AUGIST Training Day 2012

UGI Stream MDT

Candidate Handbook

AUGIS Training Day – 17 June 2011

Echo Arena Conference Centre

This handbook only provides details of the extra cases that do not have radiological support.

CASE 1

History and Clinical Examination

67 year old, previously fit and well woman presented with an acute onset of severe chest pain 1hr earlier while eating dinner. She had a 'choking' episode while eating a portion of fish and this was followed by severe chest pain.

She is tachypnoeic (RR24), tachycardic (HR110) and pyrexic (38.2°C), with evidence of surgical emphysema in the area of her neck and decreased A/E at the right base. Abdominal examination unremarkable.

What is the presumptive diagnosis and what are your management priorities?

What investigations are relevant?

Figure 1

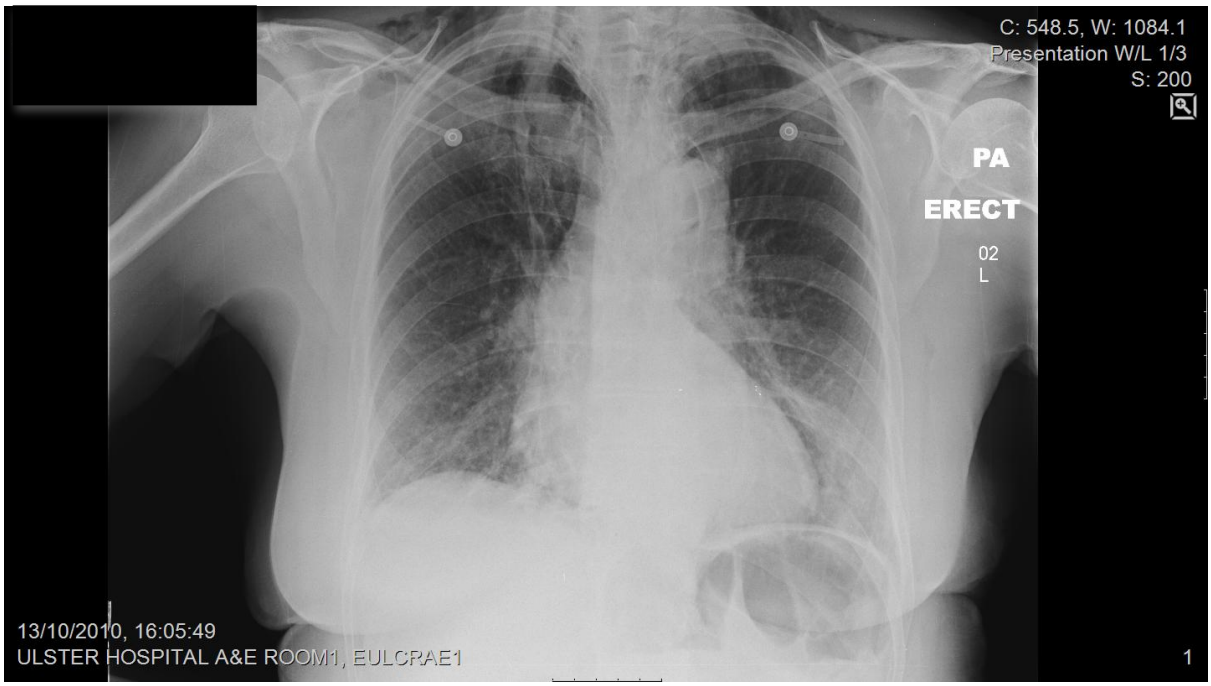


Figure 2a

Figure 2b

Please review Figures 1 and 2 and discuss management options

Operative intervention (Figure 3)

Figure 3

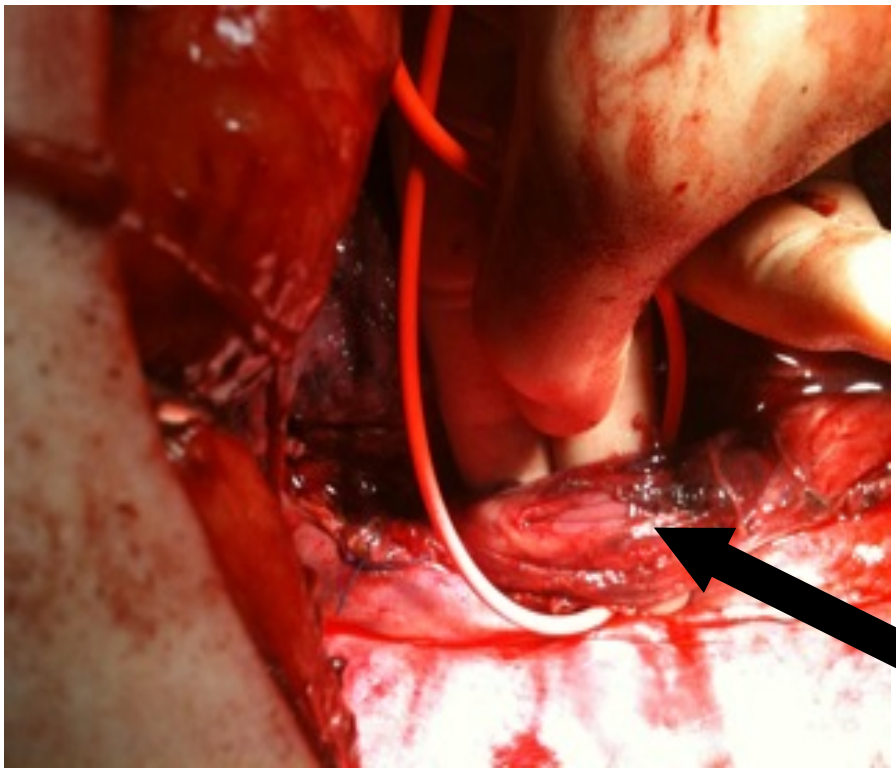
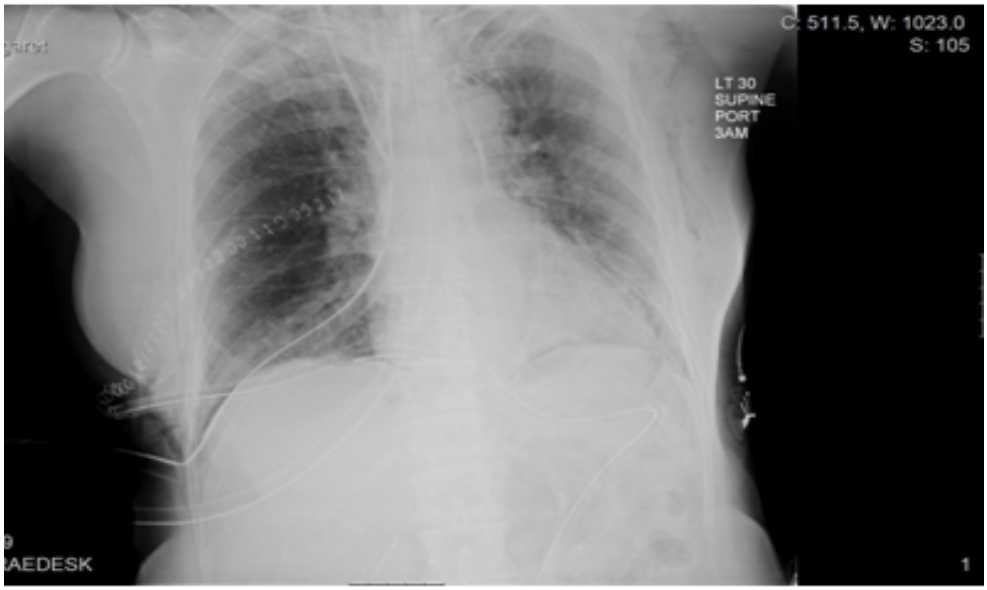


Figure 4

Postoperative chest X-Ray



CASE 2

History and Clinical Examination

43 year old woman presented acutely with chest pain, shortness of breath and vomiting.

She was tachypnoeic (RR30) and tachycardic (HR120), with evidence of decreased air entry in the left hemithorax. Abdominal examination was unremarkable apart from mild upper abdominal tenderness and an upper midline laparotomy scar.

She had an elective open repair of a Type IV paraoesophageal hernia 14 months previously. The hernia contained stomach, transverse colon and pancreas and had been repaired by reduction of the hernia sac, posterior hiatal repair and collagen mesh reinforcement (SIS mesh). A Nissen fundoplication was undertaken to guard against post-operative GOR.

What is the presumptive diagnosis and what are your management priorities?

What investigations are relevant?

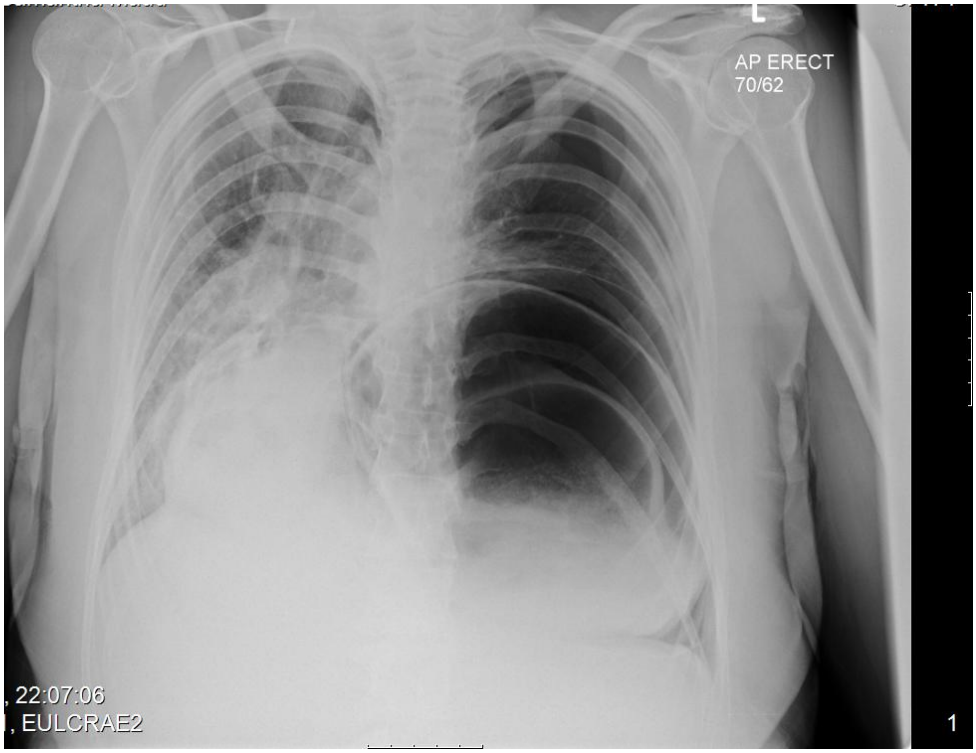


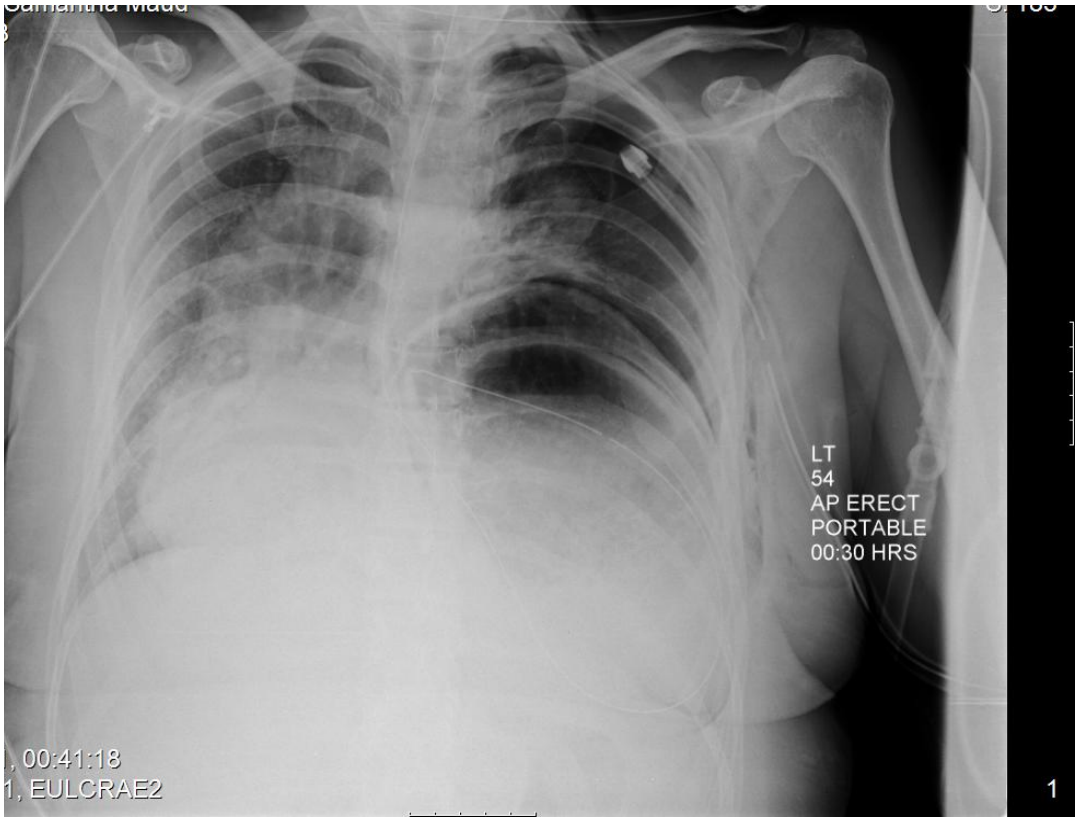
Figure 1

What is the diagnosis and what are your management priorities?

