance of fecalith formed hard mass of feces. In the right lower quadrant.

2. History taking

3 .Physical examination

4. Blood for complete blood count reveals[ elevated white blood cells wbc ]-leukocytosis.

5. Ultrasound studies

6. Ct scans may reveal right lower destiny or localized distension of the bowel.

7 .Digital rectal examination [DRE] this is helpful in the diagnosis of an appendicitis whereby the tip of the appendix is in the pelvis.

8 .A diagnostic laparoscopy may be used to rule out appendicitis in equi vocal causes

CLIICAL FEATURES/SIGHNS AND SYMPTOMS

1. Vague epigastric or periumbirical pain progressing to the right lower quadrant pain and local tenderness at [mc Burney’s point.] where pressure is applied. Up to 50 percent of the patient s presenting with appendicitis.

2 .The pain above is usually accompanied by Low grade fever, nausea and sometimes by vomiting.

3 .Loss of appetite common

4 .Rebound tenderness [the production and intensification of pain when pressure is released may be present.

5.The extend of tenderness and muscle spasm and the existence of constipation or diarrhea depends not so much on the severity of the appendicle infection as on the localization of the appendix .if the appendix curls around behind the caecum pain and the tenderness may be found at the lumbar region.

If the tip of the appendix is in the pelvis the signs may only be elicited by on rectal examination.

6 .Pain on defecation suggests the tip of the appendix is resting against the rectum

 7 .pain on urination suggest that the tip is near the bladder and impinges on the ureter.

8 .Some rigidity of the lower portion of the right rectus muscle may occur.

9. Rovsing’s sign may be elicited by palpation of the right lower quadrant this paradoxically causes pain on the right lower quadrant

n/b if the appendix raptured the pain becomes more diffuse ,abdominal distension develops as a result of paralytic ileus and the patient’s condition worsens.

10 .There may be reduced and absence of bowel sounds where there is intestinal obstruction of a functional type of intestinal obstruction which is paralytic ileus if it happens to occur alongside with appendicitis.

11 .constipation can also occur with an acute process such as appendicitis. n/b if laxatives are administered it may result in perforation of the inflamed appendix.in general a laxative or cathartic should never be given to a person who has fever nausea and pain.

TREAMENT/MANAGEMENT

1 .MEDICALMANAGEMENT

N/B. Immediate surgery indicated if appendicitis is diagnosed .A appendectomy is done too reduce risk of perforation and is done using genera or spinal anesthesia with low abdominal incision or by laparoscopy .both laparotomy and laparoscopy are safe and effective and laparoscopy surgery is generally quicker.

1 .Iv fluid to prevent fluid and electrolyte imbalance

 , dehydration.

2 .Administer antibiotics and continue with IV fluids till surgery is performed.

2 .SURGICAL MANAGEMENT

Appendicectomy is done, or Appendectomy. If perforation has occurs an abscess may form .if this occurs the patient may be treated with antibiotics and the surgeon can place the drain in the abscess to be removed when the drainage contents stop draining or within 48hrs or as instructed by the surgeon on the post-operative notes.

1. NURSING MANAGEMENT

GOALS include

* Relieve pain ,preventing fluid and electrolyte deficit
* Reducing anxiety
* Eliminating infection due to potential and actual disruption of the GI tract
* Maintaining skin integrity
* Attaining optimum nutrition

[A.]Preoperative care

1 .The nurse prepares the patient for surgery, which includes I.V infusion to replace fluid loss and promote adequate renal function.

2 .To administer antibiotic therapy to prevent infection

3 .If there is likelihood for paralytic ileus a naso gastric tube is inserted.

4 .The enema is not inserted to prevent perforation.

[B]Post-operative care

1 .After surgery place the patient in a high fowler’s position to reduce tension on the incision and abdominal organ hence helping to reduce pain.

2 .An opioid’s usually morphine sulfate is prescribed to reduce pain

3 .When tolerated and bowel sounds are back, oral fluids /oral sips are administered and any patient who was dehydrated before surgery are administered iv fluids.

4 .Food is provided as desired and tolerated on the day f surgery when the bowel sounds are present.

5 .Do deep breathing exercises to prevent lung collapse ,early ambulation to prevent hypostatic pneumonia

6 .Dress the wound using aseptic technique .Remove alternate stitches on the 6THday and all stitches on the 7th day

n/b if there is possibility of peritonitis a drain is left in the place of the incision .patients at risk of peritonitis may be kept in the hospital for several days and monitored closely for signs of intestinal obstruction or secondary hemorrhage. Secondary abscess may form in the pelvis under the diaphragm or in the liver causing elevation 0f temperature pulse rate and increases white blood count as a result of infection.

7 .Discharge teaching ,on to the client on diet rich in protein and vitamin . assess wound care and wound healing care for incision irrigation as prescribed, to splint the chest when coughing ,disease process ,drug compliance ,danger signs ,monitor for complications ,home-based care and follow up care.

COMPLICATIONS

I .Infection

1. .peritonitis
2. 3Septic Thrombosis of the portal vein caused by vegetative emboli that arise from septic intestines.
3. Perforation of the appendix which occurs 24 hrs. After the onset of pain. Presenting with classical signs like [temp.37.7 degree centigrade or greater, a toxic appearance an continued abdominal pain or tenderness.]
4. .Necrosis
5. .Abscess formation e.g. pelvic abscess, sub phrenic abscess, liver abscess.
6. .Ileus [paralytic and mechanical.

11 .PERITONITIS

DEFINATION

Peritonitis is the inflammation of the peritoneum, the serous membrane lining the abdominal cavity and covering of the viscera. The organisms involved come from the disease of the GI tract or in women from the internal reproductive organs or as a result of rapture/perforation of an organ or as a result of traumatic injuries.

CLASSIFICATION/TYPES

 1 .Localized /primary

2 .Generalized /secondary

 COMMON CAUSES OF PERITONITIS

 1.Infection [bacterial infection]-

2.Inflamation and paralytic ileus are direct effects of infection.

 3.External sources such as injury or trauma e.g [gunshot, stab wound, penetration injuries]

4. Inflammation that extends from organ outside the peritoneal area such as kidney

5.Perforated/raptured /Appendicitis

 6..perforated peptic ulcer disease.[PUD]

7.Diverticulitis of the sigmoid [perforation of the poach spilling its contents to the peritoneum

8.Bowel perforation when there is intestinal obstruction

9 .Ascites s, when ascetic fluid leaks to the peritoneum

10. Introduction of a chemical to the peritoneum

11. Gangrene of the bowel

PREDISPOSING FACTORS

Peritonitis is associated with the following

1 .Abdominal, surgical procedure s, like peritoneal aspiration or paracentesis , hence contamination of the peritoneum.

2. Peritoneal dialysis

THE MOST COMMON BACTERIA IMPLICATED FOR CAUSING PERITONITIS

 -1.Escherichia coli[2]klebsiella proteus[3]pseudomonas[4]streptococcus[5] staphylococcus

PATHOPHYSIOLOGY

Peritonitis is caused by Leakage of contents from abdominal organs into the abdominal cavity .This include ,perforated peptic ulcer ,raptured appendix ,abdominal injuries like stab wound causing inflammation.

As a result of inflammation , infection ,ischemia, trauma or tumor perforation .As a result of infection proliferation of bacteria occurs .In the presence of inflammation ,swelling/edema of the tissues results and Exudation of Fluid develops in a short time.

Fluid in the peritoneal cavity becomes turbid , with increasing amount of [protein ,white blood cells cellular debris and blood].

The immediate response of the intestinal tract is hyper motility, soon followed by paralytic ileus with the accumulation of air and fluid in the bowel.

DIAGNOSTIC INVESTIGATIONS

1 .Peritoneal Aspiration /paracentesis-is cloudy or blood tinged. Abdominal x-ray reveals intestinal distension air and fluid.

2 .Compleate blood count [CBC] reveal increased or elevated white blood cells.[leukocytosis]

3 .Hematocrit level low if blood loss has occurred.

4 .Metabolic or Respiratory alkalosis.

5 .Serum electrolyte levels may reveal altered levels of potassium ,sodium and chloride.

6 .Abdominal xray may show air and fluid levels as well as distended bowel loops.

7 .CT scan may show abscess formation

8.Peritoneal Aspiration and culture and sensitivity studies of the aspirated fluid may reveal infection and reveal the specific causative organisms.

CLINICAL FEATURES/SIGNS AND SYMPTOMS

1 .Symptoms depend on location .The early clinical manifestations of peritonitis frequently are disorder causing the condition .At first diffuse type of pain is felt.

2 .pain tend to become constant , localized and more intense in the site of inflammation .movement usually aggravates it.

3 .The affected area of the abdomen becomes extremely tender and distended.

4. The muscle becomes rigid hence rigidity/board like/washboard abdomen.

5 .There is Rebound tenderness which could be also as a result of appendicitis or even peritonitis alone.

* paralytic ileus may be absent or reduced bowel sounds and could also be as a result of intestinal obstruction and perforation may have occurred.

7 .There is diminished perception of pain if use of corticosteroids or analgesics is administered.

n/ b .Patients with symptoms of advanced neuropathy and patients with cirrhosis who have signs of Ascites may not experience pain during an acute bacterial episode.

8 .Usually nausea and vomiting occurs and peristalsis is diminished

9.A Temperature of 37.8-38.3 degrees centigrade can be expected along with an increased pulse rate.

TREATMENT/MANAGEMENT

1 .MEDICAL MANAGEMENT

The Goal is the following

1 .Fluid , colloid, and IV fluids is the main focus of medical management. Administer several liters of isotonic solutions as prescribed and hypervolemia usually occurs since massive amounts of fluids and electrolytes move from intestinal lumen into the peritoneal cavity and deplete the fluid into the vascular space.

2 .Analgesics is prescribed for pain

3. Antiemetic is prescribed for nausea and vomiting

4 .Intestinal intubation and Nasogastric tube for suction assist in relieving abdominal distension and promotes intestinal function.

5 .Fluid in the abdominal cavity may restrict lung expansion and cause respiratory distress .oxygen therapy by nasal cannula or mask generally promote adequate oxygenation. Ventilatory assistance is required.

6.Antibiotics initiated as early treatment of peritonitis .large doses of a broad spectrum antibiotics are administered I.V till the specific causative organism causing disease is identified and appropriate antibiotic therapy ,Is administered.

7.The patient put on NPO ,awaiting surgery and pre-operative care done . Excision like appedix, Resection ,with or without an Anastomosis e,g intestine,pepair of perforation ,,Drainage of abscess and finally with extensive of sepsis fecal diversion is necessary.

.2 .SURGICALMANAGEMENT

Surgical objectives include-

1.Removal of infected material and correcting the cause

2.Surgical treatment is directed towards[A] excision i.e [appendix][B]Resection with or without anastomosis i.e[ intestines][C]Repair i.e[Perforation and [D]Drainage i.e Abscess’

n/b With extensive sepsis a fecal diversion may be created.

3.Peritoneal lavage with antibiotics to remove necrotic tissue.

3 .NURSING MANAGEMENT

1 .intensive care is required

2 Monitor vital signs by arterial line if shock is present and central venous pressure[cvp]

3 .Monitor urine output and fluid and electrolyte imbalance.

4 .Assess on going pain and its location in the abdomen

5Administer analgesics and position the patient for comfort ,position that decrease pain and reduce tension of abdominal organs on the area.

6 .Adequate recording of intake output and the cvp is vital

7 .Check for signs of subsiding of peritonitis which is include decrease of [ temperature and pulse, softening of abdomen ,return of peristaltic sounds ,passing of flatus and bowel movements.

8 .Drainages inserted by the surgeon should during surgery should be carefully observed for drainage content and frequent turning of the patient to prevent dislodging of the drain .

9 .Do wound assessment/ dressing aseptic technique and.Remove stitches if there are no wound complications.

1o.Teach the client on disease process ,to splint chest when coughing ,drug compliance, diet, wound danger signs like wound giving way and wound evisceration .,home based care and follow up through medical outpatient clinic.

