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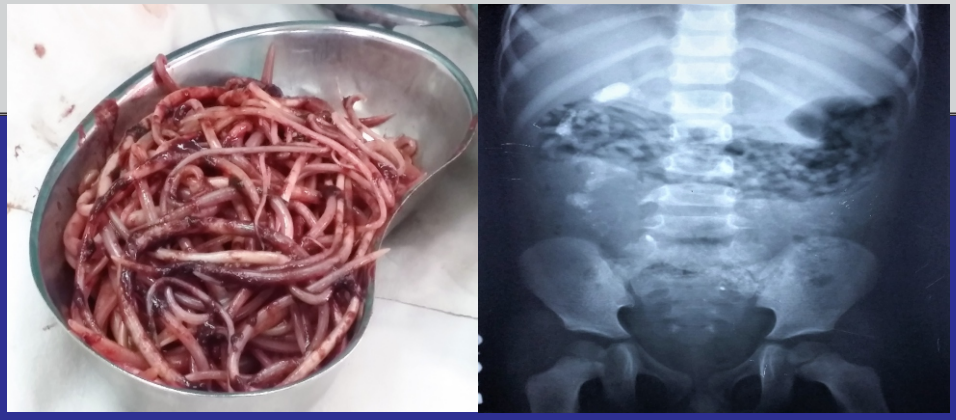

In this issue

- An unusual location for a pheochromocytoma
- A foreign body masquerading as a tumor
- An unusual presentation of an helminthic infestation
- Gastrointestinal symptoms caused by a lipoma

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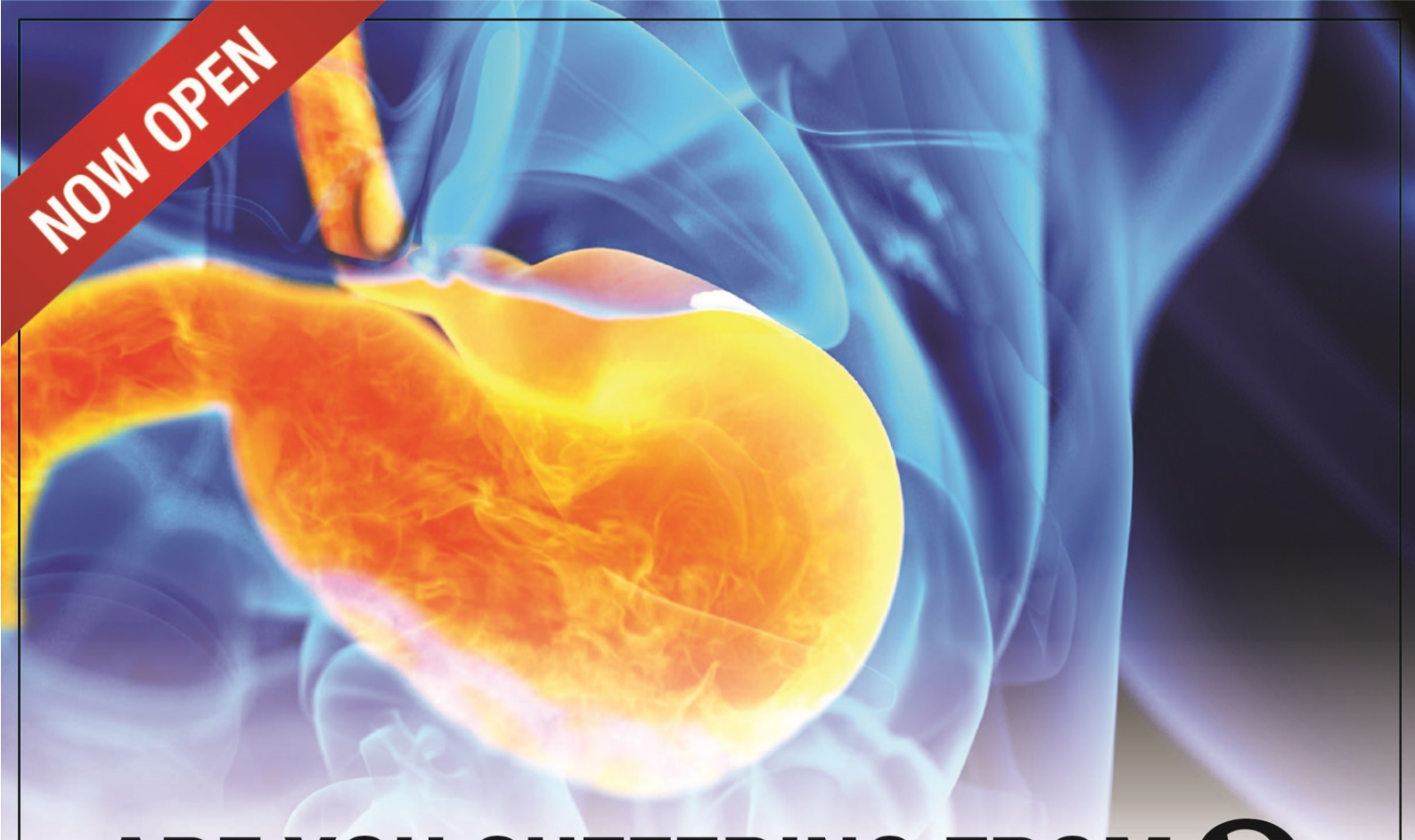

