Discussion general surgery.

Entero cutaneous fistulae.

Qn 99. Answer D. (see below)

This is an abnormal connection between the intra-abdominal gastrointestinal tract and skin. Alternatively connection between two epithelial surfaces.

They can be classified by anatomy, etiology or physiology and these will contribute to the morbidity, mortality and likelihood of spontaneous closure.

- **ANATOMIC CLASSIFICATION**.
  Based on the organ of origin & it's useful in the consideration of management options;
  - Type 1; abdominal esophageal & gastro duodenal fistulae.
  - Type 2; small bowel fistulae.
  - Type 3; large bowel fistulae.
  - Type 4; entero-atmospheric, regardless of origin.

The anatomy also depends on the presence or absence of associated abscess cavity & length, characteristic of the fistula tract as follows.

- Simple fistula has single and direct tract.
- Complex fistulae has multiple tracts or associated abscess cavity.
- End fistulae entire circumference of the bowel wall is involved.
- Lateral fistulae, part of the bowel wall is involved.

- **Etiologically.** Iatrogenic (75%-85%) while 15-25% occur spontaneously. (IBD {commonest} , malignancy, appendicitis , sepsis , diverticulitis, radiation, tuberculosis/actinomycosis & ischemia.
- **Physiologically,** based on output.
  - High output fistulae drain >500mls in 24hrs.
  - Moderate outputs between 200—500mls/24hrs.
  - Low output <200mls/24hrs.

Fistulae output has been documented to predict likelihood of spontaneous closure & mortality. Others include absence of sepsis, good nutritional status & low C-reactive proteins to albumin ratio.

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Management principals.

Successful management of enterocutaneous fistulae requires a multidisciplinary approach.

- Initial resuscitation. Fluid & electrolyte losses should be replaced with crystalloids. UECs & daily intake output charts.
- Control of sepsis. Drainage & broad spectrum antibiotics.
- Nutritional support.
- Medical mgt., H2 receptor antagonists & proton pump inhibitors have been shown to increase the rate of fistulae closure.
  Somatostatins e.g. octreotide, lopiramide 40mg/day, codeine 240 mg/day reduce the fistula effluent.
- Wound care and skin protection.

Note; if none of these measures yield reduction in effluent or fistulae closure by 4-6 weeks, then surgical interventions are indicated.

PHYLLODES TUMOR.

QN 98. Answer E.

These are fibro epithelial tumors of the breast, which represent 2-3% of all fibro epithelial breast tumors. They most commonly affect **women of of 35 to 55 years** of age. Very few cases reported in men.

They are classified as **benign**, **borderline** or **malignant** based on the presence of cellular atypia, mitotic activity & over growth in the stroma.

Irrespective of tumor grade, the standard treatment of phylloides tumor is surgical excision with a clear margin, preferably more than 1cm to achieve local control. (Tumourectomy & mastectomy provide good control with low recurrences rates. **The role of chemotherapy is not yet clear.**

MALIGNANT MELANOMA

Discussion general surgery.

QN 100. Answer E. (lentigo maligna invasive disease)

Melanomas are malignant tumors derived from melanocytes. The most common site of involvement is the skin, although occasionally primary melanoma develops in other organs (eye, oral and nasal mucosa, valva, & anorectal mucosa, other gastrointestinal mucosa and CNS involvement.

Recognized risk factors include; personal or family history of melanomas, large numbers of naevi or dysplastic naevi, giant congenital melanocytic naevi, fair complexion, a tendency to sunburn, solar damaged skin, a history of non-melanoma skin cancers, immunodeficiencies.

The commonest sites are legs of women & backs of men despite these not being the sites of greatest sun exposure.

Characteristics of benign vs malignant skin lesions.

characteristics	**Benign lesion**	**Potentially malignant**
Growth	Not growing	growing
Bleeding	Absent	Present
Number/location	Many other similar lesions.	On sun exposed areas of the body.
Shape	Regular shape with smooth outline or line of symmetry.	No symmetry.
Color	Uniform pigmentation	Variation of pigmentation with in lesions.
Occurrence	Present for many years.	New lesion.