COMPICATIONS

1.sepsis

2.Infection

3 .Septicaemia

4 .Hypovolemia

5 .Intestinal obstruction resulting from development of bowel adhesion

POST OPERATIVE COMLICATIONS

1[ A]..Wound evisceration occurs post –operatively where the wound gives way after surgery exposing the inner abdominal contents.

n/b [B]A sudden occurrence of serosanguineous wound drainage strongly suggest wound dehiscence.

2..Abscess

12ULCERATIVE COLITIS

DEFINATION

Ulcerative colitis is the inflammatory condition of the colon involving the mucosa and submucosa of the colon and the rectum.

CLASSIFICATION/TYPES

I .Mild, severe ,or fulminant depending on severity of symptoms.

POSSIBLE PREDISPOSING FACTORS

The cause of ulcerative colitis is unknown this include the following. Allergic reaction to food ,Emotional stress ,family history of the disease ,overproduction of enzymes that break down the mucus membrane and autoimmune reactions such as arthritis.

PATHOPHYSIOLOGY

1. Ulcerative colitis usually begins in the rectum and sigmoid colon, and often extends upward into the entire colon. It produces congestion, edema and ulcerations that eventually develop into abscesses.
2. The cause of ulcerative colitis is unknown. Possible predisposing factors include bacterial infection, allergic reaction to food, emotional stress, family history of the disease, overproduction of enzymes that break down the mucous membranes, and autoimmune reactions such as arthritis.

CLINICAL FEATURES/SIGHNS AND SYMPTOMS

1.Bloody diarrhea often containing pus and mucus

2spastic rectum and anus

3.Intermittent tenesmus

4.irritability

5.weigh loss

6.weakness

7.Anorexia

8.Nousea and vomiting

9.Anaemia

10.Diarrhorea

11.lower left quadrant abdominal pain

12.rectal bleeding[may be mild or severe and pallour anaemia and fatique results.

13.dehydration as well as cramping

14.The feeling of urgent need to deficate and the passage of 10-20 liquid stools each day.

Extra –Intestinal manifestations –This include ,skin lessionse.g [e rythema nordosum] eyelessions e,g [uveitis].joint abnormalities e,g[ arthritis,] and liver disease.

ASSESMENT AND DIAGNOSTIC INVESTIGATIONS

1.history taking and clinical features

2 .physical exam[abdomen examine for bowel sounds distension and tenderness] which determine the assessment of the severity of disease.

Stool for positive or blood ,pus and mucus.

3 .laboratory test results reveal low haematocrit and low haemoglobin levelin addition to elevated white blood cell count [leukocytosis],low albumin levels and electrolyte imbalance.

4 .Abdominalxray are usefull in determining the cause of symptom sn/b.free air in the peritoneum and bowel dilatation or obstruction should be excluded] as a source of presenting symptoms.

5 .sigmoidoscopy

6 .colonoscopy

7.barium enema is valuable in distinguishing the condition or similar symptoms of colon disorders. Barium enema may show mucosal irregularities ,focal strictures ,and dilation of bowell loops.

8.colonoscopy may revea friable inflamed mucosa with exudate [pus] and ulceration.

9.ctscanning.

10. magnetic resonace imaging[mri]

11.stool for microscopy

12.ultrasound to accertain perirectal involvement.

13.leucocites canning when severe colitis prohibits the use of colonoscopy to determine the extend of inflammation.

13.carefull stool examination for parasites and other microbes to rule out dysentery and antamoeba hystolytica ,shigella species and clostridium difficile

MANAGEMENT

1. MEDICAL

a) Bed rest

b) IV fluid replacement

c) Clear liquid diet

d) Total parenteral nutrition

e) Blood transfusions and iron supplements to correct anemia.

f) After acute phase there is no general diet restrictions except that client should avoid foods that are irritating.

g) A low fiber diet adding one food at a time is generally ordered.

h) Corticosteroids such as prednisone 4mg PO QID

i) Loperamide (Imodium) or diphenoxylate hydrochloride (Lomotil) for diarrhea.

SURGICAL

If there is no response to medical interventions, continued deterioration, profuse bleeding, perforation, stricture formation or a carcinoma develops, the following surgeries may be necessary.

1. Total colectomy and ileostomy
2. Proctocolectomy with ileostomy

NURSING MANAGEMENT

1. Record intake and output and daily weights.
2. Observe frequency and amount of stools.
3. Observe for signs of dehydration and electrolyte imbalance especially hypernatremia and hypocalcaemia.
4. Give frequent mouth care if NPO.
5. Assess the anal area for irritation form diarrhea.
6. Assess the anal area for fistulas or abscesses.
7. Prevent skin breakdown by cleansing the skin around the rectum after each stool and providing a sheepskin or air mattress.
8. Observe for side effects of corticosteroid therapy that include moon face, hirsutism, edema and gastric irritation.
9. If client is on total parenteral nutrition (TPN), assess for inflammation and change dressing as ordered.
10. Observe for signs of complications that include perforation, peritonitis and toxic mega colon. Hemorrhage, abscess, stricture.
11. Provide medication for diarrhea.
12. Teach client to identify irritating foods and eliminate them.
13. Teach client to avoid gas-forming foods and milk products.
14. Provide analgesics as ordered.
15. Provide emotional support for client and family dealing with a chronic illness.
16. Provide information to client about the relationship between ulcerative colitis and colorectal cancers.
17. Provide client with surgical options available.
18. Provide post-operative care for the client with an ostomy.
19. Give fluids and a low-residue, high calorie diet.
20. Record intake and output and fecal discharges.
21. Check stoma for dark pink to red color.
22. Observe for bleeding and edema.
23. Empty pouch when one-third full.
24. Protect skin with skin barriers.
25. Provide odour control with small doses of bismuth sub carbonate by mouth, odor proof pouches, ventilation and deodorizers in room.
26. Assure proper fit of appliances, usually one-eight inch from stoma.
27. Teach client self-care of ostomy.
28. Observe for leaks around stoma appliances and change when necessary.
29. Discuss with client feelings about disease and ostomy as it affects the client’s self-esteem, sexuality, finances and life style.
30. If ordered, teach client how to irrigate the ostomy.
31. Provide client with information about the ostomy.

13.COLORECTAL CANCER

DEFINATION-These are tumors of the colon and rectum, the[ colorectal area]common in western countries/cultures .The incidence increases with age and high in older ages above 85 yrs. . This is a second incidence after lung cancer, the majority of which are slow growing adenocarcinomas with nearly half occurring at the rectum one quarter in the descending and sigmoid colon 16percent in the caecum and ascending colon.

PROGNOSIS

If the disease is detected and treated at an early age the 5year survival rate is 90 percent however 34percent are detected at an early age .survival rate is very low after late diagnosis. Mostly people are asymptomatic for long period and seek health care only when they notice bowel habits or rectal bleeding .prevention and early screening is key to detection and reduction of mortalities

STAGING OF COLORECTAL CANCER AS PER DUKE’S CLASSIFICATION OF MODIFIED STAGING

Class A: Tumor limited to muscular mucosa and sub mucosa

Class B1: Tumor extends into mucosa.

Class B2: Tumor extends through entire bowel wall into serosa or pericolic fat, no nodal involvement.

Class C1: Positive nodes, tumor extends through entire bowel wall.

Class D: Advanced and metastasis through entire bowel wall.

CAUSES

There is documented evidence that lack of fibre is a major causative factorbecause the passage of fecies through the intestinal tract is prolonged which extends the exposure to possible carcinogens.

The exact cause of colon and rectum is still not known but risk factors are identified.

PREDISPOSING FACTORS/RISK FACTORS

1 Age. Common in ages above 85 yrs.[risk Increases with age]

2 .Family history of colon cancer

3 .History of [IBD] irritable bowel disease, or polyps [pseudo polyposis].ulcerative colitis ,crohns disease.

4. Common in western countries and cultures.

5. Previous colon cancer or adenomatous polyp.

6. Genital cancer e.g. [ovarian cancer, endometrial cancer or breast cancer in women.

7. High – fat or excess diaterry fat, high- protein [with high intake of beef]

8.High alcohol consumption and smoking

PATHOPHYSIOLOGY

Colorectal cancer being predominantly adenocarcinoma ,95 percent occur from the epithelial lining of the intestine or as a metastasis like from cancer of the stomach,cancer,irritable bowel disease, ulcerative colitis of ovary or liver cancer. It may start as a benign polyp but may become malignant invade and destroy normal tissues and extend into surrounding tissues and structures.

Cancer cells may migrate away from the primary tumors and spread to other parts of the body [mostly liver].The patient will present with anorexia,weightloss,abdominal pain and cramping .narrowing of stools,constipation,distension ,tenesmus as well as bright led blood in stool.

 DIAGNOSTIC INVESTICATIONS

1. History taking

2. Physical examination

3. Rectal examinations-digital rectal examination

4. Faecal occult blood testing [blood in stool]

5. Proctoscopy

6. Proctosigmoidoscopy

7. Colonoscopy

8. Barium enema

9. Biopsy

10. Cytology smears

9. Carcinoembrionicantigen antigen [CEA] studies

This are performed to ascertain the presence of antigen responsible for cancer cells[adenocarcinoma] is not highly reliable since not all lesions secrete [CEA] since they only show CEA levels which are reliable prognostic indicator’s/with complete excision of the tumor the elevated CEA levels should return to normal within 48hrs.Elevated CEA at a later date suggest recurrence

.CLINICALFEATURES

The symptoms of colorectal cancer are greatly determined by the, location of the cancer and the staging of the disease and the function of the intestinal segment in which it is located.

1 .The most common presenting symptom is change in bowel habits.

2. Passage of blood in the stool [melena, dark/black tarry stool]

3. Unexplained anemia , anorexia, weghtloss and fatigue

4 [A] The symptoms associated to the right sided lesions are dull abdominal pain and the symptoms are associated with the right side lesions are [abdominal pain and melena i.e black tarry stools.

[B]The symptoms most commonly associated with left sided lesions are those associated with i.e. [abdominal pain and cramping, and narrowing of the stools, constipation and distension]as well as bright red blood in the stool.

[C]symptoms associated with rectal lesion are tenesmus ineffective straining at stool] rectal pain and the feeling of incomplete evacuation after bowel movement/alternating constipation and diarrhea.

 MANAGEMENT/TREATMENT

1. .MEDICAL MANAGEMENT

N/B-Treatment for colorectal cancer depends on stage of the disease as per Duke’s classification of modified staging system

1. Patient with symptoms of intestinal obstruction is treated with IV fluids and nasogastric suction if there has been significant bleeding and transfusion is done.

2. The standard adjuvant therapy is administered to patients upon Duke’s classification modified staging system.

3. Radiation therapy is used before, during and after surgery to shrink the tumor and for better results from surgery and to reduce the risk of occurrence.

4. For inoperable and unresectable tumors, radiation is used to provide significant relieve of symptoms and implantable devices are used to deliver radiation to the site the response of adjuvant therapy varies.

1. .SURGICAL MAMAGEMENT

Surgery is the treatment of choice.

The type of surgery depends on location and size of the tumor and metastasis.

1. Cancers limited to one side can be removed through colonoscopic, laparoscopic colostomy with polypectomy.
2. Laparoscopic procedures and video guided gadgets are used through an incision into the abdomen and the tumor mass is excised.
3. Use of Nd:YAG ( neodymium/yttrium-aluminium-garnet) laser has proved effective for some lesion as well.
4. Bowel resection with disease free margins and re-anastomosis return of normal bowel sounds is the goal. Indicated for most class A, all class B and C lesions and surgery is sometimes recommended for class D but the goal of surgery in this is palliative. N/B If the surgery has spread involving surrounding vital structures it is considered non-resectable.
5. Segmental resection with anastomosis of the colon tumor portions and blood vessels and lymphatic included.
6. Chemotherapy and adjuvant therapy.
7. Abdominoperineal resection with permanent sigmoid colostomy. This involves removal of the portion of colon, rectum and anal sphincter.
8. Temporary colostomy followed by segmental resection and anastomosis and subsequent re-anastomosis of the colon for bowel decompression, preparation before resection.
9. Permanent colostomy and ileostomy for palliation of un-resectable obstruction lesions.
10. Construction of a coloanal reservoir called colonic J pouch done in two steps. A temporary loop ileostomy is constructed to divert intestinal flow in a newly constructed J pouch made form6-10cm of colon and is re-attached to the anal stump. The ileostomy is reversed and intestinal continuity is restored. The anal sphincter is continence and ability to hold faeces is preserved.