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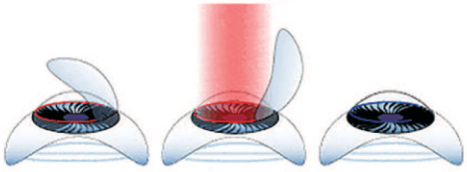

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CASE STUDY

The role of laparoscopy in preoperative staging of oesophageal / gastric carcinoma

J.P Rankothkumbura, R.A.A Shaminda, H.K.G.R Anuradha, K.B Galketiya
University Surgical Unit, Teaching Hospital, Peradeniya, Sri Lanka.

Key words: Staging laparoscopy; oesophageal carcinoma

Introduction

Staging laparoscopy (SL) is a recommended method for pre-operative staging in oesophageal or gastric carcinoma, in particular to detect and confirm nodal involvement [1,2]. Even after a good radiological evaluation including High-dose contrast-enhanced computed tomography (CECT), Endoscopic ultrasound (EUS), some patients have unresectable disease at surgery. Therefore staging laparoscopy would avoid unnecessary laparotomy. However it involves general anaesthesia and operating time and may delay the definitive procedure. Therefore in Sri Lanka and the region, where patient numbers are overwhelming, it may be used selectively.

We present a patient who was diagnosed to have a squamous cell carcinoma of the oesophagus on endoscopic biopsy but the histopathology of oesophagectomy revealing a lymphoma. A SL would have clearly avoided the surgery.

Case presentation

A 65 year old male presented with loss of appetite and weight and vague left sided abdominal pain for one month duration. Clinical examination was unremarkable. Upper gastrointestinal endoscopy showed a growth at gastro-oesophageal junction (GOJ) with the biopsy revealing an early invasive squamous cell carcinoma (SCC). The CECT chest and abdomen showed a thickening at the gastro-oesophageal junction with multiple enlarged lymph nodes above and below the diaphragm and a moderate splenomegaly. Radiological diagnosis confirmed the GOJ carcinoma but also raised the possibility of a lymphoma. Endoscopic ultrasound scan (EUS) was considered but the facility was not available.

As the patient was fit for surgery, he underwent laparoscopic transhiatal oesophagectomy. The stomach was mobilized laparoscopically and the oesophagus was mobilized through the hiatus with the laparoscope. Lymph nodes were dissected off enbloc with the specimen. Intra-operative frozen section histology of lymph nodes was not done due to lack of facilities. The cervical oesophagus was mobilized with a neck incision and oesophagogastric anastomosis was performed.

The histology of the resection specimen showed Non-Hodgkin B cell lymphoma at gastroesophageal junction with negative resection margins. SCC was not detected on this specimen. Patient was referred to oncologist and chemotherapy was started.

Discussion and conclusion

Up to about 40% of lymphomas are seen in sites other than lymph nodes with the gastrointestinal tract being the commonest extra nodal site with preponderance to non- Hodgkin type [3,4]. Stomach is the commonest site (60-75%) though any part of the gastrointestinal tract could be involved [4].While primary oesophageal lymphoma is hardly found, local spread from gastric lymphoma or secondary deposits from cervical or mediastinal lymph nodes give rise to infrequent (<1%) cases of oesophageal involvement [4]. Further, although NHL presents at a particular site, the tumour is widely disseminated at the time of diagnosis [3]. Surgery, chemotherapy, radiotherapy and radio immunotherapy are the available treatment modalities for gastrointestinal lymphomas either in isolation or in any combination [4].