An NG tube was successfully placed and the L Pleural cavity aspirated; then formally drained with a 28F Chest drain.

Repeat CXR revealed minimal mediastinal return to the midline and persisting paraoesophageal herniation (Figure 2) prompting immediate emergency surgery.

Figure 2



Operative Findings

Repeat Upper Midline Laparotomy – very difficult procedure.

Multiple dense perihiatal and upper abdominal adhesions. Recurrent herniation of Stomach with volvulus and herniation of Transverse colon. Attenuated wrap almost completely disrupted. Minimal Mediastinal /abdominal contamination.

Non viable gastric fundus with posterior perforation and Transverse colon non viable.

Very marked elongation and stretching of D1

Mid-gut malrotation with narrow root of mesentery and DJ Flexure wholly to R of midline

Procedure

Adhesions taken down, anatomy defined. Stomach and transverse Colon reduced with sac. Oesophagus encircled with Jacques catheter. Very attenuated pillars defined.

Sleeve gastrectomy undertaken, resecting non-viable fundus/greater curve (incorporating posterior perforation) and staple line oversewn.

Extended Right Hemicolectomy

Hiatal defect closed with pledgeted ethibond. Gastrostomy undertaken. Mediastinum / Right pleural cavity drained

Washout and closure.

Post-operative Course

Initial management in High Dependency

Chest drains removed and diet re-instigated.

Gastrostomy spigotted – removed @ 4weeks

CXR prior to discharge satisfactory (Figure 3)

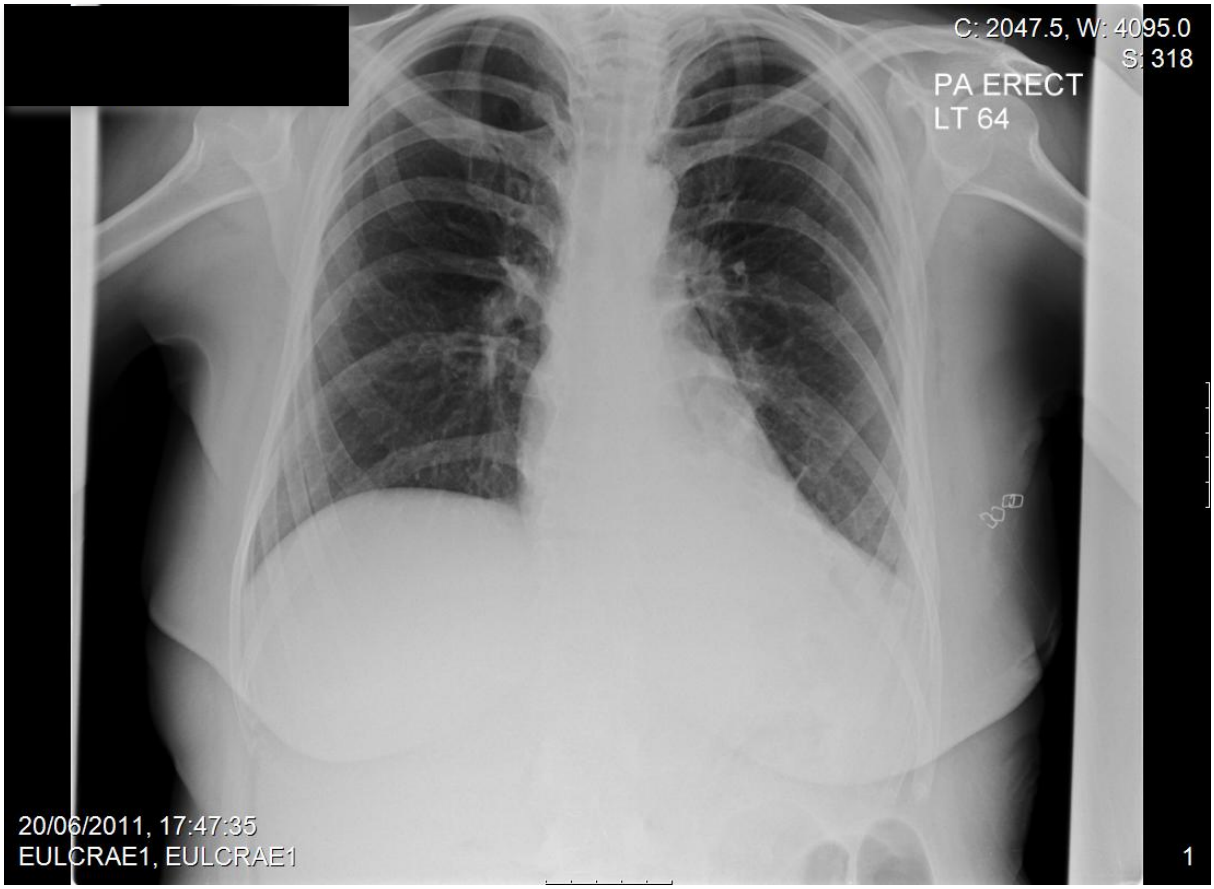
Issues to be debated

What operation / approach at recurrence?

Why early recurrence?

Concern for her future (and possibly for that of her children)

Figure 3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Case 3

A 21 years old woman presented with chronic intermittent crampy abdominal pain, nocturnal dyspepsia and fatigue

Investigations:

- FBC: Anaemia and thrombocytopenia
- Bone Marrow Biopsy: Hyperactive marrow
- USS abdomen: Splenomegaly without hepatomegaly

What are the common causes of splenomegaly?

What else would you like to know from the history?

The abdominal pain persisted in the left upper quadrant and she had 2 episodes of haematemesis precipitating an acute admission. OGD demonstrated Grade II oesophageal varices and portal hypertensive gastropathy.

What is sinistral portal hypertension and what are its causes?

What investigations would you do next?

Diagnosis: Diaphragmatic hernia with hypersplenism

In the absence of a history of trauma combined with the chronic nature of the symptomatology a congential aetiology was considered most likely.

The spleen may have herniated through the diaphragmatic defect in infancy and outgrown the defect over time. Venous obstruction led to sinistral portal hypertension resulting in hypersplenism.

What would you do next?

What are the surgical options?

Laparoscopic reduction of contents was attempted however splenomegaly and excessive portosytemic collaterals precluded safe reduction. An upper midline laparotomy was performed and a 10 x 6cm posterolateral defect was confirmed in the left hemidiaphragm.

Through this tight defect stomach, colon, small bowel and spleen had herniated. The splenic artery controlled to afford decompression of sinistral portal hypertension and subsequent splenectomy. The defect was repaired with PTFE (Gortex®) (figures 2 and 3)

Learning points – Diaphragmatic hernia are not uncommon and are often diagnosed late in their course. Complications can be catastrophic. This is an extremely unusual case where the aetiology was a congenital anomaly and the presentation was even more unusual. The case affords the opportunity to discuss other congenital diaphragmatic defects e.g. Morgagni hernia and the more common acquired central defects e.g. ParaOesHerniae/ Treatment options – Laparoscopic vs Open/ Management of Portal Hypertension is an additional option.