NURSING MANAGEMENT

1. Identify psychosocial concerns.
2. Reaction to possible colostomy
3. Changes in occupational activities, body image and sexuality.
4. Prepare patient for diagnostic procedures and surgical procedures.
5. Assess patient’s knowledge of operative procedures-Sterilization of bowel.
6. Discuss post-operative routine-NGT, Presence of Foley catheter, how colostomy will look, coughing, deep breathing and leg exercises.
7. Assess post-operative complication.
8. Obstruction, ileus- Bowel sounds, Frequency, consistency and color of stools.
9. Dehydration
10. Skin breakdown around stoma or prolapse
11. Anastomotic leak
12. Infection especially with abdominoperineal resection.
13. Urinary problems especially in men.
14. Prepare patient for radiotherapy.
15. Explain procedure to help reduce anxiety.
16. Discuss side effects- Skin reactions, diarrhea, nausea and vomiting, fatigue, bone marrow, sexual dysfunction.
17. Provide skin care

COMPLICATIONS

1. Intestinal obstruction

2. Hemorrhage resulting from extension and ulceration of the tumors into the surrounding blood vessels

3. Perforation

4. Abscess formation

5. Peritonitis

6. Hypovolemic shock as a result of hemorrhage

7. Sepsis

8. Septicemia

9. Embolism

10. Disseminated intravascular coagulation [DIC]

11. Septic shock

14.HAEMORROIDS

Defination.

Hemorrhoids are dilated or varicose veins of the anal canal and lower part of the rectum .very common at 50 years of age and about 50percent of the people have hemorrhoids .shearing of the mucosa during defecation results in sliding of the structures in the walls of the canal including haemmoroidal plexus and the vascular tissues around the anal area.

TYPES/CLASSIFICATION

1. Internal hemorrhoids-this are hemorrhoids that develop around the anal orifice, they are situated above the anal sphincter. They are located at the junction of anal canal and rectum

2. External hemorrhoids-are hemorrhoids that develop around the anal orifice. They are situated above the anal sphincter

CAUSES

The most commonly accepted cause of hemorrhoids is increased intravenous pressure in the haemmoroidal plexus.

Predisposing factors- include. occupations that require prolonged, standing or sitting ,straining due to constipation ,diarrhea ,coughing ,sneezing or vomiting .heart failure , an rectal infections ,loss of muscle tone due to old age ,rectal surgery or intercourse .pregnancy and hepatic diseases such as liver cirrhosis.

Clinical features

1. Painless intermittent bright-red bleeding on defecation

2. Pain if hemorrhoids are inflamed or prolapsed.

3. Severe pain if hemorrhoids have become thrombosed[blood clots in the affected vein within the hemorrhoid].external hemorrhoids are caused by severe pain on inflammation and edema caused by thrombosis leading to ischemia of the area and necrosis.

4. Pruritus or anal itching

5. protrusion of the varicosities around the anus.

Nlb .haemmoroidal symptoms are relieved by good personal hygiene and by avoiding excessive straining during defecation/high residue diet that contains a fruit and a bran with increased fluid intake may be al, the treatments that is necessary to promote the passage of soft bulky stools to prevent straining. If this treatment is not successful the addition of hydrophilic bulk forming agent such as psyllium[Metamucil]may help .warm compression, sitz baths ,analgesic ointments ,suppositories allow the engorgement to subside.

Diagnostic investigations

1 .History taking- The presenting clinical features like pruritus ,pain on the anal area with symptoms suggestive of hemorrhoids.

2 .physical examination.

3. Anoscopy-allows direct visualization of the hemorrhoids.

4. Sigmoidoscopy and barium enema enables physician to rule out carcinoma and inflammatory disease.

5. Digital rectal examination for palpation of haemmords for dilatation and engorgements.

 PHATHOPHYSIOLOGY

Haemmoroids are caused by increased pressure on the haemmoroidal plexus an factors that predispose hemorrhoids like coughing, sneezing, straining on defecation which will cause dilatation of varicose veins in the anal area and surrounding tissues ,or even thrombosis which could be caused by clot, in the vein an the anal area causing severe pain which is situated in the area above or below the anal sphincter this could either be internal or external hemorrhoids.

This causes the shearing of the mucosa and dilatation of veins and varicosities which could even be protruding or sliding of structures I the wall of anal canal including the haemorroidal and vascular tissues. This causes pruritus, pain varying I severity from mild to severe with thrombosis or prolapse if this occurs.

TREATMENT/MANAGEMENT

1 .MEDICAL MANAGEMENT

There are several types of non –surgical treatments for hemorrhoid

[A.]medical treatment

1 .Infrared photocoagulation

2 Bipolar diathermy.

3 .laser therapy are used to affix the mucosa to un….muscle…

4. Injection of sclerossing agents is also efficient in managementof small bleeding hemorrhoids.

Nb Include the following on the medical management of hemorrhoids these are

5. Analgesics and sitz bath to relieve discomfort

6. Prevent constipation with laxatives and stool softeners

7. Recumbent position if hemorrhoids are prolapsed

8.ligation and freezing of the hemorrhoids

9.manual reduction of the hemorrhoids

10Hight fibre diet with adequate amount of fluids and water and vegetables

11.Exercise.

 2 .SURGICAL MANAGEMENT

1 .Rubber band ligation

conservartive surgical treatment of internal l hemorrhage is rubber band ligation by the help of an anoscope where the mucocutaneous lines is grapped with an…rubber band is then slipped over the……distal to the rubber band…becomes….al days and sloughs off .fibrosis occurs,…lower mucosa. Is drawn ..up. And ad…..g muscle .Although this treatment has been satisfactory for some patients it has proven for others may cause secondary hemorrhage and also perianal infections.

2. Cryosurgical haemmoroidectomy

This is another method for removing hemorrhoids which involves freezing of the hemorrhoids for a sufficient time to cause necrosis although it is relatively painless it is not used because it is has a foul smell and wound healing is prolonged

n/b-The ndYAG [Neo dynamic Yatrr Aluminum Garnet is useful in excising hemorrhoids particularly external haemmoroidal tags .the treatment is quick and pain as complications that occur though in rare cases are abscess and hemorrhage post-operatively.

n/b The above methods are not successful in treatment of hemorrhoids which are thrombosis instead the treatment is done by use of extensive surgery and therefore haemoridectomy is the treatment of choice or surgical excision can be performed to remove all the abundant tissue involved in the process.

During this surgery the rectal sphincter is dilated digitally and the hemorrhoids are removed with a clamp and cautery 0r are excised and ligated and then excised .After the surgical procedures are completed a small tube will be inserted through the sphincter to permit the escape of flatus and blood.[pieces of gel foam or oxygen gauze may be placed over the anal wounds.

NURSING MANAGEMENT

1. Assess pain and provide analgesics

2. Observe for rectal bleeding before and after surgery

3. Administer laxatives and stool softeners to prevent constipation and straining

4 .Teach the client on high fibre diet and adequate fluids

5 .Administer laxatives and stool softeners to prevent constipation and straining.

6. Teach the client the importance of regular exercises

7 Prepare the client for hemorrhoidectomy by

A .Preoperative care

1.-preparing the client for medical and surgical procedures .this include e[a] cleaning the perianal area and surrounding skin.[b]administer enema if ordered[c]shave the perianal area Apply the normal preoperative protocol gowning ,starve from midnight[NPO]premedication [atropine o.5 mg. administered to dry secretions],vital signs ,consent ,iv cannula inserted and iv fluids administered ,blood for grouping and cross matching and hemoglobin level. Wheel the patient to theatre for hemorrhoidectomy.

B .postoperative care

2 .check on airway breathing and circulation post operatively.do suction of patient has secretions do suction..-monitor vital signs ,check for sighs of prolonged rectal bleeding, provide analgesics and sitz baths ,keep the wound site clean to provide infection and irritation, apply topical antibiotics, topical corticosteroids in cases of irritation, emphasize on personal hygiene, avoid excessive straining during defecation, high residue diet and fluids administer laxatives to soften the stools apply warm compressions, administer suppositories and allow bed rest to reduce engorgement to subside .

9 .Remove drainages as written on post-operative notes or within 48hrs.iv fluids in progress and input and output chart maintained.

10 .start oral sips as soon as bowel sounds are back, progressively to semisolid and to full diet.

11 .Removal of anal pack as indicated on the post-operative instructions

12 .chest exercises to prevent atelectasis and early ambulation to prevent hypostatic pneumonia.

13Teach the client on disease process, diet, danger signs, exercise and follow-up in the medical outpatient clinic [mopc]

COMPLICATIONS

1.Infection

2.Haemorrhage

3.septicaemia

4. Thrombosis

5. Abscess

 6. Anemia in cases of severe hemorrhage

7 .Hypovolemic shock if bleeding is severe .

8 .Disseminated intravascular coagulation[Dic ]

9 .Peritonitis

**ORAL- DENTAL BILIARY DISORDERS.**

**BY ALICE**

**LEARNING OBJECTIVES**

By the end of the lesson he student should be able to diagnose, investigate the following disorders

1. **Oraldento- Biliary Disorders**

1. **Biliary Disorders.**

**WHY ORAL DENTAL DISORDERS**

 The reason why oral dental disorders occur is because digestion normally begin in the mouth Adequate nutrition is related to good dental health and the general condition of the mouth. Any discomfort or adverse condition in the oral cavity can affect cavity can affect a person’s nutritional status. changes in the oral cavity can affect the type and amount of food ingested as well as the degree to which food particles is mixed with salivary enzymes

Diseases of tongue and mouth can interfere with speech and thus affect communication and body image nevertheless esophageal problems related to swallowing can also affect food and fluids intake thereby jeopardizing General health and wellbeing

Given the relationship between adequate nutritional health and the structures of the upper git[lips mouth teeth ,pharynx and esophagus ] health teaching can help prevent disorders associated with this structures.

Oral health is a very important component of a person’s physical and psychological sense of a wellbeing statistically severe periodontal disease affects approximately 14 percent of adults of adults 45yrs-64 years.

PREVENTIVE ORAL CARE

1. Brush teeth at least twice a day using soft toothbrush
2. Hold toothbrush at least 45 degrees between the gum and the teeth. a small brush is better than a large brush
3. Floss your tooth at least twice a day before brushing
4. Use fluoridated tooth paste
5. Take fluoridated water
6. .Replace your toothbrush at first sign of wear, usually every 2 months
7. .Dental checkups at least twice a year which is after every 6 months.
8. Maintain adequate nutrition and starches ,carbohydrates and sugary foods and refined sugars
9. .Refrain from smoking, alcohol tobacco products including smokeless tobacco.
10. Treat diabetes
11. .Use an antiplaque mouth rinse

GOLDEN RULES OF ORAL HYGIENE

1. Brush teeth regularly brush 3 times a day and use of fluoridated toothpaste
2. Floss the teeth prior flossing it helps to remove food particles
3. Regular dental visits at least twice a year
4. Choose the right mouthwash to strengthen teeth
5. Avoid chipped teeth avoid using your teeth for anything other than chewing food like opening bottle tops
6. Limit acidic foods food acids softens the tooth materials and dissolves materials in tooth causing holes
7. Use sugar free gums. Chew sugar free gum between brushing after meals this helps remove plaques

DENTURE CARE

1. Brush dentures twice a day
2. Remove dentures at night and soak them in water, or a denture product. never put dentures in hot water because they may warp
3. Rinse mouth with warm salty water in the morning after meals and at bed-time
4. Clean well under partial dentures where food particles tend to get caught
5. Consume non sticky foods that have been cut into small, pieces, chew slowly
6. See dentist regularly to access and adjust fit

DISORDERS OF THE MOUTH, THEETH, GUMS AND LIPS.