Staging of oesophageal cancer is mainly by contrast enhanced CT scan. Studies on staging laparoscopy for oesophageal cancer are limited [2]. Unnecessary surgery may be avoided in disseminated disease by utilising SL in selected cases.

In our patient endoscopic biopsy was suggestive of a squamous cell carcinoma of the oesophagus and CECT of chest confirmed it. However as the CECT raised the possibility of a lymphoma, if a diagnostic/ staging laparoscopy and a lymph node biopsy was performed the diagnostic controversy would have been overcome and the patient would be benefited by offering accurate treatment avoiding an unnecessary major surgery. In conclusion, even though staging laparoscopy is not practically possible in all

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patients planned for oesophagectomy, it is indicated when significant lymphadenopathy is detected on pre-operative imaging.

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Learning Points:

- Oesophageal lymphomas (primary or secondary) are a rare cause of oesophageal growths.
- Staging/diagnostic laparoscopy is an important investigation that would alter the management of oesophageal malignancies and should be considered at least in selected cases.

CASE STUDY

A case of foreign body granuloma masquerading as a soft tissue tumour

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Keywords: Granuloma; foreign body; hernia; inguinal

Introduction

A foreign body granuloma is defined as a mass that forms at site of surgery due to biological tissue reaction to foreign material in the tissue [1]. It is a rare complication of inguinal hernioplasty and its incidence is still unknown due to lack of reports on such cases. The presentation may vary from simple superficial skin infection (SSI) to a fungating mass mimicking soft tissue malignancy. This report describes a man that presented with a fungating mass over the left inguinal region one year after inguinal hernioplasty.

Case presentation

A 42 year old male had bilateral inguinal hernioplasty with mesh repair performed in June 2015. The surgery was uneventful and had no post-operative surgical site infection (SSI). He presented again to our surgical clinic one year later for a fungating mass over the left inguinal region. Clinical examination revealed a fungating mass over the site of incision of previous hernioplasty scar (Figure 1A). The mass measured 3x3cm, was hard in consistency, fixed to underlying tissue and had raw areas mixed with necrotic slough. He denied any infective symptoms of fever, skin redness or pus discharge prior to this. The full blood count was within normal range without leucocytosis. These findings made us suspect a soft tissue tumour (ie liposarcoma or desmoid tumour) or a squamous cell carcinoma of the skin.

An urgent computed tomography (CT) scan of abdomen showed a heterogenous, fungating soft tissue swelling within the left inguinal region. The mass involved the subcutaneous layer, external oblique aponeurosis, rectus abdominis muscle and was abutting the lateral side of urinary bladder (Figure 1B). There were also streaky densities in the fat surrounding the mass with increased neovascularization. The mass was seen to abut the patent femoral vessels laterally. From the CT report, the possible differential diagnosis were of soft tissue tumour or skin neoplasm.

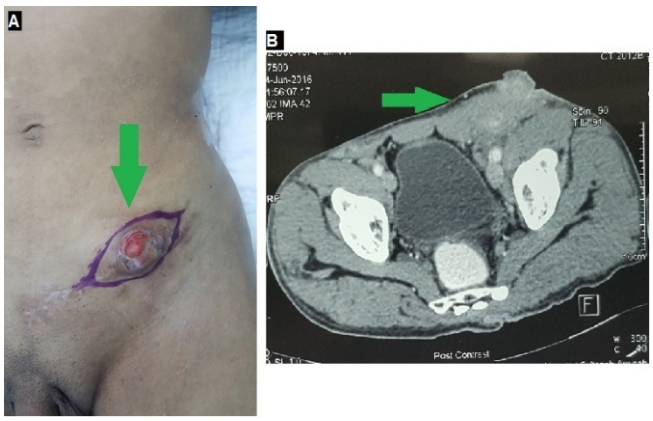

Figure 1: A. Pre-operative marking of the fungating mass over the left inguinal region (green arrow). B. CT abdomen with fungating mass (green arrow) infiltrating the surrounding subcutaneous and abdominal wall muscle.

Histology of the wedge biopsy revealed pseudoepitheliomatous hyperplasia, underlying dermal fibrosis with infiltration of foamy histiocytes, lymphocytes and plasma cells. There were no granuloma or malignant cells. These features were consistent with a chronic inflammatory histology. Based on the suspicious findings on the CT scan, the patient underwent a wide local excision. The tumour was excised with clear margins.