Figure 1

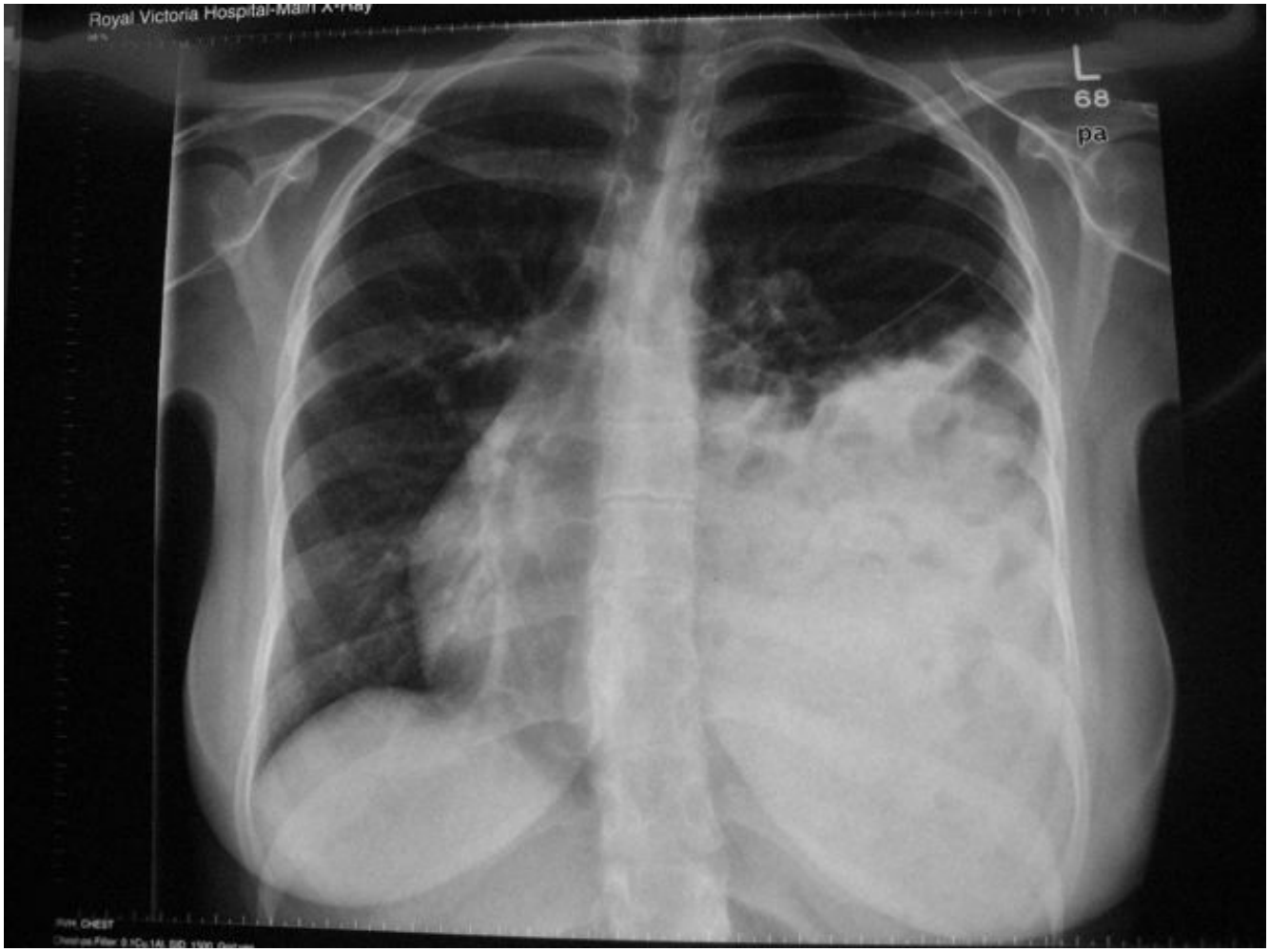


Figure 2

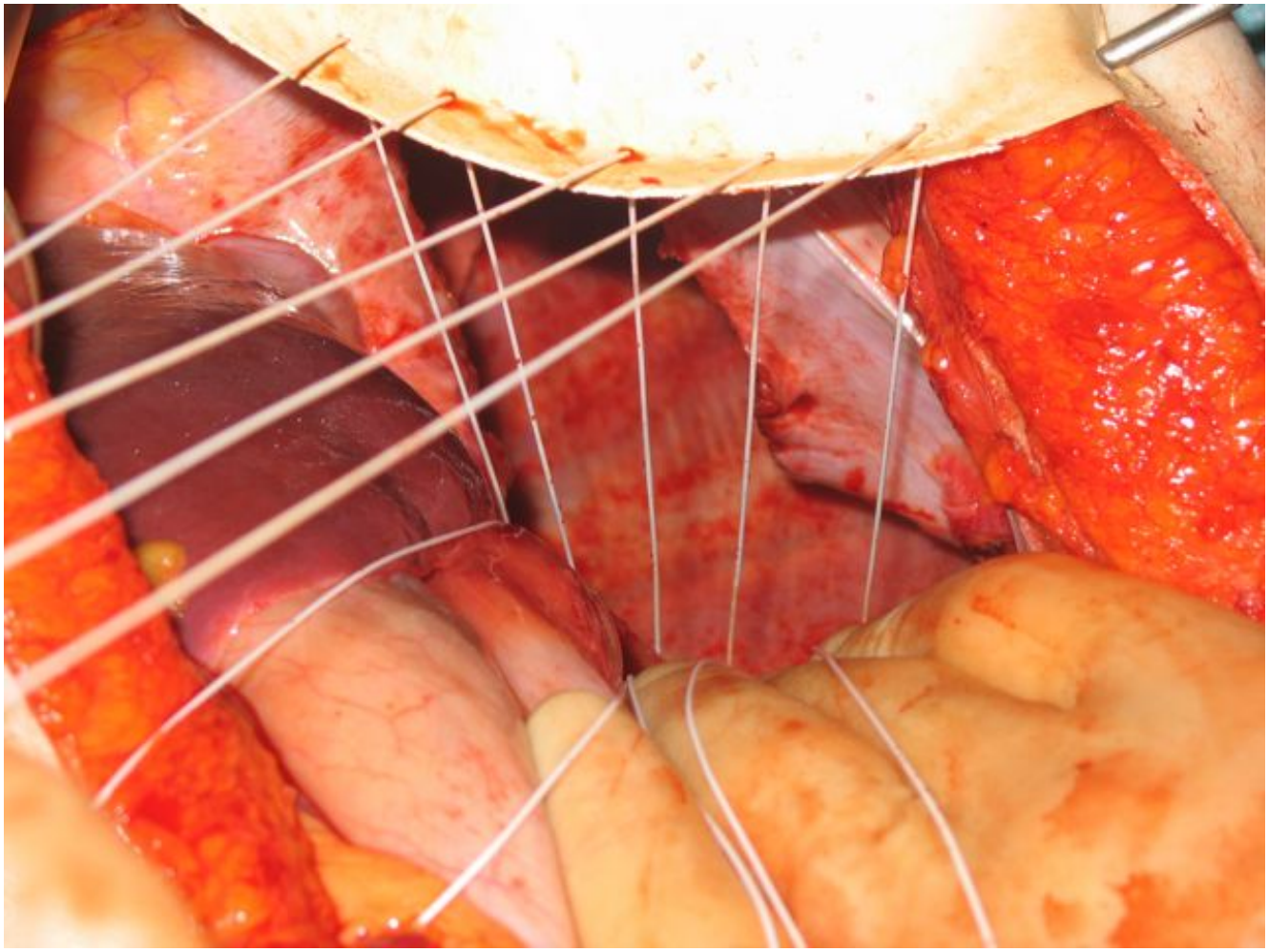
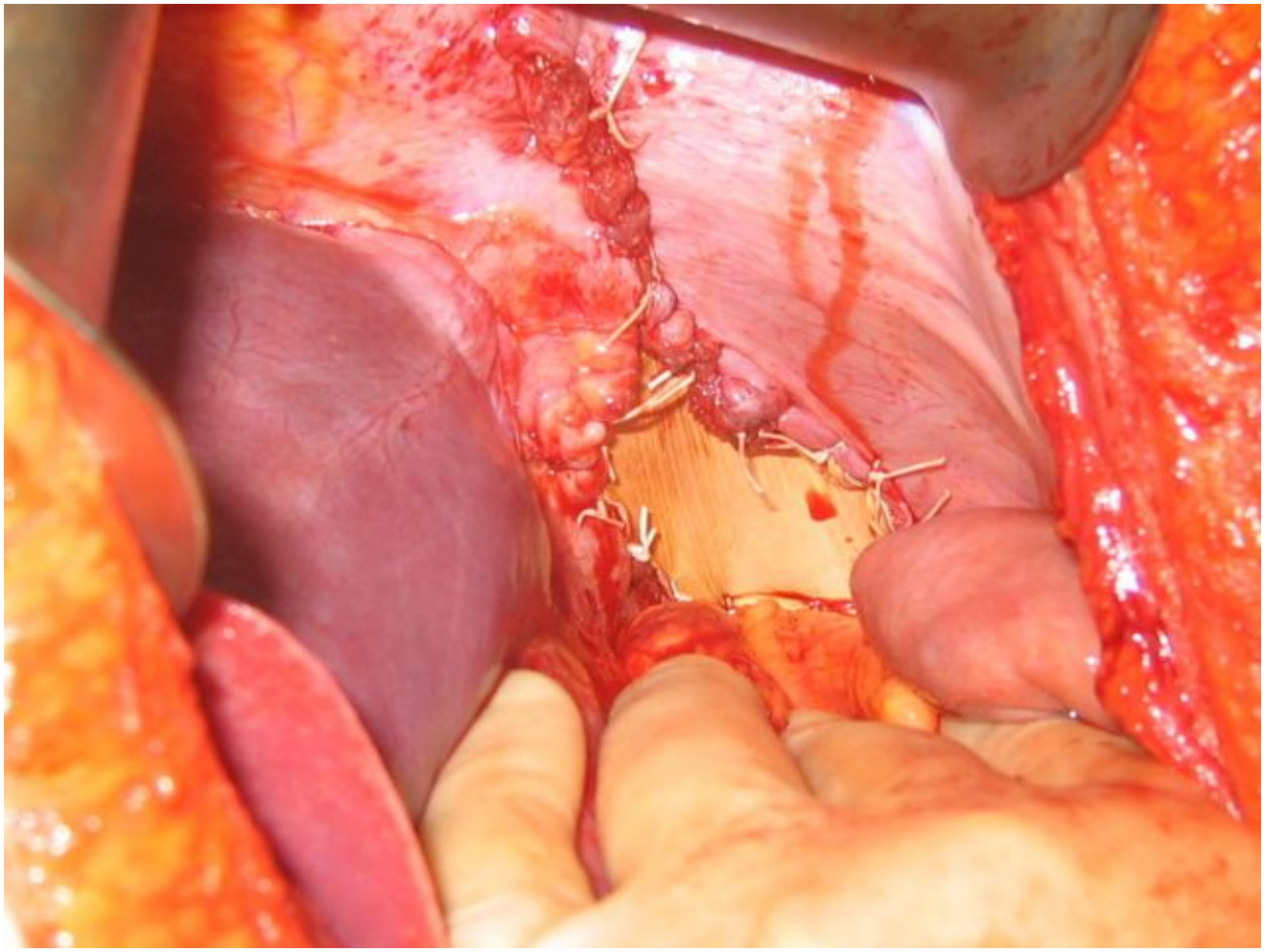
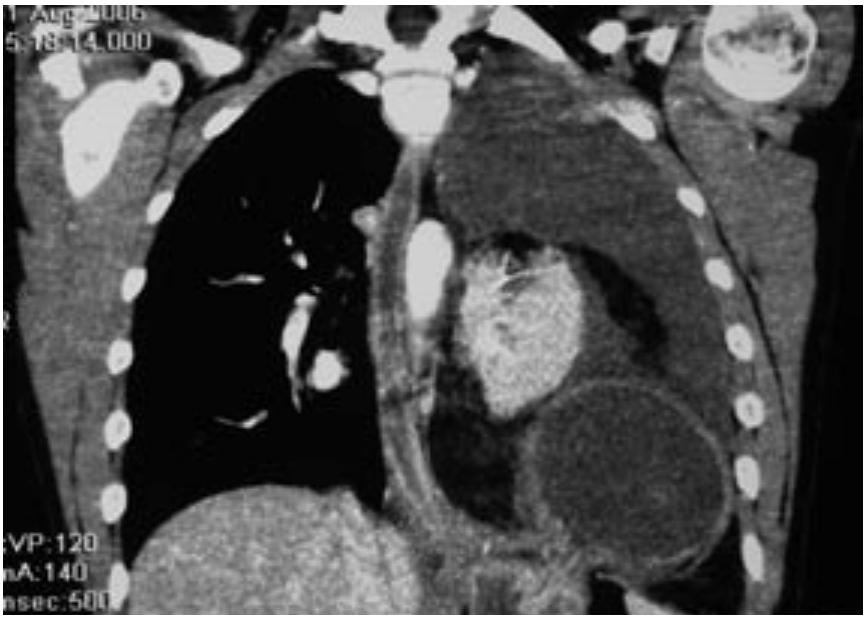


Figure 3



Case 4

A 15 year old healthy boy was assaulted with a knife and sustained a penetrating injury to his left posterior chest wall at the level of the ninth rib. He was haemodynamically stable, but plain x ray showed a left sided haemopneumothorax, which was managed successfully with a chest drain.
He remained stable and a contrast enhanced computed tomography scan showed no visceral injury. He was monitored closely and was sent home after seven days. He was asymptomatic at three months' follow-up. Clinical examination and a chest x ray were normal at that point and the patient was discharged.
One year later, he presented to the accident and emergency department with sudden severe epigastric pain, complete dysphagia, and blood stained vomiting. He was constitutionally unwell with tenderness in the left upper abdomen and decreased air entry at the left lung base.
A chest x ray showed collapse of the left lower lobe and blunting of the left costophrenic angle.



Describe what the CT shows - What is the Diagnosis?

Can you explain the pathophysiology of the condition?

How would you manage this case?

At laparotomy the stomach was irreversibly ischaemic and a total gastrectomy was performed. The diaphragm was repaired with a non absorbable patch. And the patient recovered fully.

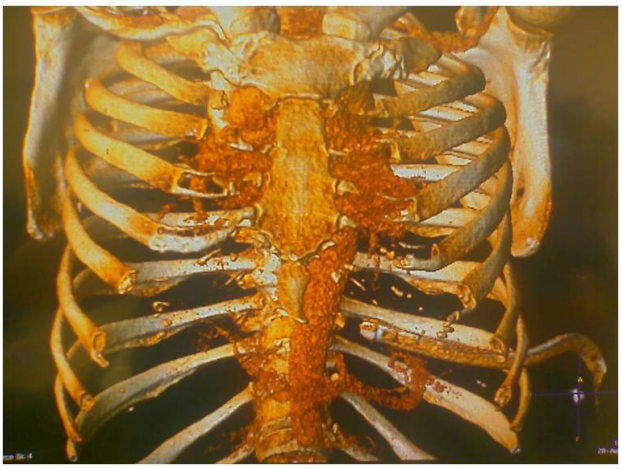
"Learning points" – penetrating injuries to the "Junctional Zone" should be investigated intensively to exclude an occult diaphragmatic injury.

Radiological investigations such as focused ultrasound and double or triple contrast helical computed tomography scans have a sensitivity of up to 95% to

detect injury to the diaphragm.6 The problem is the 5% of patients who are asymptomatic but have an occult injury.
Laparoscopy is a valuable tool to investigate suspected injuries to the diaphragm, with a sensitivity of 87.5% and a negative predictive value of 96.8%.7 8 Video assisted thoracoscopy (VATS) provides an accurate assessment of intrathoracic injuries. It can be used for the definitive and effective management of diaphragmatic injuries caused by blunt or penetrating thoracic trauma.9 This technique requires expert single lung anaesthesia but permits fastidious examination of the diaphragm

Case 5

A 59 year old female suffering from a chronic left sided empyema was admitted as a day case to the thoracic unit where she had an intercostal [28FG Portex] chest drain inserted in the 8th space in the Anterior Axillary Line. Following the procedure the patient complained of Left upper quadrant pain and was noted to have a mild tachycardia 110 bpm. She was normotensive. The Haemoglobin had fallen from 11.6 – 8.2 g/dl. There had been very little return from the Chest drain and in light of the patient clinical state a CT scan was arranged.



Describe the CT Scan?

How would you manage this situation?

What precautions would one take to avoid such an eventuality?

Learning points - Splenic trauma may be managed conservatively. It requires vigilant assessment and monitoring. Supportive measures include Blood product transfusion, appropriate vaccinations and antibiosis. Should surgery be required splenic preservation may be possible using fibrin sealants [Floseal etc.] or partial splenectomy. Important to know the risks of asplenia [OPSI] and how one manages asplenic patients. See CT scan 2 weeks post injury.


A

CASE 6

History

61 year old lady with significant co-morbidity including morbid obesity and diabetes mellitus. Diagnosed with diffuse gastric polyposis at endoscopy. Histopathology from a large polyp (>2cm - resected piecemeal by EMR) confirmed the presence of a pT1 intramuscosal gastric adenocarcinoma arising within an adenomatous polyp. There appeared to be complete resection of the tumour but adenoma was present at the resection margin.

What are the management issues?

Clinical progress

Further OGDs and biopsies of area of previous EMR revealed no residual tumour but focal high grade dysplasia on a background of gastric polyposis.

Staging CT did not reveal any evidence of metastatic disease. Laparoscopy was clear.

MDM review of pathology and discussion was undertaken.

> Tumour - Micropapillary variant of gastric adenocarcinoma (LVI positive, known to behave aggressively).
>
> Residual dysplasia on the background of gastric polyposis.
>
> Recommendation - gastrectomy.

D2 gastrectomy with Roux-en-Y oesophagojejunal reconstruction (Also Cholecystectomy - previous multiple small symptomatic gallstones).

Post-operatively - reintubated on day 1 due to respiratory difficulties and was a slow respiratory wean requiring tracheostomy insertion.