1. DISORDERS OF THE MOUTH

1. APTHOUS STOMATITIS [CANCER SORE…

It’s a shallow ulcer with a white or yellow center and red border, seen n the inner side of the lip and cheek.

Begins with a burning tingling sensation and slight swelling.

CAUSES

1. Fatigue
2. Mental stress
3. Hormonal factors
4. Minor trauma eg. Biting
5. Allergies
6. Acidic food and juices
7. Dietary deficiency
8. Associated with HIV infection

NURSING MANAGEMENT

Instruct the patient in comfort measures such as saline rinses and a soft or bland diet

Antibiotics or corticosteroids may be prescribed

2. CANDIDIASIS

It’s a cheesy white plaque that looks like milk curds. When rubbed off it leaves an erythematous and often bleeding base.

**CAUSES**

*Candida albicans* fungus

RISK FACTORS

1. Diabetes
2. Antibiotic therapy
3. Immunosuppression

NURSING MANAGEMENT

Antifungal medication such as nystatin, clotrimazole may be prescribed

3. STOMATITIS

CAUSES

1. Chemotherapy
2. Radiation therapy
3. Severe allergy
4. Myelosuppression

**SIGNS AND SYMPTOMS**

1. Mild redness(erythema) and edema
2. Painful ulcerations
3. Bleeding
4. Secondary infections

NURSING MANAGEMENT

1. Prophylactic mouth care eg. Brushing, flossing
2. Teach patient proper oral hygiene
3. Avoid alcohol based mouth rinses and hot or spicy foods
4. Apply topical anti-inflammatory, antibiotics and anesthetic agent as prescribed

4. NICOTINE STOMATITIS [SMOKERS PATCH]

CAUSES

Chronic irritation by tobacco

SIGNS AND SYMPTOMS

Creamy thick white mucus membrane on the tongue and mouth.

Beefy red base

**NURSING MANAGEMENT**

Cessation of tobacco use

Consult a physician if condition exist longer than 2 weeks

Biopsy may be needed

**5. LEUKOPLAKIA**

This are white patches may be hyperkeratosis. Usually in buccal mucosa and painless.

Fewer than 2% are malignant but may progress to cancer.

**CAUSES**

Tobacco smoking and chewing

**NURSING MANAGEMENT**

Instruct the patient to see a physician if it persist longer than 2 weeks

Eliminate risk factors such as tobacco

**6.HAIRY LEUKOPLAKIA**

White patches with rough hair-like projections; typically found on lateral border of the tongue.

**CAUSES**

Possibly viral

Smoking

Use of tobacco

Seen in HIV positive people

**NURSING MANAGEMENT**

Instruct the patient to see a physician if it persist longer than 2 weeks

Eliminate risk factors such as tobacco

**7.LICHEN PLANUS**

White papules at the intersection of a network of interlacing lesions; usually ulcerated and painful.

**CAUSES**

Idiopathic

Recurrences are common

**NURSING MANAGEMENT**

Apply topical corticosteroids

Avoid food that irritates

Administer corticosteroids systemically

Instruct the patient of need for follow up if condition is chronic

**8 .KAPOSIS SARCOMA**

Appears first on the oral M mucosa as a red, purple or blue lesion.

May be singular or multiple. May be flat or multiple raised.

**CAUSES**

HIV infection

**NURSING MANAGEMENT**

Instruct the patient regarding side effects of planned treatment

9.KRYTHOPLAKIA

Red patch on the oral mucus membrane

**CAUSES**

Non-specific inflammation

More frequently seen in elderly

**NURSING MANAGEMENT** ii

Instruct the patient to see a physician

1. .DISORDERS OF THE TEETH-
2. Dental plaque and carriers- the presence of the plague on the service of the tooth allowing their bacteria to work on it producing toxins which break up the tooth enamel changing its color when effective brushing is not done leading to formation of holes on the tooth
3. **. DENTO ALVEOLAR ABSCESS [PERIAPICAL ABSCESS]**

A dental abscess is a collection of pus that can form inside the teeth, in the gums or the bone that holds the teeth in place.

**CLASSIFICATION OF DENTAL ABSCESS**

1. Periodical abscess; The result of a chronic, localized infection located at the tip or apex of the root of a tooth
2. Periodontal abscess; Begins in a periodontal pocket
3. Gingival abscess; Involving only the gums tissue, without affecting the tooth or the periodontal ligaments.
4. Per coronal abscess; Involving the soft tissues surrounding the crown of the tooth
5. Combined periodontics- endodontic abscess; a situation I which a per apical abscess and periodontal abscess have combined

**CAUSES**

Direct growth of the bacteria from an existing cavity into the soft tissues and bones of the face and neck

Poor oral hygiene

**SIGNS AND SYMPTOMS**

1. Pain
2. Swelling
3. Redness of the mouth and face
4. Fever
5. Gum inflammation
6. Oral swelling
7. Tenderness with touch
8. Pus drainage

DIAGNOSTIC INVESTIGATION

1. History taking
2. Pulp sensibility testing
3. Dental radiograph

MANAGEMENT

In early stages of an infection, a dentist or oral surgeon may perform a needle aspiration or drill an opening into the pulp chamber to relieve pressure and pain and to provide drainage.

After the inflammatory reaction has subsided, the tooth may be extracted or root canal therapy performed

Antibiotics and opioids may be prescribed

The patient is assessed for bleeding after treatment and is instructed to use a warm saline or warm water to rinse the mouth to keep the area clean

COMPLICATION

1. Osteomyelitis
2. Cellulitis
3. Septicemia
4. Brain abs

3. DISORDERS OF THE GUMS

1. GINGIVITIS

Is the inflammation of the gums, usually caused by a bacterial infection?

Occurs because of a film of bacteria, accumulate on the teeth.

CAUSES

1. Poor oral hygiene
2. Food debris
3. Diseases such as cancer, diabetes and HIV
4. Smoking
5. Age
6. Poor diet (deficiency of vitamin C)
7. Family history

**SIGNS AND SYMPTOMS**

1. Painful, inflamed, swollen gums
2. Bleeding from the gums
3. Halitosis (bad breath)
4. Loose teeth
5. Pus between gums and teeth
6. Sensitive teeth

DIAGNOSTIC INVESTIGATION

1. Signs and symptoms
2. Physical examination
3. X-ray
4. Periodontal probing

MEDICAL MANAGEMENT

1. Oral antibiotics eg doxycycline can help enzyme from crushing tooth damage
2. Analgesics
3. Corticosteroids
4. Antiseptic eg. Gum paint with applicator buds, menthol and methyl salicylate

NURSING MANAGEMENT

Teach patient proper oral hygiene

COMPLICATION

1. Periodontitis
2. Partitas
3. Dental abscess

**2 .NECROTIZING GINGIVITIS [TRENCH MOUTH]**

1. Is the gray-white pseudomembranous ulceration affecting the edges of the gum and mucosa of the mouth?
2. **SIGNS AND SYMPTOMS**
3. Bleeding gums
4. Foul breath
5. Painful swallowing and talking
6. **CAUSES**
7. Poor oral hygiene
8. Bacterial infection
9. Poor nutrition
10. Smoking

**MEDICAL MANAGEMENT**

1. Oral antibiotics eg doxycycline can help enzyme from crushing tooth damage
2. Analgesics
3. Corticosteroids
4. Antiseptic eg. Gum paint with applicator buds, menthol and methyl salicylate

**NURSING MANAGEMENT**

1. Teach patient proper oral hygiene
2. Irrigate with 2% to 3% hydrogen peroxide or n/saline solution
3. Avoid irritants such as smoking and spicy foods
4. **HERPETIC GINGIVOSTOMATITIS**

Is a burning sensation with appearance of small vesicles 24-48 hours later, vesicles may rupture forming sore, shallow ulcers covered with a gray membrane.

**CAUSES**

Immunosuppressed people

Infectious processes e.g. streptococcal pneumonia, malaria

**NURSING MANAGEMENT**

1. Apply topical anesthetics as prescribed
2. Opioids if pain is severe
3. Saline or 2% to 3% hydrogen peroxide irrigations
4. Antiviral agents such as acyclovir.
5. **PERIODONTITIS**

This is a chronic bacterial gum infection that damages the soft tissue and destroys the bone that supports the teeth.

**CAUSES**

1. Dental plaque
2. Untreated gingivitis
3. Poor dental hygiene
4. Poor nutrition
5. SIGNS AND SYMPTOMS
6. Swollen or puffy gums
7. Bright red or purplish gums
8. Gums that feels tender when touched
9. Easily bleeding gums
10. Bad breath
11. Pus between gums and teeth
12. Loose teeth
13. Painful chewing

**TYPES OF PERIODONTITIS**

1. Chronic periodontitis
2. This is the most common type, affecting mostly adults though children can be affected too.
3. Aggressive periodontitis
4. Usually begins in childhood or early adulthood and affects only small number of people
5. Necrotizing periodontal
6. Characterized by the death of gum tissue, tooth ligaments and supporting bone caused by lack of blood supply resulting in severe infection.

**NURSING MANAGEMENT**

1. Instruct patient in proper oral hygiene
2. Instruct patient to consult a dentist

 5. **Malocclusion-**Malocclusion is the malalignment of the teeth of the upper and lower dental areas where the jaw are closed. can be inherited or acquired from thumb-sucking and trauma and some medical conditions .malocclusion make the teeth difficult to clean ,leading to dental decay gum disease. About 50 Percent of te population have dental decay and correction of malocclusion require an orthodontist a patient who is motivated and cooperative and adequate time. Most treatment begin when the patient has shed the last primary tooth and the last permanent successor has erupted usually about 12-13 years of age .preventive orthodontics may be started in children as early as 5yrs of age if malocclusion is early diagnosed. The need for tooth straightening in adolescence is reduced if preventive orthodontics is started with primary teeth.

Management of malocclusion have an obviously misaligned bite or crooked ,crowded, widely spaced or protruding teeth .To realign the teeth the the orthodontist gradually forces the teeth into a new location using wires or plastic bands or [braces]This may be unattractive but this psychological burden must be overcome if good results are to be achieved. In the final stage of the process a retaining device is worn for several hours each day to support the tissues as they adjust to the new alignment of the teeth.

**4. DISORDERS OF THE LIPS**

 **1. Actinic chelates**

**2. Herpes simplex [cold sore or fever blister]**

**3. Chancre**

**4. STOMATITIS**

This is the inflammation of the mouth, it mainly affects the mucus membranes surrounding the mouth, lips, tongue and pharynx.

**TYPES**

Cancer/ apthous ulcers

This is the most common type. The sore is pale white/yellowish in color with a red outer ring. It may progress to become a mouth ulcer and heal within 4-14 days

**Cold sore**

Also known us herpes stomatitis.

It is a small fluid filled sore that usually occurs around the lips and near the edges of the mouth caused by herpex virus. Tends to last 5 to 7 days and keep coming back. Can be very contagious.

**CAUSES**

Trauma from ill-fitting dentures

Biting inside the tongue or lips

Chemotherapy and Radiotherapy

Viral infections

Autoimmune diseases

Drugs that cause dry mouth eg. Diuretics

Sexually transmitted infections

Smoking/ chewing tobacco and alcohol use

Malnutrition

Allergic reactions

Burns caused by hot foods and drinks

Irritation from strong chemicals

Stress

**SIGNS AND SYMPTOMS**

Mouth ulcer with a white/ yellowish layer and red base usually inside the lips, cheeks, tongue, gums or throat.