At the base of the mass, a part of the mesh which had shrunk was identified and excised (Figure 2A, B, C). It was evident intra-operatively that the chronic inflammatory reactions to the mesh led to the formation of the foreign body granuloma (Figure 2D). Post-operative period was uneventful. Patient was well at the review 3 weeks after surgery.

The gross morphology of the resected specimen measured 4.2x2.8x1.3cm with a raised polypoidal skin lesion measuring 3.5x2.5x0.5cm. Cut section revealed a grey coloured surface and was solid in consistency. On microscopy, the sections exhibited focal granulation tissue formation with moderate foamy macrophages and neutrophils. These features were consistent with an infected suture granuloma without any presence of malignancy.

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Discussion

The Lictenstein inguinal hernia repair technique has been practiced for more than 50 year. Approximately one million meshes are used in inguinal hernia repair annually [2]. Nagar et al reported an incidence of suture granuloma of 0.3% from a retrospective study of 2447 paediatric herniotomy [3]. Incidences of paravesical granuloma after inguinal hernioplasty can be found dated back to 1959 by Brand et al. Subsequently 3 more similar cases were reported by Kise et al in 1999 [1,4].

Foreign body granuloma may occur 0.5-11 years after inguinal hernioplasty. Surgical site infection was seen in the majority of cases of foreign body granuloma. This prolonged infectivity with pus discharge forms a chronic wound. Chronic inflammation due to mesh placement also predisposes to squamous cell carcinoma as reported by Birolini et al. Diagnosis of a malignancy secondary to chronic inflammatory changes had been straightforward in both reported cases with a history of chronic inflammatory wounds after inguinal hernioplasty. In our case, the patient did not present with an infection and wedge biopsy revealed chronic inflammation [5]. Foreign body granuloma manifests on CT scan as a heterogenous mass which mimics a soft tissue tumour. The CT of our patient showed a fungating heterogeneous mass invading into the skin, subcutaneous and rectus abdominis muscle. In the case series reported by Hideaki et al, the CT scans did not reveal any mesh or suture that may be the cause of foreign body granuloma. Similarly, the CT scan of our patient did not reveal any mesh or suture.

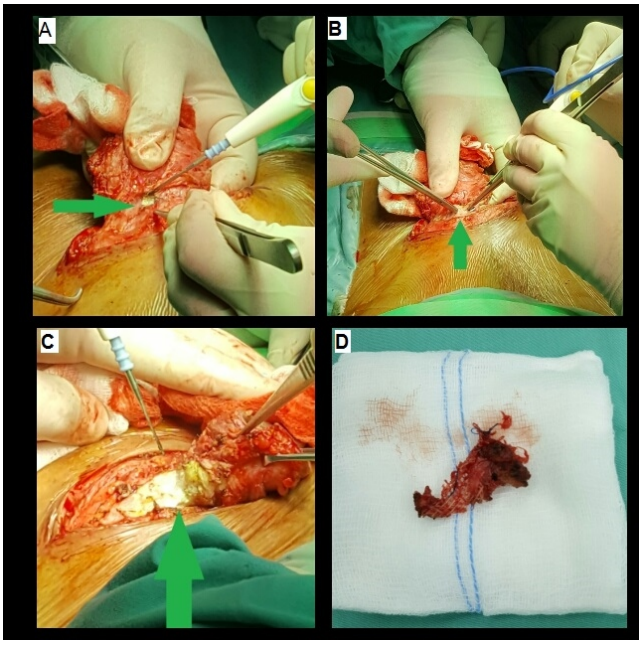

Figure 2: A. Dissection of the base of the mass exposing the underlying mesh (green arrow).
B,C. Dissection of the mass at the base which includes fibrosed tissues surrounding the mesh.
D. Mesh that led to the foreign body granuloma.

Correlating to the suspicious findings on the CT scan, a wide local excision of the mass with clear margins was performed. Intra-operatively the mass was dissected meticulously leaving a rim of healthy surrounding tissue. On reaching the base of the mass we identified a piece of mesh that was firmly attached to the underlying tissues. The mesh was dissected away from healthy tissues (Figure 2A,B,C,D). A full histopathology report of the specimen confirmed the findings of a foreign body granuloma. Foreign body granuloma may occur in the absence of infection and presentation may mimic a soft tissue tumour. A tissue biopsy may guide us to prevent a radical excision which may lead to patient morbidity.