Slow progress due to respiratory issues. Tolerating NG feeding commenced D7.

On day 14 post-op she underwent a CT scan of her chest, abdomen and pelvis.

Figure 1a

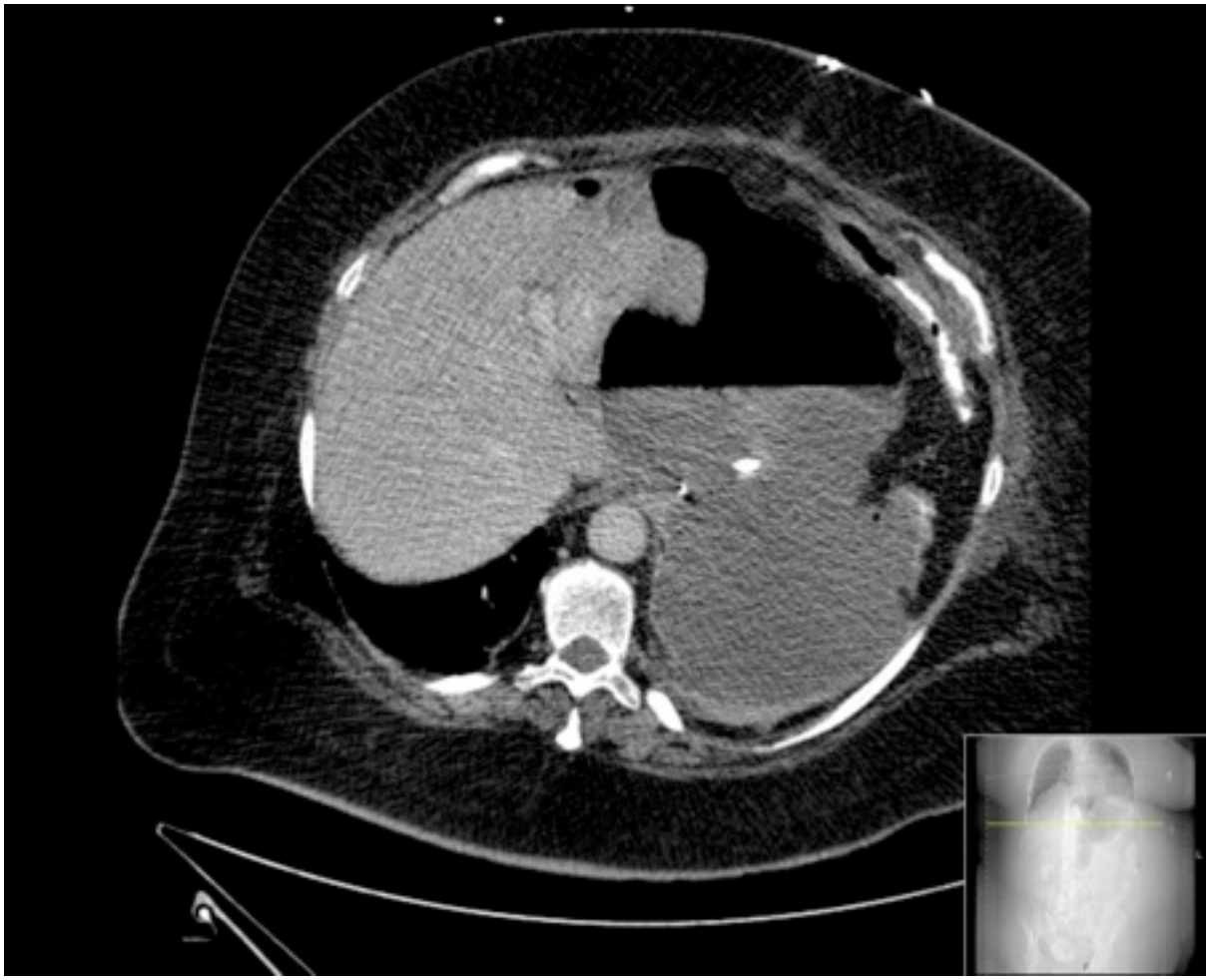
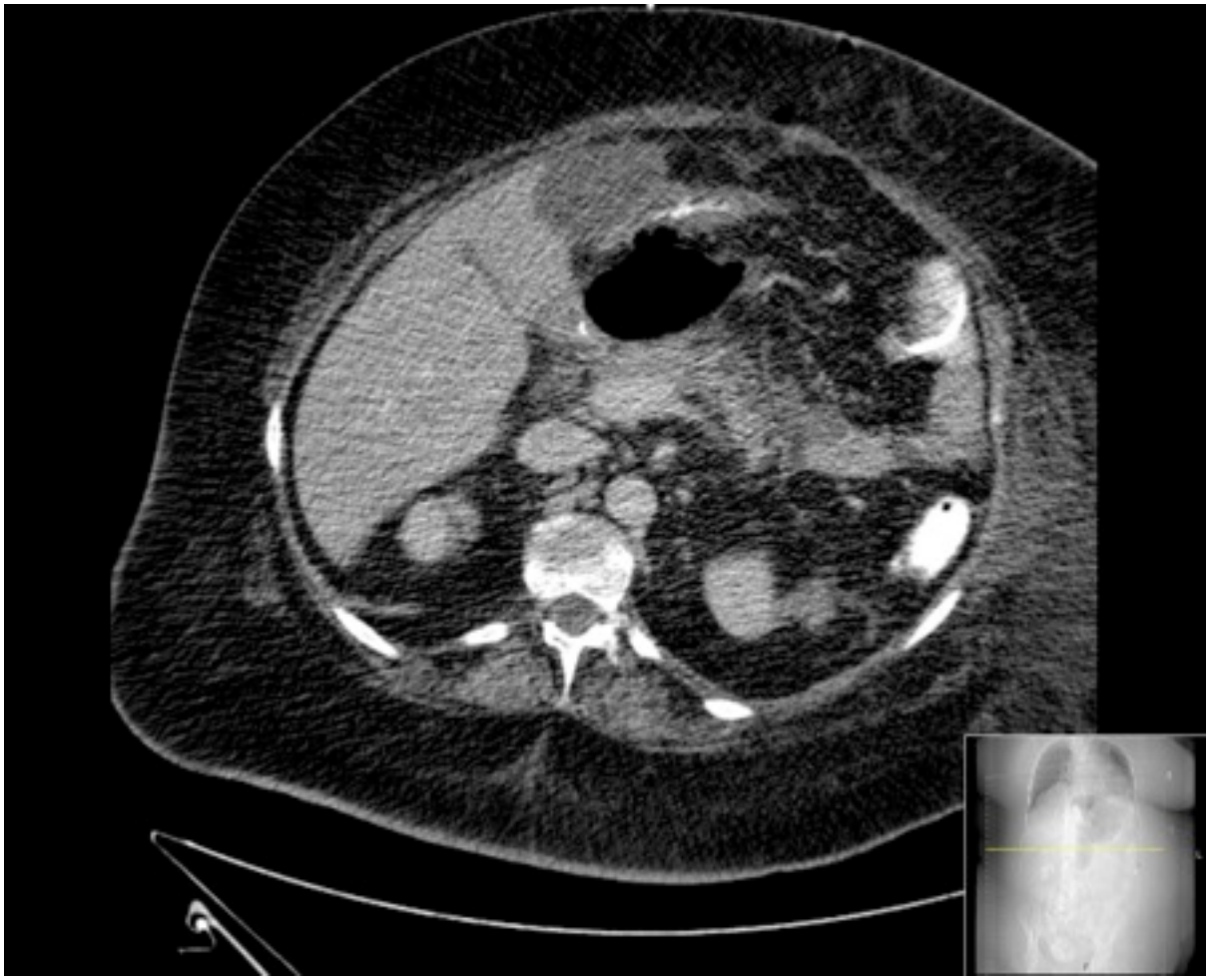


Figure 1b



Please review Figures 1a-1b and discuss management options

What now?

Operative Decision

Histology Review

Papillary pT1a (LP/MM) N1 (2/21 nodes) gastric adenocarcinoma with >100 polyps (hyperplastic). R0.

On-going clinical progress

On resolution of the intra-abdominal sepsis respiratory weaning facilitated and the patient was transferred back to the ward within two weeks. Intermittent sepsis episodes.

Developed superficial wound dehiscence that was managed with a VAC system. Approximately 3 months post-operatively this was further complicated by the development of a high output entercutaneous fistula.

Currently on ward, nil by mouth on long-term TPN via PICC line. Surgical Jejunostomy currently not being used. Low-volume fistula draining 100-200mls per day.

CT unable to characterise source of fistula.

What is the long-term management of this patient?