Red patches

Swelling/ burning sensation

Difficulty in swallowing and speech

Tenderness

**DIAGNOSITIC INVESTIGATION**

Physical examination

Throat swab

Biopsy

Blood tests

Patch test to identify allergy

Clinical features

Cytology

History taking(history of STI, Tobacco use, Allergy)

**MEDICAL MANAGEMENT**

Antivirals is the cause is sexually transmitted infection, drug of choice is mostly acyclovir

Analgesics to relieve pain

Treat underlying cause e.g in case of malnutrition, modalities to improve nutrition are done.

Corticosteroids to help reduce swelling

**NURSING MANAGEMENT**

Ensure proper nutrition and adequate hydration to prevent dry mouth.

Educate on avoidance of alcohol, smoking and tobacco use.

Avoid ill-fitting dentures

Treat chronic dry mouth

**PREVENTION**

Treat chronic dry mouth

Use of a soft toothbrush

Maintain proper nutrition

Ensure adequate hydration

Proper oral hygiene

Use well-fitting dentures

Routine dental check up

COMPLICATION

Gingivitis

Mouth ulcer

Oral cancer

**5 .ORAL THRUSH**

It is a condition in which the fungus candida albicans accumulates on the lining of the mouth causing creamy white lesions on the tongue, inner cheeks or even on the roof of the mouth and gums.

**CAUSES**

**Most common cause is candida albicans**

1. Weakened immunity; oral thrush is likely to occur in infants and older adults due to reduced immunity and other medical conditions that suppress the immune system such as cancer and HIV.
2. Diabetes; untreated/uncontrolled diabetes encourages large amount of sugars in the saliva which encourage candida growth.
3. Medication such as prednisolone, inhaled corticosteroids or antibiotics that disturb normal balance of microorganisms in the body increase risk of oral thrush.
4. Other oral conditions; wearing dentures especially upper dentures or having condition that causes dryness in the mouth
5. Having oral sexual contacts with someone yeast infections
6. Heavy smoking is also a predisposing factor.

**CLINICAL FEATUTES**

**Children and Adults**

1. Creamy white lesions on tongue, inner cheeks and sometime on the roof of the mouth or gums
2. Slightly raised lesions with a cottage, cheese like appearance
3. Redness, burning or soreness that may be severe enough to cause difficulty in eating and swallowing
4. Slight bleeding if lesions are rubbed or scrapped
5. Cracking and redness of the corner of the mouth
6. Loss of appetite
7. A cottony feeling in the mouth

 **Women and Breastfeeding Mother**

1. During breast feeding the infection can pass to the mother then back and forth between the mother’s breast and baby’s mouth.
2. Women whose breast has candida may experience;
3. a)Usually red, sensitive crackled or itch nipples
4. b)Shiny or freaky skin on the areola
5. c)Unusual pain during nursing or painful nipples between feeding
6. d)Stabbing pain deep within the breasts

**DIAGNOSTIC INVESTIGATION**

1. Physical examination through inspection of the mouth
2. Biopsy. Tissue sample is cultured on a special medium to help determine which bacteria are causing the symptoms
3. Throat culture; a cotton swab is used to take a tissue sample from the back of the throat then taken for analysis.
4. Endoscopy; to examine the affected area.

**TREATMENT**

1. Antifungals use eg .fluconazole, - , clotrimazole.
2. Use of warm salty water to swish the mouth
3. Use of artificial saliva as a substitute for dry mouth
4. Identify oral thrush early to avoid spread to other system

**PREVENTION**

1. Regular oral hygiene
2. Remove dentures at night and clean them with warm water
3. Maintain good blood sugar control in diabetic patients
4. Avoid frequent use of antibiotics and corticosteroids
5. Avoid or stop smoking

**COMPLICATIONS**

1. Stomatitis
2. Malnutrition
3. Esophageal candidiasis
4. For people with lowered immunity untreated oral thrush may lead to more serious systemic candida infection and spread to other parts of the body.
5. **.cancer of the lips-**This are small lesions usually excised liberally radiation therapy may be more appropriate for larger lesions more than one third of the lip because of superior cosmetic results. the choice depends on the extend of the lesion and what is necessary to cure the patient while preserving the best appearance. Tumors larger than 4 cm often occur.
6. **Cancer of the tongue**-In cancer of the tongue management with radiation therapy and chemotherapy may preserve organ function and maintain quality of life .A combination of radioactive interstitial implants[surgical implantation of radioactive source into the tissue adjacent to or at the tumors site ] and external beam radiation may be used .surgical procedures include surgical removal of half of the tongue and total glossectomy[removal of the tongue ]
7. **Metastasis.** Often the cancer of the oral cavity has metastasized through the extensive lymphatic channel in the neck requiring a neck dissection and reconstructive surgery’s common reconstructive technique involves use of a radial forearm a thin layer of skin from the fore arm along with radial artery.

**NURSING MANAGEMENT**

Nursing management-Assess the patients nutrition stays ,preoperatively ,dietary consultation necessary may require enteral feeding through git or parenteral iv feedings before or after surgery .Allen test is performed on ulna artery done in donors arm for the removal of radial artery for use .asses airway ,suction done and manage grafting done to prevent damage of the graft and promote healing .Asses graft perfusion by using Doppler ultrasound.

6 .**DISORDERS OF THE JAW**

1. **Temporomandibular disorders-categories of temporomandibular disorders**

This are abnormal conditions affecting the mandible jaw of the Temporomandibular joint .causes include fracture ,chronic dislocation ,cancer and symptoms characterized by pain and limited motion .temporomandibular disorders and jaw surgery treatment recommended for structural abnormalities or cancer of the jaw.

2.**Jaw disorders requiring surgical management**-This include structural abnormalities involving reposition and structural abnormalities of the jaw ,simple fractures of the mandible without dislocations resulting from blow of the chin and planned surgical corrections as in long or short jaw syndrome.

Mandibular fractures are usually closed fractures .rigid plate fixation where metal plate and screws are used for management of fracture .the current treatment of choice in jaw disorders is mandibular reconstructive surgery

**7 .DISORDERS OF SALIVARY GLANDS**

**1. Partitas**

This refers to inflammation of the parotid gland though inflammation can occur in other salivary glands as well .mumps affecting children has been implicated as a cause of parotids .the elderly are prone to the above because of decreased salivary flow from general dehydration and medication .the main cause is staphylococcus aurous except for mumps which is viral. The gland becomes swollen and tender. Medical management includes maintenance of adequate fluid intaker,good oral hygiene, discontinue medication, analgesics ,antibiotic therapy if not successful with antibiotic therapy then parotidectomy can be done to remove the parotid gland.

2.**Saladenitis-**This refers to inflammation of the salivary gland which may be caused by dehydration ,radiation theraphy,stress malnutrition and salivary gland calculi ,improper oral hygiene. The inflammation is associated by staphylococcus aureus ,streptococcus viridian’s ,and may be streptococcus resistant methyl in resistant[MRSA].symptoms include pain swelling purulent discharge .antibiotics are used to treat infections ,massage ,dehydration ,warm compression and corticosteroids are used .Sal adenitis with uncontrolled pain is treated with surgical drainage of the gland or excision of the gland and its ducts.

3. **sioaloithiasis**

This is also referred to a salivary calculus, usually occurs in the submandibular gland .ultrasound or solography may be required to demonstrate obstruction of the duct by stenosis. Salivary calculi are formed by calcium phosphate. Calculi in the duct is small and mostly has no symptoms unless infection is present. The presence of calculi cause localized pain, colicky in nature which is relieved by a gush of saliva which is disclosed in the patients history ,stone is palpable and shadow be seen on xray.Treatment includes extraction of the calculus .Enlargement of the duct offence can be done.Ocassionally lithotripsy is done whereby disintegration os stones by shock waves is done. This requires no anaeshesia,sedation or analgesia. Side effects include hemorrhage and swelling and surgery may be needed.

**8.NEOPLASMS**-Though they are uncommon ,neoplasms tumors or growths almost any type may develop in the salivary gland .Tumors occur most often in the parotid gland .The incidence of salivary gland similar in men and women .risk factors ,prior exposure of radiation of head and neck tumors .diagnosis based on physical exam history taking and results of Fine needle aspirate.

Management of salivary gland tumors may involve excision of the gland with tumors and a wide margin of surrounding tissue .dissection is carefully done the seventh cranial nerve[facial nerve] though this may not be possible with extensive tumour.it tumors is malignant radiation follow surgery .Radiation alone may not be used since this could cause facial nerve damage. Chemotherapy is used for palliative purposes.

**9 CANCER OF THE ORAL CAVITY**

Occurs in any part of the mouth, throat curable if discovered early.

Are associated with the use of alcohol and tobacco.

The combination of tobacco and alcohol seems to have a synergistic carcinogenic effect.

**RISK FACTORS**

1. Cigarette, cigar and pipe smoking: use of smokeless tobacco
2. Excessive use of alcohol
3. Prolonged exposure to ultraviolent light can damage the cells on your lips and increase your risk of lip cancer.
4. Immunosuppression- The immune system is the main defense against damaging changes in cells that can lead to cancer
5. Poor oral hygiene
6. Genetics
7. Chronic injection of hot oral fluids
8. Malnutrition

**SIGNS AND SYMPTOMS OF ORALPHARYNGEAL CANCER**

1. Ear pain
2. A lump in the back of mouth or neck
3. Complains of tenderness
4. Difficulty in speaking or coughing
5. Blood stained sputum
6. Enlarged cervical lymph nodes
7. Cough
8. Difficult in chewing and swallowing
9. Weight loss of unknown reasons
10. Dull pain behind the sternum
11. A sore throat that does not go away

**DIAGNOSIS**

1. Physical exam
2. History taking
3. MRI
4. X-ray of the organs and bones
5. Endoscopy
6. PET Scan (position emission tomography scan) procedure to find tumor cells malignant in the body.
7. A small amount of radionuglucose(sugar) is injected into a vein. The PET scanner rotates around the body and makes a picture of where glucose is being used in the body. Malignant tumor cells show up brighter in the picture because there are more active and take up more glucose than normal cells.
8. MEDICAL MANAGEMENT
9. Radiation therapy
10. Chemotherapy
11. Vincristine
12. Methotrexcon
13. Palliative

**SURGICAL MANAGEMENT**

Hemiglosectomy and lobectomy

In cancer of the lips small lesions are usually excised liberally

**NURSING MANAGEMENT**

Monitor the vital signs half hourly immediately after theatre until the patient is stable

Continue assessment and re-evaluation are necessary

If a radial graph is to be performed an Allen test on the donor arm must be performed to ensure that the ulnar artery is present and can provide blood flow to the hand after removal of radial artery. The Allen test is performed by asking the patient to make a fist and manually compressing the ulnar artery.

The patient is then asked to open the hand into a relaxed slightly flexible position. The palm is pale.

Pressure on the ulnar artery is released. If the ulnar artery is patent the palm flushes within about 30sec.

Verbal communication maybe impaired by radical surgery for oral cancer therefore provides patient pen and paper.

A communication ward with commonly used words or pictured is obtained preoperatively and given after surgery to patient who cannot write so that they may write the needed items.

A speech therapist is also consulted post operatively.

Post operatively assess for a patient airway.

Oral secretions suctioning is necessary

The graft is assessed post operatively for viability

Monitor vital signs and general appearance.

**COMPICATIONS**

1. Dysphagia
2. Stomatitis
3. Anorexia
4. Esophageal stricture

**2. BILIARY DISORDERS**

**Objectives.**

**By the end of the lesson the student should be able to define investigate and manage and investigate an adult with biliary disorders.**

**A.HEPATITIS A (INFECTIOUS HEPATITIS)**

Is an inflammatory condition of the liver.

**ETIOLOGY AND PATHOPHYSIOLOGY**

1. Hepatitis A virus (HAV) is caused by type A hepatitis virus. It invades, replicates and produces inflammation and causes liver cell damage.
2. It is acquired by ingestion of HAV in food, water or uncooked shellfish contaminated with feces containing the virus or by direct fecal-oral transmission.
3. The incubation period is 15-50 days.