Clinical subtypes of of melanomas;

- **Superficial spreading melanoma** is the most common type of melanoma, usually presenting as an irregularly pigment macule. About 50% have functional mutations in BRAF gene & 15-25% in NRAS gene.(tend to be thicker & high mitotic rate).

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- **Nodular melanomas**, these are aggressive tumors with an invasive growth pattern & can grow rapidly over weeks. They vary in color from black through to red and amelanotic. They can be pedunculated, often mistaken for a hemangioma or pyogenic granuloma. About 50% have functional mutations in BRAF & 20% in NRAS.
- **Acral lentiginous melanoma** is the most common form of melanoma in the dark skinned population. These are seen on the palms, soles or nail bed. However not all melanomas at these sites are of acral lentiginous type. This type usually have functional mutations in the C-KIT gene.
- **Lentigo maligna** (Hutchinson's melanotic freckle) is seen mostly on the face in sun damaged elderly patients. They are a type of insitu melanoma with often a long delay before they become invasive. Patients will often be aware of these irregular, brown to black facial macules for many years. Distinction from benign is through histology. Invasive melanoma or lentigo maligna melanoma (arising from lentigo maligna) can sometimes complicate these lesions.
- **Desmoplastic melanoma** is a rare and aggressive subtype of melanoma that usually comprises a superficial pigmented in situ melanoma overlying a poorly differentiated non-pigmented dermal spindle cell melanoma.
- **Amelanotic melanoma** is the most difficult to diagnose clinically. These may present as a pink nodule or patch on the skin. Many are completely without pigment.
- **Ocular melanoma** is rare & often diagnosed late. Uveal melanoma is associated with functional mutations in the GNAQ/GNA11 genes.

DIAGNOSIS; melanoma is a histological diagnosis. Pigmented or non-pigmented skin lesions clinically suspicious of melanoma require biopsy & histological exam.

Benign melanocytic naevus is usually a clinical diagnosis. Good lighting is critical. If the physician elicits a history of unstable morphology (change in size, shape or color) over several month would override the examination findings & is an indication for referral to a dermatologist or an excision biopsy.

	Breslow thickness	5-year survival
Stage 1	**<1 mm**	**80-90%**
Stage 2	**1-2 mm**	**70-80%**

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Stage 3 **2.1-4mm** **60-70%**

Stage 4 **>4mm** **50%**

Post-operative pulmonary embolus.

QN 97. Answer is D (sign of right ventricular straining)

This can occur after weeks following surgery & immobilization.

Clinical presentation; most PEs are clinically silent, obstruction of 50-60% prior to hemodynamic sequelae.

Tachycardia, rales, low grade fever, pleural rub, most have normal PaCO2.

High index of suspicion necessary for diagnosis.

Diagnosis; ABGs nonspecific, nonspecific EKG changes & CXR findings.

V/Q scans effective but logistically difficult to organize.

Pulmonary angiography the gold standard. (CT angiography).

Transthoracic echocardiogram is useful adjunct for the evaluating right heart function.

Classification;

- Pulmonary embolism, no vascular compromise, no evidence of myocardial necrosis or right heart strain, **<30% occlusion of Pulmonary artery**.
- **Sub massive PE**, no evidence of hemodynamic instability, with evidence of right heart dysfunction or myocardial necrosis **30-50% occlusion**.
- **Massive systemic hypotension** requiring inotropic support usually results in severe organ dysfunction.

Management.

- **Anticoagulation;** low molecular weight heparin remains the primary therapy in the hemodynamically stable. Preventing further propagation of the thrombi. Monitor for heparin induced thrombocytopenia.

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Warfarin remains the gold standard for long term anti coagulation, but novel anticoagulants are acceptable, **3 months minimum treatment for provoked DVT, 6months for unprovoked DVT/PE**.

- **Percutaneous embolectomy;** suction catheters, thrombus fragmenters, i.e. impella devise., rheolytic thrombectomy.
- **Surgical embolectomy;**
  Indications;
  - Critical hemodynamic condition with low survival likelihood.
  - Main/lobar pulmonary embolism with impaired gas exchange.
  - Unstable patients with absolute contraindications to thrombolysis/anticoagulation.
  - Large clot trapped in atrium or ventricle.
- **ECMO.**