CASE 7

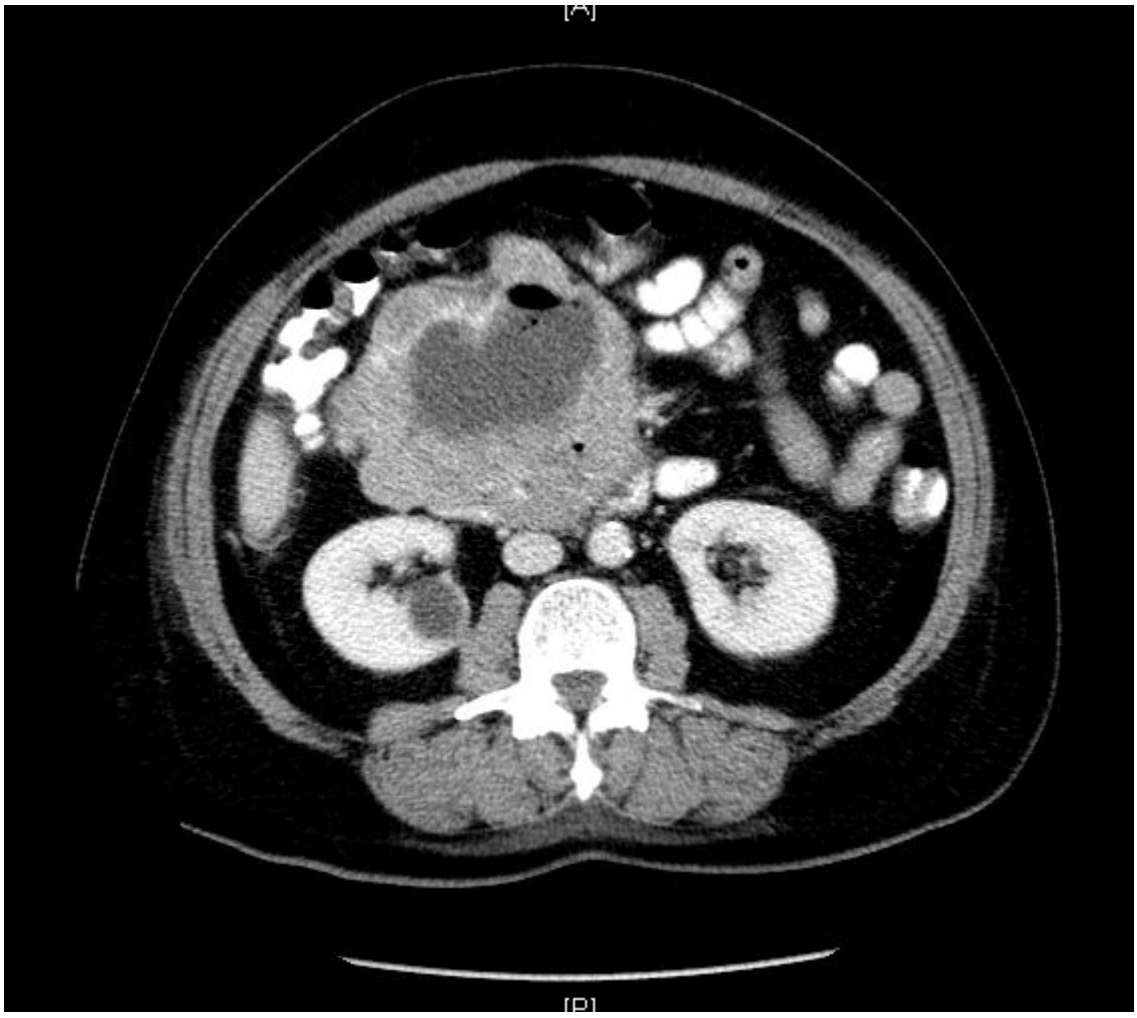
History and Clinical examination

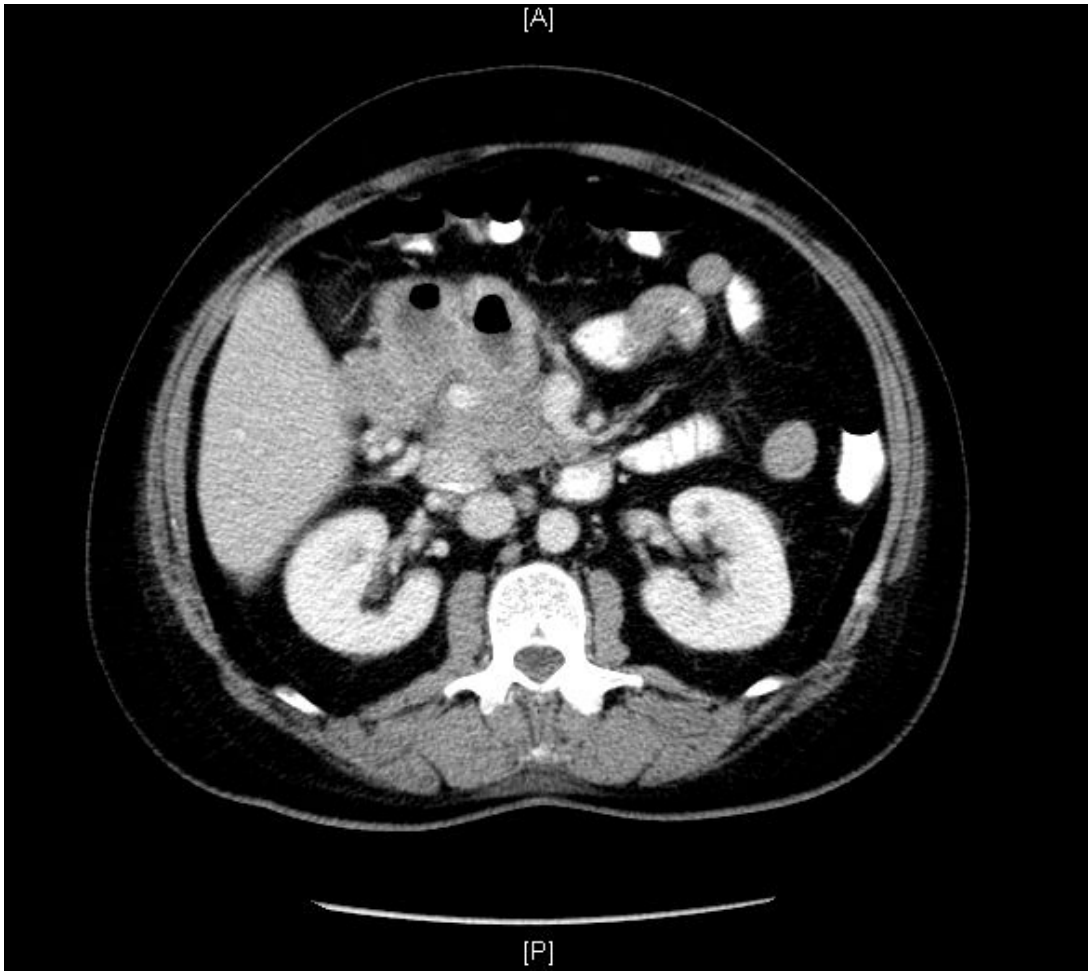
55 years old female presented acutely with one day history of sudden onset epigastric pain. This was not associated with nausea or vomiting. She did not describe any other episodes of similar pain, and was otherwise fit and healthy. She had lost 1 stone in weight over the last 6 months.

On Examination she was haemodynamically stable and had a tender palpable mass in epigastrium.

Inflammatory markers were raised with a WCC of 23 and CRP of 600.

CT scan abdomen

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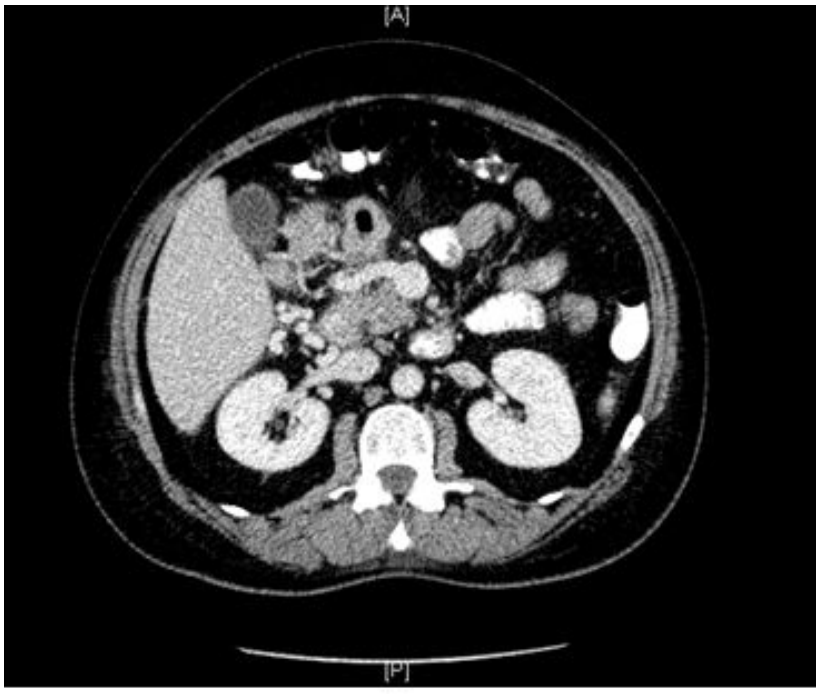
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What is differential diagnosis and what are your management plans?

Diff. Diagnosis:

Initial Management:

Diagnostic considerations:

EUS shows a very large tumour mass involving the second part of duodenum and pancreatic head which was biopsied.

What are the most likely tumours occurring in this area that may give these CT findings? e.g…….

Gastrointestinal Stromal Tumour

Pathology confirms a GIST.

Discuss histopathology of GIST –

Discuss common sites of these tumours –

Discuss usual presentation –

Discuss malignant risk –

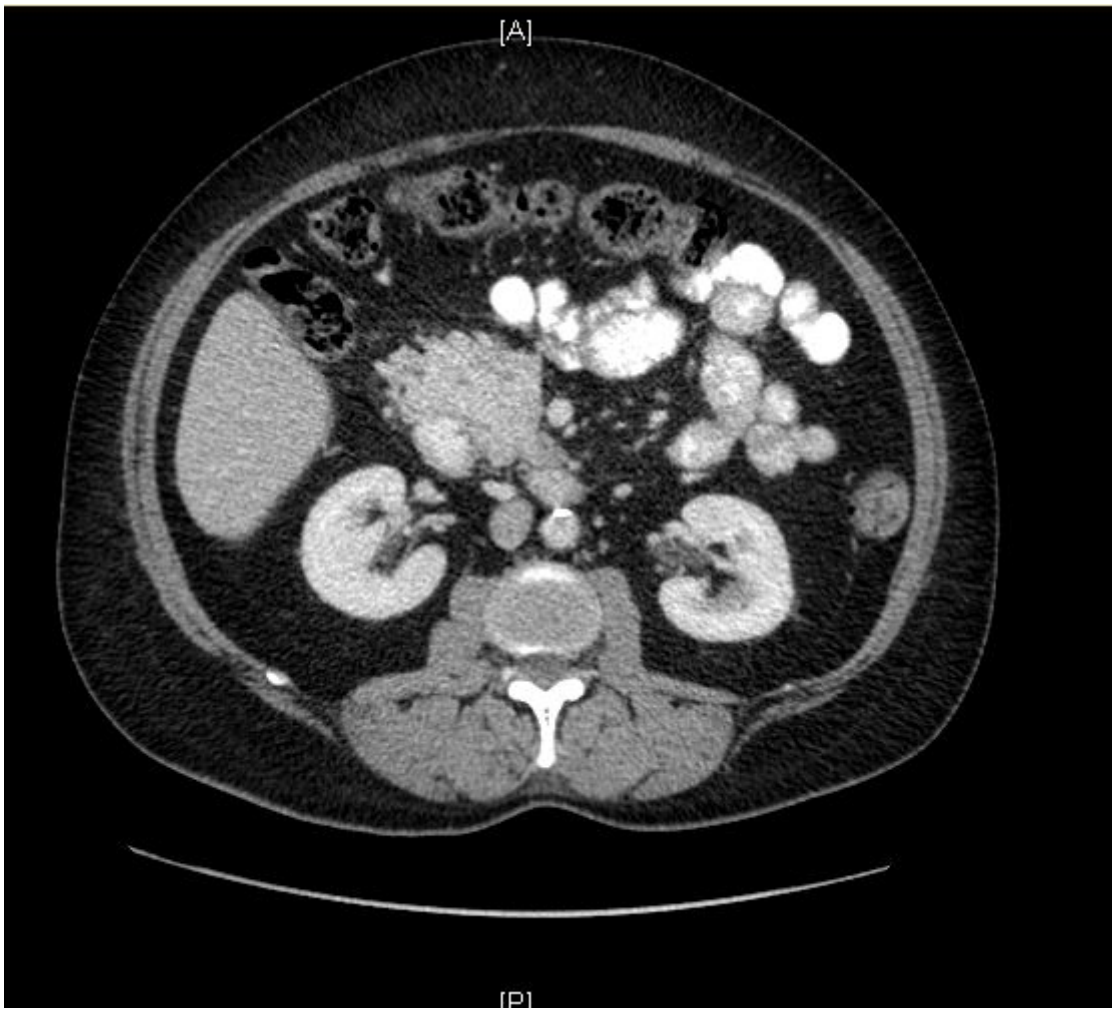
For this patient what now needs further consideration?

Discuss the treatment options for this patient

Surgery

Imatinib

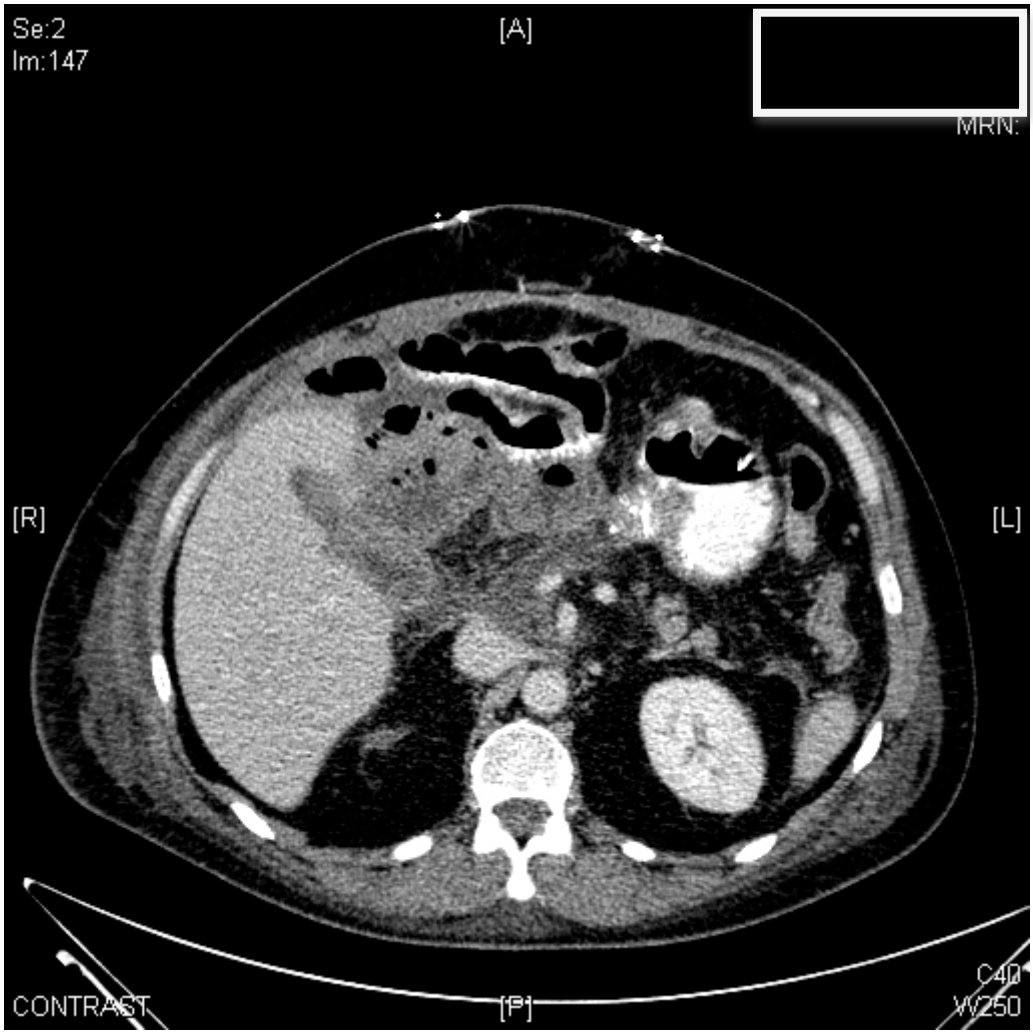
MDT decision



Intraoperatively – The patient went on to have a Whipples procedure. At surgery the tumour was found to be invading the transverse mesocolon. An en-bloc segmental resection of the transverse colon was performed.