**ASSESSMENT DATA.**

1. Diagnostic studies.
2. Stool specimen is positive for HAV 2 to 4 weeks after exposure.
3. Serology reveals rise in anti- HAV antibodies between onset of disease and convalescence.
4. Signs and symptoms.
5. Prodromal phase-Anorexia

 -Weight loss

 - Malaise

 - Low grade fever

 - Flu-like symptoms

 - Aversion to cigarette smoke

 b) Icteric phase- Clay colored stool

 -Jaundice

 -Dark urine

 c) Recovery phase- Easily tired

 -Vague epigastric distress

 **TREATMENT-medical management**

1. Bed rest during the acute and prodromal phase.
2. Nutritious high protein high carbohydrate diet.
3. When client is anorectic, small frequent meals supplemented with IV fluids is ordered.

**NURSING INTERVENTIONS.**

1. Teach the client f well balanced meals.
2. Offer frequent small meals while client is anorectic.
3. Mainly IV fluids.
4. Gradually progress ambulation after acute phase.
5. Teach client ad family ways to reduce risks of contracting hepatitis A.
6. Practice good personal hygiene especially hand washing before eating and after a bowel movement.
7. Safe handling and inspection of foods and water.
8. Good sanitation practices

**II. HEPATITIS B (SERUM HEPATITIS)**

Inflammatory condition of the liver.

**ETIOLOGY AND PATHOPHYSIOLOGY**

1. Hepatitis B (HBV) is caused by the Hepatitis B virus. The virus invades, replicates and produces inflammation and causes liver cell damage.
2. It is transmitted by contaminated blood products and body fluids such as saliva, semen or urine and oral or sexual contact. Contaminated equipment such as needles or syringes can transmit the virus.
3. The incubation period is 30-180 days.

**ASSESSMENT DATA**

1. Diagnostic studies.
2. Serology reveals presence of hepatitis B surface antigens (HBsAg).
3. Serology reveals presence of hepatitis B antibodies (anti-HBs).
4. Signs and symptoms. - Same as for hepatitis A.

**TREATMENT- Same as for hepatitis A.**

**NURSING INTERVENTIONS.**

1. Bed rest during acute phase.
2. Increase ambulation as tolerated by client.
3. Educate client to take planned rest periods.
4. Encourage small frequent meals, high in calories, proteins and carbohydrates (protein decreased if signs of coma).
5. Administer antiemetic when nausea occurs.
6. Provide a cool environment.
7. Discontinue any sedatives and ingestion of alcohol.
8. Administer acetaminophen for pain.
9. IV fluids for clients with persistent vomiting.
10. Weigh client daily.
11. Monitor liver function tests until normal.
12. Place client on blood and body fluid precautions.
13. Watch for signs of hepatic coma, dehydration, pneumonia, vascular problems, and decubitus ulcers.
14. Teach client importance of hand washing.
15. Inform client and family that there is a hepatitis B vaccine and there is lifetime immunity after infection.
16. Emphasize the importance of follow up liver function tests and serum HBsAg.
17. Teach client and family ways to reduce risk of contacting hepatitis B.
18. Practice good hand washing.
19. Teach client abut universal precautions.
20. Explain that the client should not donate blood.
21. Sexual activity should be avoided during acute stage and until tests for HBsAg are negative

**C.HEPATITIS C**

**It is caused by HCV.**

**This virus has RNA in its nucleus.**

**Spread by blood and blood products which occurs to many people with haemophilia**

**MODE OF TRANSMISSION**

1. Blood transfusion
2. Sexual contact
3. IV drug users
4. Immigrants
5. Contamination with blood products
6. Cuts, Bruises and wounds

**RISK FACTORS**

1. Receipts of blood transfusion
2. Organ transplant(liver transplant)
3. Health care and public safety workers after needle prick injury.
4. Children born to women with Hep C.
5. Past/Current drug users.
6. Multiple contact with Hep C infected virus person
7. Multiple sex partners, history of STI’s unprotected sex.
8. Prisoners and mental health institutions.

**DIAGNOSTIC INVESTIGATIONS**.

Infection is frequency asymptomatic and is diagnosed later when cirrhosis and chronic liver failure becomes evident.

**PREVENTION**

Screening blood for transfusion

Public health programmers help reduce no. of causes associated with shared needle,IV injection and drug users.

**NURSING MANANGEMENT**

1. Educate o self-care
2. Educate family member and friends who have intimate contact with patient on the risk of HBV and eropose for vaccination.
3. Those at high risk must be aware of early signs
4. Avoid alcohol consumptions
5. Advice on adequate bed rest and nutrition.

**PREVENTION**

1. Vaccination for people and persons at risk of infection
2. Avoid high risk behaviors eg unprotected sex.
3. Use standard precautions eg.safety injections in clinicall areas.
4. Use barriers precaution I situations of contact with fluids.
5. Toilets should be disinfected
6. Ensure cleaning, disinfestation and sterilization of re-usable instruments.

**COMPLICATIONS**

1. Encephalopathy
2. Edema and ascities
3. Hepatic coma
4. Hepatic insufficiency
5. Liver cirrhosis
6. Liver cancer

**D.HEPATITIS D..**

Caused by HDV.

1. Mostly occurs in same case as Hep B.
2. The virus contains no RNA and can only replicate in the presence of Hep B virus.
3. Most often affects; IV drug users, Hemodialysis, Recipient of multiple blood transfusions, Sexual contacts with those who have Hepatitis B.
4. Incubation period is 30-150 days.

**CLINICAL FEATURES**

Similar to those of Hep B except that are more likely to develop Hepatic Failure and progresses to chronic active (acute)hepatitis and cirrhosis.

Currently Alpha Interferon is the only licensed drug for treatment of Hep D.

**E.HEPATITIS E…**

Caused by HEV

1. Transmitted through fecal oral route.
2. Primarily through contaminated water in areas with poor sanitation
3. Incubation period is 15-65 days(2 weeks-2 months)
4. In general Hep E resembles Hep A.
5. It has self limited cause with abrupt onset.

**CLINICAL FEATURES**

1. Jaundice always present
2. Anorexia
3. Fever
4. General malaise
5. Early bruising
6. Clay colored stool
7. Dark urine
8. Fatigue
9. Muscle weakness
10. Hepatomegaly

**PREVENTION**

1. Administer vaccination
2. Diet
3. Ensure bed rest
4. Avoid exercise- they deplete energy stores
5. Improve environmental sanitation and treat water for drinking and free from contamination
6. Hand washing
7. Personal hygiene

**DIAGNOSTIC INVESTIGATION**

1. Blood test for HEV
2. Blood cultures
3. Liver Function Test
4. Physical exam-hepatomegaly
5. Abdominal ultrasound
6. Liver biopsy
7. Immune analysis
8. Stool for microscopy
9. Complete blood count

**B.JAUNDICE/ICTERUS**

**DEFINATION**

The term is derived from a French word juane which means yellow .jaundice is not a disease per se but rather a visible sigh of an underlying disease process .However depending on the underlying cause of jaundice individuals may experience various symptoms .some individuals may experience fewer symptoms whereas some may experience more severe and pronounced symptoms.

Jaundice is a disorder that occurs as a result of too much bilirubin a yellow pigment in the blood called hyperbilirubinemia. Normal levels of jaundice is 2.5-3 mgldl .if it exceeds this levels hyperbilirubinemia exceeds.

**CLASSIFICATION OF JAUNDICE**

**1. Pre-hepatic-**

This is whereby the problem arises[ before secretion to the liver].jaundice caused during the pre-hepatic stage due to excessive destruction[hemolysis] of red blood cells from various conditions. The rapid increase of bilirubin in the bloodstream overwhelms the livers ability to properly metabolize the bilirubin and consequently the levels of unconjugated bilirubin increase. Conditions that can lead to increase in the hemolysis of red blood cells include [[malaria, sickle cell disease, hereditary spherocytosesThalasaemia, Drugs and other toxins, autoimmune disorders, Glucose 6 phosphate dehydrogenase defficiencyG6PD]

**2. Hepatic**

the problem [occurs within the liver]-Jaundice caused during hepatic phase , can arise from abnormalities in the metabolism and or excretion of bilirubin. This can lead to an increase of both conjugated and unconjugated bilirubin level. Conditions with hepatic cause of jaundice include.

1. Acute and chronic hepatitis[commonly viral-hepatitis]hepatitis A,B,C,D,E or alcohol related]

.2.Cirrhosis caused by various conditions

3. Drugs and other toxins

4. Criglar-Najjar syndrome

5. Autoimmune disorders

6. Gilberts syndrome

7. Liver cancer

**3. Post hepatic-**

 Jaundice from post hepatic cause arise from a disruption [an obstruction in the normal drainage and excretion of conjugated bilirubin in the form of bile from the liver into the intestine. This leads to the level od conjugated bilirubin into the bloodstream’s/b.The problem arises after bilirubin is excreted from the liver. The conditions that cause post hepatic jaundice include the following.

1. Gallstones

2. Cancer[pancreatic cancer gallbladder cancer, and bile duct cancer

3. Strictures of the bile ducts

4. cholangitis

5. pancreatitis

6. Parasites [E.G liver flukes]

TYPES OF JAUNDICE

1. Physiological Jaundice

2. Obstructive jaundice

**PATHOPHYSIOLOGY**

If Bilirubin is high he substances that are when bilirubin is Brocken down may accumulate causing itching all over the body. Bilirubin is mostly formed from the daily break down and the destruction of red –blood cells in the bloodstream, which release hemoglobin as they rapture. The home portion of the hemoglobin is converted into bilirubin which is transported into the bloodstream to the liver for further metabolism and excretion .In the liver the bilirubin is conjugated.[made more water soluble and is excreted into the gall bladder[.where it is stored] and then into the intestinr,in the intestine a portion of bilirubin is excreted in the fecies,while some is metabolized by an intestinal bacteria and excreted in urine.

N/Jaundice in adults itself usually isn’t treated but the doctor and a comprehensive evaluation is done so as to determine the cause and to treats the condition causing it .if you have viral hepatitis jaundice will go away on its own. If blocked bile is to blame the doctor will suggest surgery to open it.

1. Jaundice occurs if there is disruption of normal metabolism and excretion of bilirubin and this disrupting can occur at various stages and is therefore used to classify the various causes of jaundice

2. .Elevated levels of chemical bilirubin [Hyper bilirubinemia]

3. Genetics

4. Autoimmune

5.Drugs and other toxins

. 6. jaundice is caused by a variety of medical conditions that are serious and life threatening and affect the normal metabolism or excretion of bilirubin

**RISK FACTORS**

1. Hereditary spherocytosis

2. Thalassemia

n/bThe above disorders have a higher risk factors to jaundice. As a result of hemolysis

3. Increased alcohol intake get a higher risk of getting alcoholic hepatitis pancreatitis and cirrhosis leading to jaundice.

4. People who have increased risk of exposure to different types of viral hepatitis e.g. [hepatitis b and c] are at risk of developing jaundice at the time of infection or subsequently if liver disease occurs or if liver cancer develops latter.

**Signs and symptoms of jaundice n/bjaundice is not a disease but depicts underlying disease or pathology.**

1 .Yellow pigmentation/discoloration of the skin with varying degrees and yellowing of eyes which extends to the mucus membranes and of the white of the eyes .other tissues of the body and fluids and also may turn urine dark.