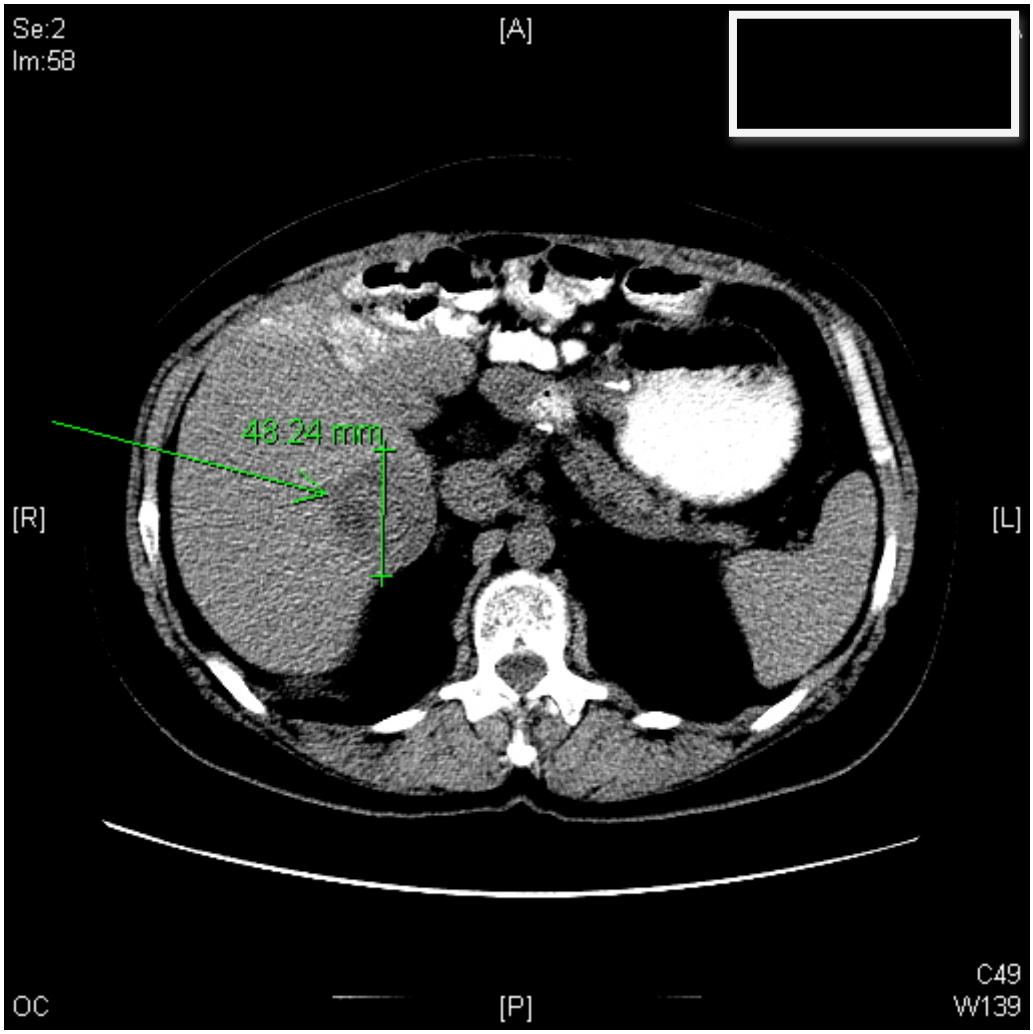
Postoperative recovery – Day 10 postoperatively after a steady recovery she became unwell on the ward, with abdominal distension, abdominal pain, tachycardia and hypotension.

How would you proceed?



Laparotomy findings – Anastomotic leak from the transverse colon, with localised faecal peritonitis. Other anastomoses intact. Managed with washout, drains and exteriorisation of colon to form an end colostomy and mucous fistula.

18 months post-op – Follow-up CT scan is shown below. The patient is requesting reversal of her stoma how would you proceed at this stage?

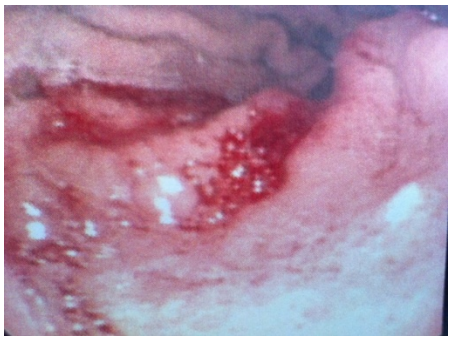


REPORT -

There is a metastasis seen within the segment one of the liver measuring 4 cm in maximum transverse diameter.

CASE 8

A 54 yr old alcoholic Male presented in 2004 with a single episode of haematemesis and OGD revealed an ulcerated lesion at the incisura which was confirmed as a poorly differentiated adenocarcinoma. Staging Protocol confirmed that the disease was localised to the stomach and the patient underwent a subtotal gastrectomy and omentumectomy with Roux en Y reconstruction. Pathological staging was pT2pN0pMx. He recovered fully and was reviewed annually. He complained of increasing dyspepsia in January of 2009 and had a repeat OGD [figure 1]. Multiple biopsies confirmed intestinal metaplasia with foci of severe dysplasia taken from an irregular area.



How would you proceed?

How would you manage the patient now?

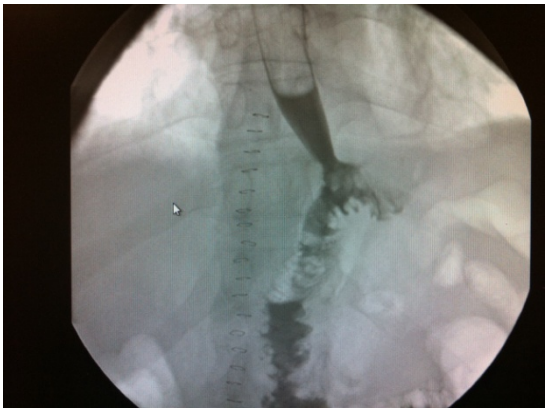
Whats the rationale/evidence for the use of neoadjuvant therapy?

What is the next step?

What are the possible aetiologies?

A gastromiro swallow was performed [comment]. The patient had an intact oeosphagojejunostomy and was treated for a nosocomial chest infection. Pathological staging revealed pT2N0Mx once

more. The patient remains well 2 years post surgery.



Learning points – Stump cancers are fairly infrequent but raise several interesting clinical questions. Is there any place for anything other than a total gastrectomy. What should the follow up be for patients who have had a previous gastrectomy? What are the potential aetiologies for this eventuality? The case allows for discussion surrounding staging modalities, neoadjuvant therapy, surgery and potential complications of treatment.

CASE 9

A 61 yr old retired Lollipop Man was under surveillance for Barrett's metaplasia and 9 years into the programme biopsies demonstrated severe dysplasia in 3 out of 9 biopsises. There was no evidence of a focal abnormality. Once compounding factor was that the patient had a Bilroth I gastrectomy 30 years previously for Peptic Ulcer Disease.

What are the guidelines for Barrett's surveillance?

How would you proceed in this case?

What is the staging protocol now?

What is the significance of the previous gastric surgery? What surgical solution would you suggest and what other important information do you require before proceeding?

Patient underwent an oesophagogastrectomy with a colonic interposition reconstruction through a left thoracoabdominal incision. Surgery was uneventful however the patient remained ventilated postoperatively requiring inotropic support. pT1NOMX

What might be the cause of this and how might one proceed?

Patient had a CT scan and an OGD – the scan was unremarkable and the OGD showed a 6 cm segment of dusky colonic mucosa.

How would one proceed now?

The patient remained ventilated and his situation settled on Intensive supportive management. He was extubated and returned to the ward where he improved steadily to discharge.

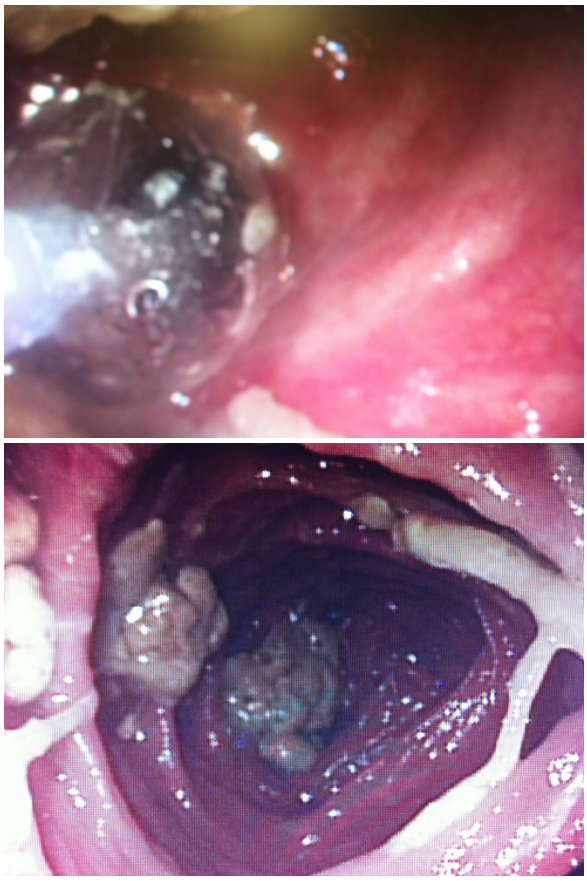
After 8 weeks he described dysphagia.

What's the next step? Whats the likely diagnosis?

Endoscopy revealed the following…

What methods do you know for managing an oesophageal stricture?

CRE Balloon dilating stricture and post dilatation demonstrating healthy colonic conduit.



Learning/Discussion points – Fastidious Barretts Surveillance affords a rare but significant opportunity to reduce the mortality associated with Junctional Adenocarcinoma. It's important to know the approach to Barrett's surveillance. Colonic interposition is a well recognised strategy when fashioning a healthy gastric tube is not possible. Anastomotic strictures are sometimes very tenacious and common – good to know methods of treating strictures.

CASE 10

History and Examination

51 years old women with no medical comorbidities

Ivor-Lewis oesophago-gastrectomy (with feeding jejunostomy) performed for lower oesophageal cancer following neoadjuvant chemotherapy.

Pathology ypT3 N0 R1 (tumour extending to the distal stapled margin of the stomach)

D3 develops shortness of breath due to acute left sided pneumothorax

What are the potential causes and what would you do next?

How would you manage this?

Following trial of non-operative management, she becomes acutely unwell with pyrexia, respiratory compromise and tachycardia. Repeat imaging demonstrates continued leakage via her anastomosis.

What would you do?

She makes an excellent recovery and is discharged home D27 post oesophagectomy and D17 post excision of gastric conduit and formation of oesophagostomy. She is fed via her jejunostomy and gains weight. You see her in clinic 6 months later and she wants to be able to eat again.

What are your reconstructive options? What would you recommend?

She is able to eat again but reports significant dysphagia. A barium swallow (figure 5) is performed.

What does this demonstrate and what would you do?

Figure 1

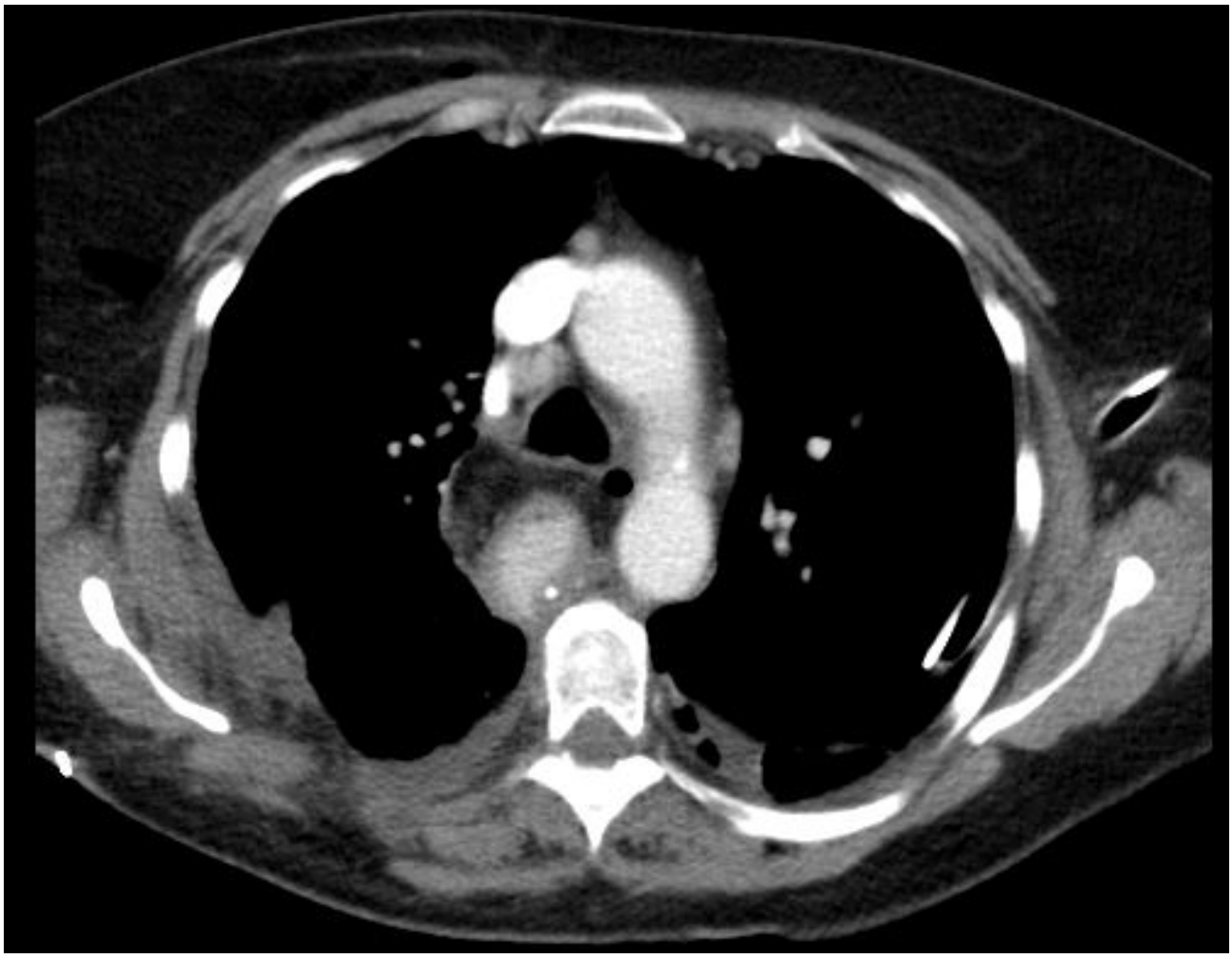


Figure 2

Figure 3

Figure 4

Technique: CT angiogram to assess mesenteric vasculature.