2. Dark coloured urine

3pale coloured stool

4.Nausea and vomiting

5.diarrhea

6.Feaver and chills

7.Rectal bleeding

8.weightloss

9.loss of appetite

1o.Weakness

11.Confusion

12.Abdominal pain

13.Headache

14.swelling of the legs

15.Swelling and distension of the abdomen due to accumulation of fluid[Ascites]

**DIAGNOSTIC INVESTIGATIONS**

**The presence of jaundice requires a very comprehensive medical evaluation to determine the cause.**

1.History taking[detailed]

2.Physical examination

3.liver function tests

4.CBC [Complete blood count]

5.Electrolyte panel and lipase level

6. blood testing for exposure to hepatitis

7.urinalysis

8.Imsging studies to evaluate liver abnormalities[ultrasound ,CT scan, MRI

9. cholescintiography [HIDA SCAN]

10.liver biobsy

11. ERCP.[Endoretrogade cholangiopancreotography]

**TREATMENT/MANAGEMENT FOR JAUNDICE IN ADULTS**

**MEDICAL MANAGEMENT**

1.**The treatment** of jaundice depends on the underlying cause once diagnosis have been made treatment can be initiated .certain patients may require hospitalization whereas some may be managed as outpatient at home At home this clients require supportive care like mild hepatitis cases with close monitoring by the doctor .Novel conditions of hepatitis c can cure this condition

2. **Alcohol** cessation is necessary for patients with liver cirrhosis ,alcoholic hepatitis and acute pancreatitis secondary to alcohol use.

3. **Jaundice** caused by drugs /toxins /medication requires discontinuation of offending agent.

**MANAGEMENT OF JAUNDICE (Medical)**

## In cases of Acetaminophen [Tylenol] overdose ,the antidote N-Acetyl cysteine[mucomyst] may be required.

.DRUG THERAPHY-various medications is require can be used to treat conditions caused by jaundice.

.steroids-This drugs are used for treatment of some autoimmune conditions.

.Diuretics-may be used in the cases of cirrhosis

Lactulose –may be used as a laxative,

Antibiotics may be used for infectious causes of jaundice or for complications associated with certain conditions leading to jaundice

E .Blood transfusion may be required with individuals with anemia for hemolysis or as a result of bleeding.

Individuals with cancer leading to jaundice will require consultation with oncologist and the treatment will vary according to type.

**SURGICAL MANAGEMENT**

**1SURGERY AND VARIOUS INVASIVE PROCEEDURES**

 This may be required for certain patients with jaundice e.g gallstones may require surgery

1. .LIVER TRANSPLANT. Other individuals with liver cirrhosis and liver failure may require liver transplant.

**NB; NURSING MANAGEMENT LIKE A PATIENT WITH LIVER CONDITION**

**COMPLICATIONS**

**N/B** The type of complication varies with severity of underlying cause leading to jaundice. Other patients will not suffer any long term effects and will have full recovery. While others the appearance of jaundice will be the first indication of a life threatening condition. A few of the potential complications include.

1. **.Electrolyte Abnormalities**
2. **Anemia**
3. **.Bleeding**
4. **.Infection/Sepsis**
5. **.Chronic Hepatitis**
6. **.Cancer**
7. **.Liver Failure**
8. **.Kidney Failure**
9. **.Hepatic Encephalopathy[Brain Dysfunction]**

 **WAYS OF PREVENTION AND DECREASING JAUNDICE**

Jaundiced may or may not be prevented in some circumstances. However such measures are put in place to curb this.

1. Take medications as instructed to avoid liver damage or unintentional overdose

2. Individuals with certain conditions like eg G6PD deficiency or cirrhosis should avoid medications altogether ,hence discuss with health professional,

3. Avoid irresponsible sexual behavior [unprotected intercourse or intravenous drug and and implement universal precautions when working with blood roducts and needles hence reducing risk of vitamin B and c.

4. Consider vaccination **Against B And C Not Yet Vaccine For Hepatitis C.**

**5. Consume Alcohol Responsibly Avoid Binge Driking.**

6/Avoid smocking which is a risk factor 0f pancreatic cancer as well as other malignancies

 **PROGNOSIS**

 The prognosis of individuals with jaundice varies with the underlying cause. There are certain conditions that carry an excellent prognosis with individuals making it to full recovery

However more serious causes of jaundice can sometimes be fatal despite medical and surgical intervention. The development o and severity of complications will determine an individual prognosis as well as a patient’s underlying health presence of other disease g6pd G6P

**DISEASES OF THE GALL BLADDER**

The gall bladder is most commonly affected by gallstones (cholelithiasis) and inflammation (cholecystitis).

**CHOLECYSTITIS**

Is the inflammation of gallbladder that occurs most commonly because of an obstruction of the cystic duct by gallstones arising from the gallbladder?

**PATHOPHYSIOLOGY**

Acute cholecystitis is associated with presence of stones that obstruct the outflow of bile thus the bile become over concentrated leading to irritation with subsequent inflammation.

The inflammatory reactions may be worse if secondary bacterial infection occurs.

There is ulceration of the mucosal and hemorrhage which leads to edema, neutrophil infiltration and fibrosis.

The lumen of the gallbladder become filled with pus which results to necrosis.

Chronic cholecystitis occurs when there has been repeated attacks of cholecystitis.

**CAUSES**

1. Gallstones
2. Tumor
3. Bile blockage
4. Infections
5. Blood vessel problems
6. Hormonal causes

SIGNS AND SYMPTOMS

1. Pain in the abdomen
2. Heavy abdomen
3. Pale grey colored stool due to lack of bile pigments
4. Indigestion
5. Bleeding tendencies
6. Sausage shaped mass is felt on deep palpation
7. Rigidity/guarding sign of muscles
8. Steatorrhea
9. Dehydration
10. Tachycardia
11. Dark urine
12. Jaundice

Hepatomegaly

**DIAGNOSTIC INVESTIGATION**

1. Signs and symptoms
2. Ultra sound
3. Blood for WBC Count
4. Blood for bilirubin levels
5. Abdominal X-ray
6. Liver function test
7. Physical examination
8. Hepatic venography
9. Urine for alkaline phosphates
10. SGOT

**MANAGEMENT**

1. Admit the patient and put him/her on total bed rest
2. Administer antipyretics and analgesics
3. Put the patient on iv fluids to correct dehydration
4. Give spasmolytic
5. Administer antibiotics
6. Surgery may be done
7. Give health education to the patient eg. Avoid fatty foods
8. Provide patient with low fat diet

**RISK FACTORS**

1. Elderly persons
2. Female sex
3. Ethnic groups
4. Obesity
5. Drugs
6. Pregnancy

**COMPLICATIONS**

1. Septic shock
2. Infections in the bladder
3. Torn gallbladder
4. Death of gallbladder tissues
5. Septicemia
6. Bacteremia
7. Hemorrhage
8. Anemia
9. Tachycardia

**PREVENTION**

Lose weight slowly- rapid loss of weight increase risk of gallstones formation

Maintain a healthy weight

Choose a healthy diet.

 **CHOLELITHIASIS**

It’s the presence of stones in the gallbladder.

**PATHOPHYSIOLOGY**

There two major types of gallstones

1. Those composed predominantly of pigments
2. Those composed primarily of cholesterol

Pigments stones probably form when unconjugated pigments in the bile precipitate to form stone. Pigments stones cannot be dissolved and must be removed surgically

Cholesterol stones which are composed of cholesterol, which is a normal constituents of bile is insoluble in water. Its solubility depends on bile acids and phospholipids in bile.

In gallstone: prone patients, there is decreased bile acid synthesis and increased cholesterol synthesis in the liver, resulting in bile supersaturated with cholesterol which precipitate to form stones.

Formation of gallstones acts as an irritant that produces inflammatory changes in the mucosa of the gallbladder.

**RISK FACTORS**

1. Obesity
2. Women especially those who have had multiple pregnancies
3. Frequent changes in weight
4. Rapid weight loss
5. Ileac resection or disease
6. Cystic fibrosis
7. Diabetes
8. Low dose estrogen therapy though it carries a small increase in the risk of gallstones

**CLINICAL MANIFESTATION**

1. Epigastric distress
2. Abdominal distension
3. Vague pain in the right upper quadrant
4. Palpable abdominal mass
5. Jaundice due to obstruction of the common bile duct
6. Gray colored stool
7. Dark urine
8. Vitamin deficiency because, the flow of bile interferes with absorption of fat soluble vitamins

**DIAGNOSTIC INVESTIGATION**

1. Abdominal X-ray
2. Ultrasonography- will show dilated bile duct
3. Radionuclide imaging
4. Cholecystography
5. Endoscopic Retrograde Cholangiopancreatography(ERCP)
6. Use of clinical features
7. Percutaneous trans hepatic cholangiography

**MEDICAL MANAGEMENT**

1. Lithotripsy and dissolution of gallstones
2. Laparoscopic cholecystectomy
3. Antibiotic agents
4. Ursodeoxycholic acid and chenodeoxycholic acid to dissolve small radiolucent gallstones
5. Stone removal by instrumentation
6. Intracorporeal lithotripsy- fragmentation of gallstones by means of laser pulse technology

**NURSING MANAGEMENT**

1. Administration of medication as prescribed
2. Nutritional and supportive therapy
3. Nasogastric suction
4. Give analgesics
5. Give low fat diet, high proteins and high carbohydrates
6. Administer antibiotic agents
7. Administer IV FLUIDS.

**F. LIVER CIRHOSIS**

Is a disease characterized by fibrosis and formation of abnormal nodules of liver tissue.

The disorder is commonly associated with alcoholism, but it can also follow such other conditions as hepatitis, toxic reactions and iron and copper deposition.

Cirrhosis can be post necrotic, that is, following an infection like viral hepatitis or it can be biliary which is preceded by obstruction to bile flow.

Patients present with pruritus, hepatomegaly, pain, ascites, and easy bleeding because if decreased production of clotting factors.

Toxic substances of metabolism will also accumulate and patients can have many other symptoms.

**CLINICAL FEATURES**

1. Anemia
2. Peripheral edema
3. Oliguria
4. Malabsorption
5. Drug toxicities
6. Hepatic encephalopathy

-These manifestations affect the endocrine system, skin and hematological functions.

**MANAGEMENT OF LIVER DISEASE**

1. Viral hepatitis is treated with a low protein, high carbohydrate and low fat diet.

2. Vitamin supplements and rest will help the patient recover very faster.

3. No drugs are given to these patients because the liver may be unable to metabolize them.

4. Supportive therapy can be included.

5. General infection prevention measures are necessary to avoid the spread of viral hepatitis.

6. Immunization and use of immune globulin may also be useful.

7. Toxic and drug induced hepatitis are largely managed with support to the patient in terms of nutrition, rest, fluids and electrolyte monitoring.

8. Patient with liver cirrhosis needs at least 300 calories in the diet per day. High carbohydrate intake, low proteins (depending on the stage), low fat diet, low sodium (for patients with ascites) is all indicated.

9. Should the condition get worse, proteins should be limited to avoid accumulation of ammonia in the body leading to hepatic encephalopathy. This particular patient should receive complete be rest, diuretics and B-complex vitamins. They should abstain from alcohol totally.

**COMPLICATIONS OF CIRRHOSIS**

These complications should be managed at the same time.

1. Portal hypertension
2. Esophageal varices
3. Peripheral edema
4. Ascites
5. Hepatic encephalopathy
6. Hepatorenal syndrome

-Hypertension is managed with antihypertensive medication.

-Anemia should be treated with transfusion if it is severe or with hematinic drugs.

1. **LIVER CANCER**

Primary malignant hematomas and adenocarcinomas arising from liver cells, bile duct cells and rarely diffuse mixed cells.

STAGING.

Helps to decide the type assessment.

Stage 1-Tumor in the liver and has not spread to other organs.

Stage 2-There are either several tumors that remain in the liver or has reached blood vessels.

Stage 3-Various large tumors have reached the gall bladder.

Stage 4-The cancer has metastasized to other organs.

**TYPES/CLINICAL FEATURES**

**1.. Hepatocellular hepatitis[hcc]-predominant cell in the liver**

**2. Cholangiocellular hepatitis[ccc]**

**3.Adenocarcinoma**

**4.Mesenchymal**

**5.Hepatoblastoma**

**6.Angiosarcoma**

**CAUSES-Idiopathic**

**PREDISPOSING FACTORS**

1. Primary malignant hematomas.
2. Originate mainly in the right lobe.
3. 80-90% of cases in low incidences regions occur in patients with ethanol-induced cirrhosis.
4. Hepatitis B&C, chronic liver diseases.
5. Mycotoxins.(aflatoxin)
6. Estrogens and androgens.
7. Irradiations
8. Parasitic infections.(Liver flukes)
9. Vinyl chloride.
10. Gender(common in men)
11. Secondary liver carcinoma
12. Metastases from kidney, lung, breast, pancreatic, stomach and colorectal tumors.
13. Result from invasive growth of nearby organs or spread via portal vein.