Findings: There is a right pleural effusion and atelectasis at the lung bases. The celiac axis and SMA showed standard anatomy. The IMA is patent. Reconstructions have been saved to the PACS systems.

Figure 5

CASE 1

History and Clinical Examination

A 42 year old lady was transferred from another hospital with a suspected strangulated paraumbilical hernia. She is overweight and 18 months previously had a laparoscopic gastric band placed.

She is tachycardic (HR104), pyrexic (38.2ºC) and is complaining of abdominal pain.

On examination she has a tender swelling above the umbilicus on the left.

Any further questions ?

What is the presumptive diagnosis and what are your management priorities?

What investigations are relevant?

Figure 1

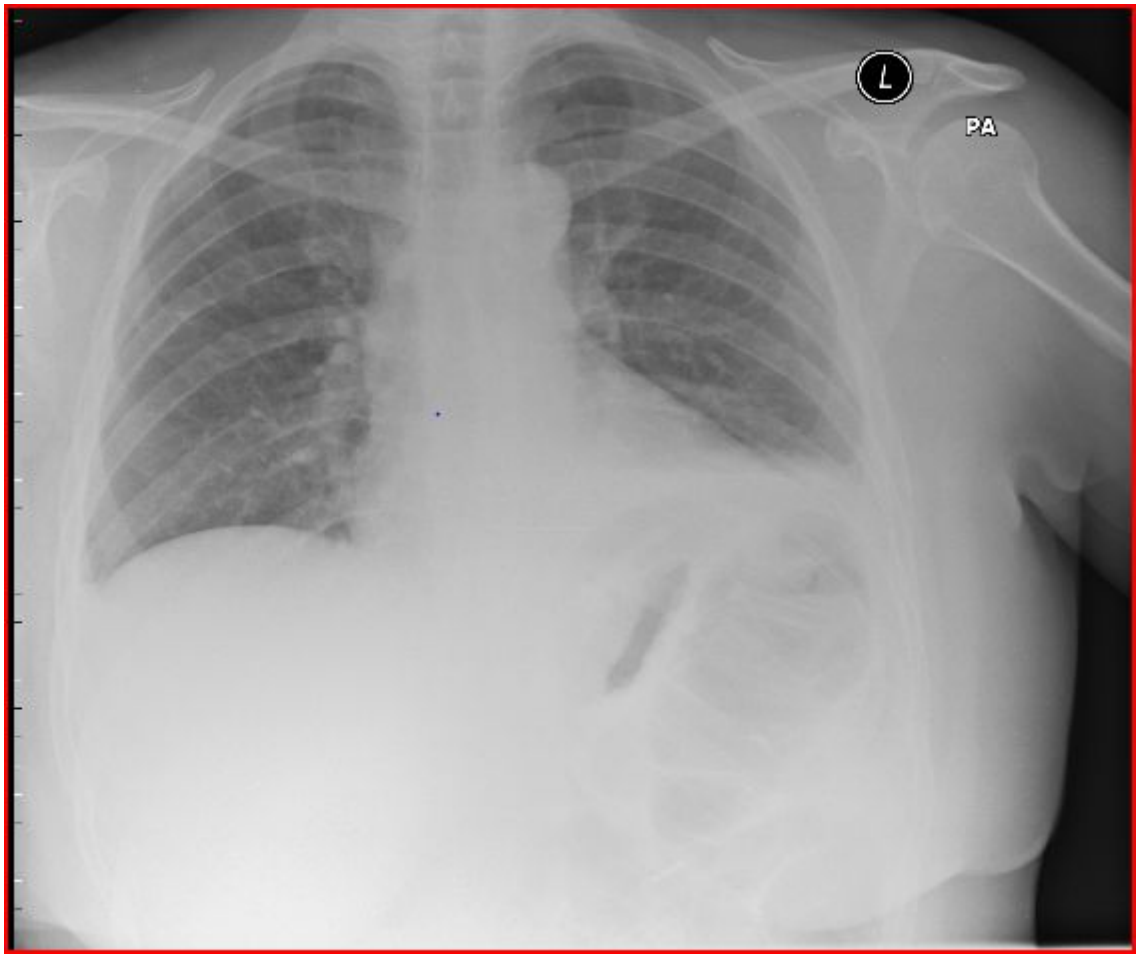


Figure 2a

Figure 2b

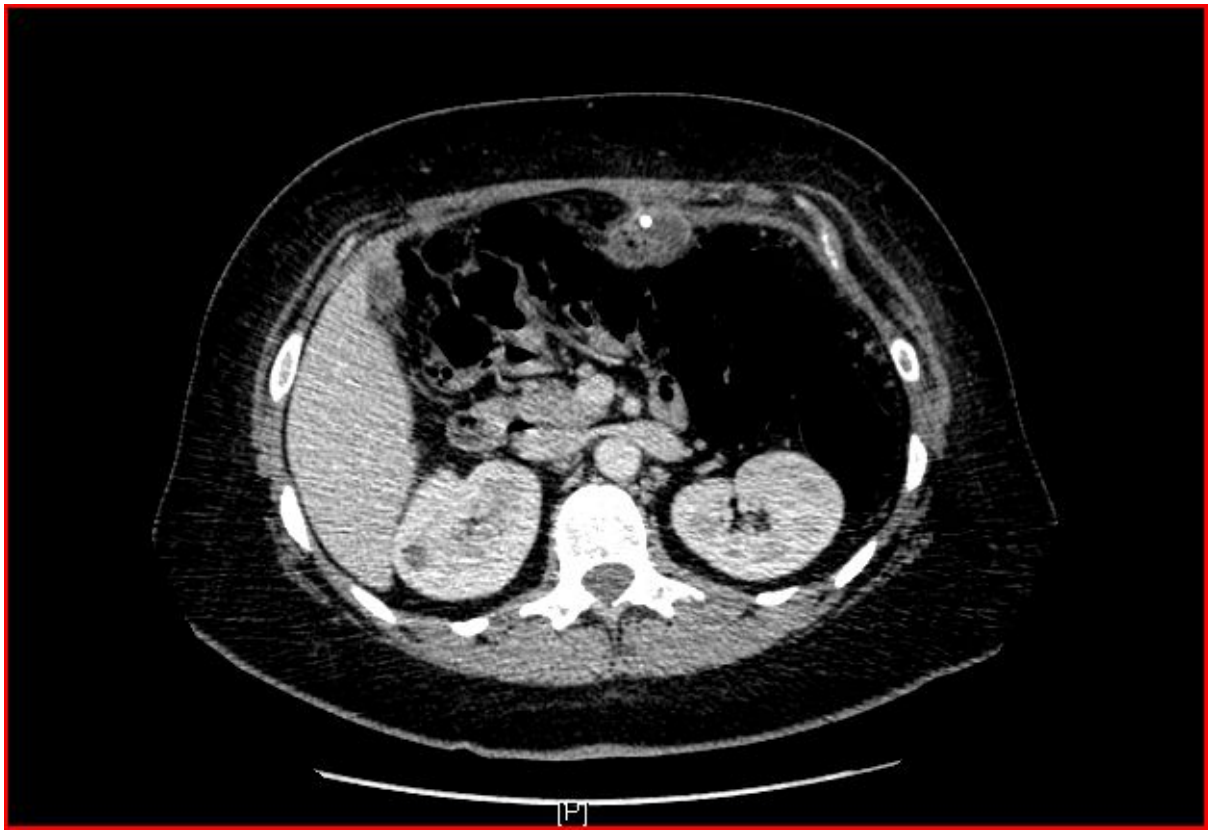
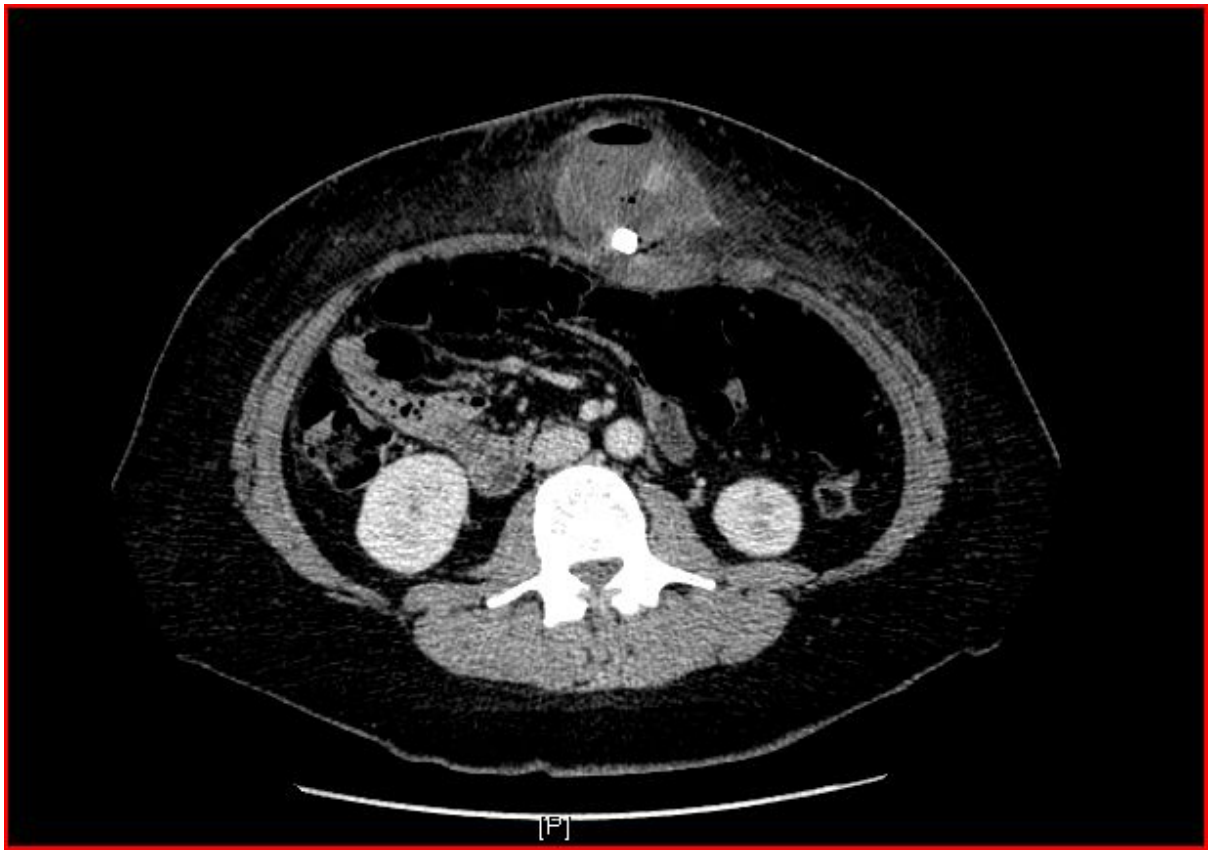


Figure 2c

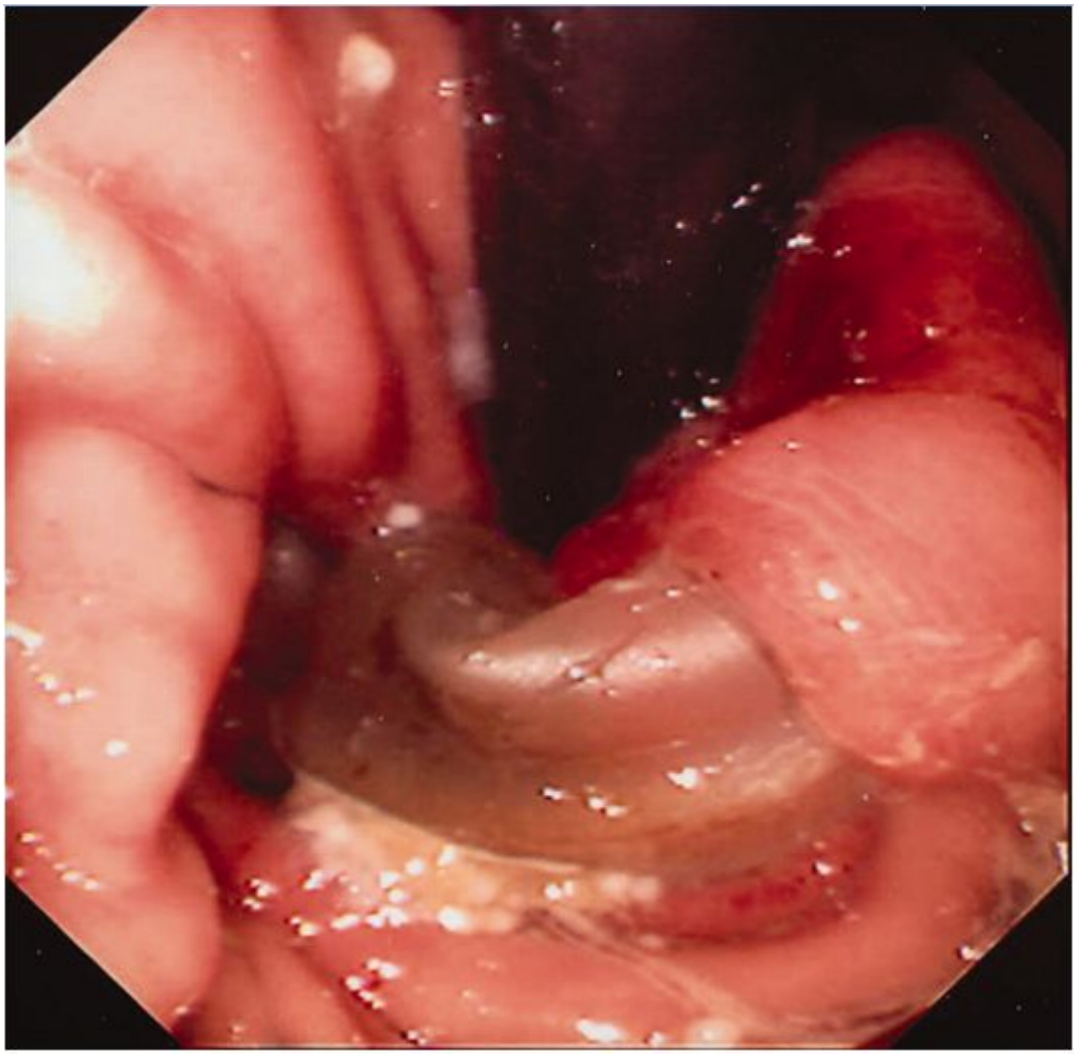


Please review Figures 1 and 2 and discuss management options

6 months after recovery returns requesting replacement of band

Discuss

Figure 3



CASE 2

History and Clinical Examination

A 35 year old male (BMI 40) underwent revisional laparoscopic Roux-en-Y gastric bypass (previous gastric band). His surgery was uneventful. He has made poor progress following surgery. It is now day 5 and he is complaining of left shoulder pain with oral fluids.

His observations show a persistent tachycardia of 100bpm with a low grade pyrexia of 37.5 degrees.

He has no abdominal pain of note. Clinical examination is unremarkable.

What is the presumptive diagnosis and what are your management priorities?

Investigations?

Figure 1

The GG study shows a contained leak at the neo-greater curve staple line. It has an air/fluid level.

Management:

This case is unusual due to neo-greater curve staple line leak and the fact it is contained. He was treated NG drainage utilising an endoluminal vaccum technique (sponge into the cavity).

CASE 3

History and Clinical Examination

A 42-year old lady had a gastric band three years ago. Her original BMI was 48. She initially did well and reached a BMI of 30. However, she has gained around 3 stone in weight over the last six months (she feels the band has stopped working since her wedding reception where she over-indulged and spent the night vomiting).

Clinical examination is entirely normal (save a pre-sternal injection port).

Any further questions ?

What is the presumptive diagnosis and what are your management priorities?

What investigations are relevant?

Figure 1

Figure 1 shows an unbuckled gastric band. Her profound vomiting has broken the buckle mechanism. There will be no restriction and weight regain is almost inevitable.

Management requires laparoscopy and replacement of the band

Figure 2

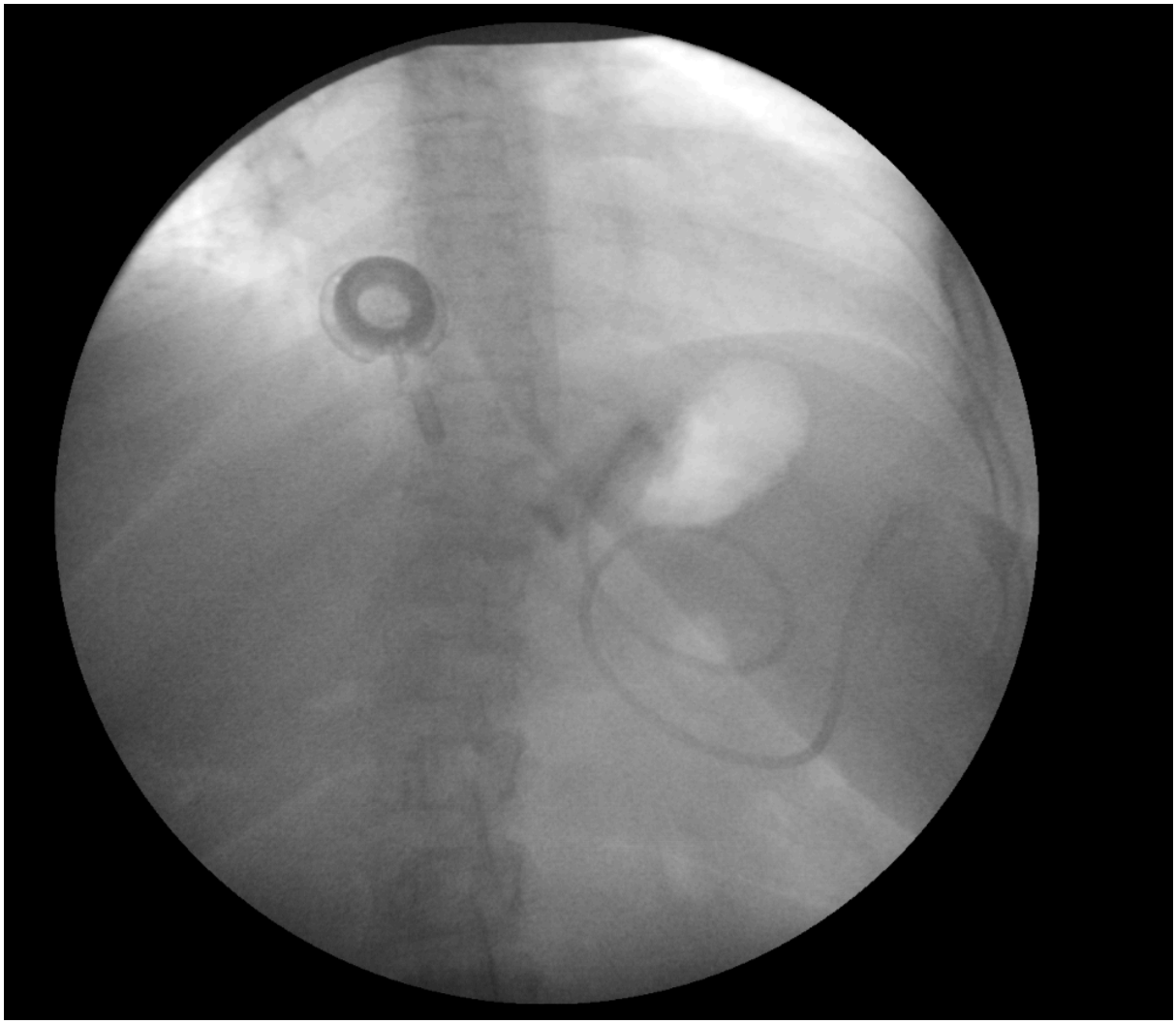


Figure 2 shows a different scenario. Here the port has become disconnected from the tubing. Simple reconnection of tubing and port was curative.

CASE 4

History and Clinical Examination

A 36 year old male (BMI 40) underwent gastric banding 12 months ago. She now has a BMI of 28. She is complaining of markedly increased reflux and difficulty in swallowing solid foods. She regurgitates phlegm/undigested food regularly. She denies any band fills in the last 6 months.

She presents to A&E with epigastric pain and dysphagia for fluids.

His observations and examination findings are normal.

What is the presumptive diagnosis and what are your management priorities?

Presumptive Diagnosis

Management priorities

Investigations?

The study shows the band in a horizontal position= anterior slip. Interestingly the band has an "O" configuration that suggests additional posterior slippage.

Posterior slippages are mainly seen with the peri-gastric technique for band positioning. The pars-flaccida technique used today reduces this type of slippage

Points to explore:

What is a slipped band? What predisposes to it? (overtight band and vomiting)

CASE 5

Let the trainees briefly review the following patient summaries, and use the headings below to discuss each case. Emphasis should be made on the decision making process for surgery.

Case 1 – *Patient suitable for laparoscopic gastric band. She has a BMI<50 and has had good weight loss previously from dieting.*

Case 2 – *Diabetic patient suitable for laparoscopic Roux-en-Y gastric bypass.*

Case 3 – *High risk patient. To discuss role of laparoscopic sleeve gastrectomy as a two stage procedure, or effects of performing a lower risk lap band.*

Suggested Discussion Points

- Having looking at the patient summary, discuss what type of surgical procedure may be most suitable and explain why?
- What are the risks/benefits compared to other bariatric procedures?
- Are there any particular areas of concern for this patient?
- What is the expected weight loss at two years if the patient undergoes this procedure?
- How would you consent the patient for this procedure? Particularly what potential complications would you emphasise?
- Discuss dietary advice before and after surgery
- What are the current NICE guidelines on bariatric surgery?
- What is the obesity surgery mortality risk score, and how is it used?
- Post op issues - ? gallstones, excess skin
- What sort of follow-up should this patient have after the procedure? (e.g. Monitor weight loss, band adjustment, Dietary advice and supplements, Bloods etc..)

Case 1

Sex:	Female				
Age:	40 years				
Height:	1.6m				
Weight:	108kg	**Ideal weight:**	64kg	**Excess weight:**	44kg
BMI:	42				

Past Medical History:	Previous laparoscopic umbilical hernia repair Anxiety/Depression weight related – No Rx Nil else
Drug History:	On the oral contraceptive pill
Social History:	Non smoker, drinks 1or2 bottles of wine each week
Obesity Surgery Mortality Risk Score:	0 = Low risk
Maximal weight loss in 5 years:	2 stone by dieting
Other weight loss methods:	Tried 6/12 Xenical and 6/12 Reductil with no benefit Gym
Patient aims and expectations:	Improve health and lose weight Play with children

Case 2

Sex:	Male				
Age:	44 years				
Height:	1.9m				
Weight:	174kg	**Ideal weight:**	90kg	**Excess weight:**	84kg
BMI:	48				

Past Medical History:

Type II Diabetic

Arthritis affecting knees

Reflux/Hiatus Hernia

No cardio-respiratory disease, No surgery

Drug History:

Insulin 40 units bd

Glicazide

Rosglitazone

Zoton 30mg bd

Social History: Non smoker, No alcohol

Obesity Surgery Mortality Risk Score: 1 = Low risk

Maximal weight loss in 5 years: None

Other weight loss methods: Tried 2/12 Xenical and 6/12 Reductil with no benefit

Gym, slimming clubs

Patient aims and expectations: Improve diabetes and lose weight

Case 3

Sex: Male

Age: 50 years

Height: 1.85m

Weight: 202kg **Ideal weight:** 86kg **Excess weight:** 116kg

BMI: 59

Past Medical History:

Type II Diabetes with retinopathy

Hypertension

Angina (rarely) – No MI

Reflux

Arthritis in knees

Drug History:

Insulin 45u bd, Glicazide, Rosglitazone

Bendrofluazide, Losartan

Statin

Isosorbide mononitrate, GTN rarely

Zoton

Social History: Smokes 20/day, 20u Alcohol per week

Obesity Surgery Mortality Risk Score: 4 = High risk

Maximal weight loss in 5 years: None

Other weight loss methods: Tried 2/12 Xenical and 6/12 Reductil with no benefit

Gym, slimming clubs, dietician

Patient aims and expectations: Improve diabetes and hypertension

Mobility, wear normal clothes, get partner