**DIAGNOSTIC INVESTICATIONS**

1. Abdominal x-ray, CT scans ultrasound.
2. Angiography.
3. Selective hepatic arteriogram.
4. Spleenoportogram.
5. Radioisotope scanning.
6. Hematologic profiles and liver function tests used mainly as baseline data to evaluate tumor response to therapy and recurrence.
7. Alpha-fetoprotein- tumor specific for primary hepatocellular carcinoma.
8. Liver biopsy-very risky with potential for intra-abdominal hemorrhage and seeding and spreading of tumor.

**CLINICAL FEATURES/SIGHNS AND SYMPTOMS**

1. Abdominal pain
2. Dull aching, right upper quadrant.
3. May later radiate to right scapula
4. Gradually becomes more painful and constant and aggravated by lying on right side.
5. Profound, progressive weakness.
6. Fullness in epigastric area, diarrhea or constipation.
7. Ascites.
8. Weight loss, anorexia.
9. Mild jaundice.
10. Palpable hard, nodular liver.
11. Esophageal staging.

**TREATMENT/MANAGEMENT**

1. **MEDICAL MANAGEMENT FOR PRIMARY LIVER TUMOR**

1. Adjuvant chemotherapy to eliminate free tumor cells.

2. Radiotherapy when the aim of treatment is cure but is used as an adjuvant or palliative therapy.

3. Palliative care.

 2. **SURGICAL MANAGEMENT**

 1. Surgical excision of solitary, localized tumor is definitive treatment.

 2. Surgical resection to debunk large multiple tumors as palliative treatment.

**SURGICAL MANAGEMENT OF SECONDARY LIVER TUMORS.**

1. Segmental or sub segmental resection for small lesions usually used to control tumor size, increase survival time and control symptoms.
2. Intra-arterial infusion of chemotherapeutic agents via the hepatic artery.
3. Hepatic artery embolization.
4. I-131 ant ferritin and Y-90 ant ferritin (radiation- labeled antibodies to ferritin) are being studied.

**3. NURSING INTERVENTIONS**

1. Prepare patient for diagnostic procedures.

2. Prepare patient for surgical procedures.

 a) Stress importance of coughing and deep breathing.

 b) Location of incision makes these activities very painful.

 c) Teach splinting techniques.

3. Observe for post-operative complications.

 a) Hemorrhage.

 b) Biliary fistula.

 c) Infection.

 d) Metabolic consequences.

 e) Sub phrenic abscess.

 f) Pneumonia, atelectasis.

 g) Portal hypertension.

 h) Clotting defects.

4. Prepare patient for chemotherapy.

 a) Discuss method of delivery- systemic or intra-arterial infusions.

 b) Discuss side effects and their management.

 c) Assess for and manage side effects.

5. Provide measures to control pain which can be severe in later stages.

6. Palliative measures to control ascites.

 a) Fluid and sodium restriction.

 b) Paracentesis.

 c) Diuretic therapy.

 d) Albumin administration.

 e) Peritoneovenous shunt

**COMPLICATIONS**

1Ascitis.

2.Infection.

3.Portal hypertension.

4.cancer of stomach

5.Cancer of the colon.

6.Hepatic failure.

7.Hepatiencephalopathy.

9.Anaemia

 **LIVER ABSCESS**

It’s a pus filled mass inside the liver.

Common causes are abdominal conditions such as; Appendants or Diverticulitis.

**CATEGORIES OF LIVER ABSCCESS**

Amebic live abscess

Pyogenic liver abscess

Fungal liver abscess

Amoeba liver abscess are mostly common caused by an amoeba histolytic. Mostly occur in areas with poor sanitation and hygiene.

Pyogenic liver abscess are much less common, but they are more common in developing countries (caused by bacteria, Escherichia coli and klebsiella pneumonia).

**PATHOPHYSIOLOGY**

When an infection develops anywhere along the biliary or Gastro-intestinal tract, infecting organisms may reach the liver through the biliary system. Most bacteria are destroyed promptly, but occasionally some gain a foothold. The bacterial toxins destroy the neighboring liver cells and the resulting necrotic tissue serves as a protective wall for the organisms. Meanwhile leukocytes migrate into the infected area. The result is an abscess cavity full of a liquid containing living and dead leukocytes, liquefied liver cells and bacteria. Pyogenic abscess of this type may be either single or multiple and small examples of causes of liver abscess include; Cholangitis (usually related to benign or malignant, obstruction of the biliary tract) and abdominal trauma.

**CLINICAL FEATURES**

1. Fever with chills and diaphoresis
2. General malaise
3. Anorexia
4. Nausea and vomiting
5. Weight loss
6. Dull abdominal pain and tenderness in the right upper quadrant of the abdomen
7. Hepatomegaly
8. Jaundice
9. Anemia
10. Splenomegaly
11. Sepsis
12. Shock

**DIAGNOSTIC INVESTIGATION**

1. Abdominal ultrasound
2. CT scan
3. MRI (Magnetic resonance imaging)
4. Complete Blood Count (Full haemogram)
5. Liver Biopsy
6. Stool for occult and cysts
7. Liver function test (Alkaline phosphatase, SGOT, SGPT)

**MEDICAL MANAGEMENT**

1. Administer antibiotics due to infections.
2. Administer anti-invective’s(metronidazole)
3. Administer analgesics to relieve pain
4. Administer corticosteroids to suppress inflammation
5. SURGICAL MANAGEMENT
6. Lobectomy is performed.

**POST-OPERATIVE MANAGEMENT**

1. Administer antibiotics due to infections
2. Administer anti-infective
3. Administer analgesics to relieve pain
4. Administer corticosteroids to suppress inflammation
5. Monitor vital signs
6. Monitor incision site
7. Provide psychological support to the client

**NURSING MANAGEMENT**

1. Monitor vital signs
2. Ensure laboratory investigation are done
3. Prevent infections (dress aseptically, administer antibiotics)
4. Administer drugs as prescribed
5. Pre and post-operative care
6. Maintain and advise the patient on nutrition, high protein, high vitamins, high carbohydrates, low fats (total parenteral nutrition)
7. Teach on drug adherence
8. Provide psychological support to the patient

**COMPLICATIONS**

1. Endocarditis
2. Liver failure
3. Sepsis
4. Pleural effusion
5. Empyema
6. Cancer of the liver
7. Septicemia
8. Septic shock
9. Hepatic insufficiency
10. Hepatic coma
11. Hepatic encephalopathy
12. Liver cirrhosis
13. Bacteremia

**C.PORTAL HYPERTENSION**

This a condition characterized by an elevation of portal venous pressure. Portal venous pressure is determined by the portal blood flow and the portal vascular resistance.

In many instances, increased vascular resistance is usually the main factor in the etiology of portal hypertension.

In childhood, extra hepatic portal vein obstruction is frequently the cause of portal hypertension while in adults, cirrhosis is the main cause.

Schistosomiasis also causes portal hypertension in endemic areas.

Increased portal vascular resistance results in the gradual reduction in the flow of portal blood to the liver and simultaneously to the development of collateral vessels which allow portal blood to bypass the liver and enter the systemic circulation directly. Collateral vessel formation I widespread but occurs predominantly in the GIT, mainly in the esophagus, stomach, rectum, ovarian anterior abdominal wall and in the renal, ovarian and testicular vasculature.

**CLINICAL FEATURES**

They result from portal venous congestion and from collateral vessel formation. These include;

1. Splenomegaly
2. Hypersplenism

- Collateral vessels may be visible in the anterior abdominal wall and occasionally radiate from the umbilicus to form a caput medusa.

- Collateral vessels in the stomach, esophagus and rectum cause bleeding. This condition can lead to ascites, renal failure and hepatic encephalopathy.

**PATHOPHYSIOLOGY**

Vein coming from the stomach ,intestine ,spleen and pan creases merge into the portal vein which then branches into smaller vessels and travels through the liver in the vessels in the liver are blocked.Due to the liver damage blood cannot flow properly through the liver as a result pressure in the liver damage develop .This increase in pressure in the portal vein may lead to development of large swollen veins within the esophagus, stomach rectum and umbilical area[belly bottom]varices can rapture and blood resulting into potential life threatening complications.

**SIGNS AND SYMPTOMS**

1. Distended neck
2. Distended abdomen
3. Jaundice
4. Anorectal varies
5. Swollen vein on esophagus
6. Swollen vein on the anterior abdominal wall (caput medusa)
7. Ascites
8. Gastrointestinal bleeding
9. Low platelets level
10. Encephalopathy

**DIAGNOSIS**

1. Ultrasonography
2. Portal venography
3. Anoscopy
4. Complete blood count
5. Endoscopic ultrasound
6. Physical exam on the abdomen

**COMPLICATIONS**

1. Gastrointestinal bleeding from varices
2. Ascites
3. Splenomegaly
4. anemia
5. Low platelet count
6. Renal failure
7. Hemorrhage
8. Hypovolemic shock
9. Hepatic encephalopathy

**D.HEPATIC ENCEPHALOPATHY**

This is the neuropsychiatric syndrome caused by liver disease that is thought to result from accumulation of toxic substances such as ammonia within the brain. These occur when these substances are not metabolized in the liver as occurs in cirrhosis.

**CLINICAL FEATURES.**

1. Changes of intellect, personality, emotions and consciousness with or without neurological signs.
2. In early stages, features are mild but a the conditions becomes more severe, the patient has inability to concentrate, confusion, disorientation, drowsiness, slurring of speech and sometimes convulsions, may occur.

- Episodes of encephalopathy are usually reversible until terminal stages of cirrhosis.

 **MANAGEMENT**

In managing this condition, the aim is to reduce or eliminate protein intake and to suppress production of neurotoxins by bacteria in the bowel.

-Lactulose is also given and it produces an osmotic laxative effect, reduces the pH of the colonic content thereby limiting colonic ammonia absorption and promoted the incorporation of nitrogen into the bacteria.

- Neomycin is also used as it acts by reducing the bowel flora.

**TERMS USED IN ORAL- DENTO ALIMENTARY BILIARY DISORDERS**

CHOLECYSTITIS – ….. This is the inflammation of the gallbladder

CHOLECYSTECTOMY ……. -the removal of the gallbladder

CHOLECYSTOSTOMY- ……. This is an opening and drainage of the gallbladder.

CHOLEDOCHOTOMY- ………. opening of the common ducts

CHOLEDOCHOLITHIASIS ……….. -stones in the common duct

CHOLEDOLITHOTOMY-INCISSION of common duct for removal of stones

CHOLEDOCHODUODENOSTOMY- Anastomosis of common duct to jejunum

CHOLEDOCHOJEJUNOSTOMY- Anastomosis of common duct to jejunum

LITHOTRIPSY- ………………… The disintegration of gallstones by shock waves

LAPAROSCOPIC CHOLECYSTECTOMY -Removal of the gallbladder through endoscopic procedure.

LASER CHOLECYSTECTOMY- ……. Removal of the gallbladder using laser rather than a scalpel rather than a traditional surgical instruments

CHOLELITHIASIS-……………………The presence of calculi/stones on the gallbladder

CLONOSTOMY-…………………..…. refers to visualization of the colon

DIVETICULI …………………..……. refers to an sac or an outpoach.

 EGD ………..…… ……-esophago gastro duodenoscopy [

 ERCP-------------------…….-----------endoscopic retrograde cholangiopancreatography]

 GERD-…………………….………..Gastro esophageal refux disease

LITHOTRIPSY……………..………. -This is the disintegration of gallstones by use of shockwaves

Odynophagia…………………. -painful swallowing

END