Conclusion

Foreign body granuloma may mimic a soft tissue tumour without the presence of post-operative infection.

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Learning Points:

- Occurrence of foreign body granuloma is rare with an incidence of 0.3% and 24 reported cases over past 60 years.
- Awareness should be made of the possible complication of inguinal hernia repair with mesh leading to foreign body granuloma
- Foreign body granuloma may present as a suspicious soft tissue tumour without any prior history of surgical site infection after inguinal hernia repair.
- Such cases should be treated as tumours whenever there is a doubt in diagnosis.

CASE STUDY

Leaking splenic artery pseudoaneurysm - an uncommon complication of pancreatitis

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2 Base hospital Warakapola, Sri Lanka.

Key words: Splenic artery pseudoaneurysm; pancreatitis complications

Introduction

Pseudoaneurysm formation of the splenic artery is a rare but potentially life threatening complication of pancreatitis [1]. We present a case of a 43 year old male with acute on chronic pancreatitis complicated with a leaking pseudoaneurysm of the splenic artery.

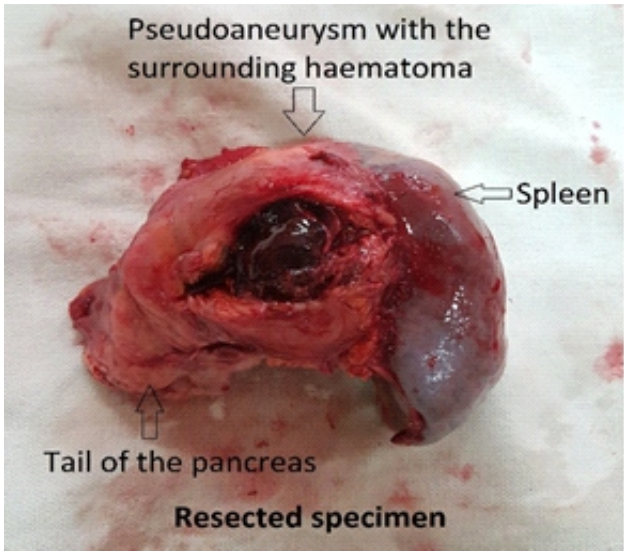
Case presentation

A 43 year old male patient was admitted to the surgical casualty unit of the Awissawella Base Hospital complaining of progressively worsening generalized abdominal pain for two days duration. He has had two similar episodes of pain of a lesser severity within the last eight months. The pain was associated with nausea, vomiting and dizziness. There was no history of fever, hematemesis, melaena or other bleeding manifestations. He was a non-smoker and was not on any long term medication, but has been consuming half a bottle of alcohol daily for the last 5 years.

On examination, he was hypovolemic with a low volume pulse, tachycardia (96bpm) and a low blood pressure of 85/65 mmHg was detected. The abdomen was distended with diffuse tenderness and guarding upon palpation. His blood investigations revealed a haemoglobin level of 12.7g/dL with normal white cell and platelet counts. Serum creatinine and electrolytes were within normal limits but the amylase level was significantly elevated(1118U/L, normal 20-80).

Subsequent to resuscitation with intravenous fluid, an urgent ultrasound scan of the abdomen was performed. A lesion was noted at the splenic hilum measuring 4.5 x 3.5 x 3.5 cm with a hypo echoic centre containing high velocity colour Doppler signals of arterial type. The lesion was surrounded by an area of mixed echogenicity which was keeping with ultrasonic features of a haematoma. There was significant amount of free fluid noted in the abdomen. The conclusion was a leaking splenic artery pseudoaneurysm with haemoperitoneum.

The patient underwent an emergency laparotomy where a haemoperitoneum of about 1.5 L was noted on entering the abdominal cavity. The pancreas had a hard consistency with foci of calcifications, which was suggestive of chronic pancreatitis. A mass was found in relation to the tail of the pancreas and the splenic hilum. The splenic artery was ligated and a splenectomy was performed along with distal pancreatectomy. The abdomen was closed with a drain in the lesser sac. Intraoperatively 2 units of packed red cells were transfused. Postoperatively he was managed in the ward and his recovery was uneventful. The abdominal drain was removed on post op day 3 and he was discharged on post op day 5. On discharge his serum amylase has returned to normal levels. Pneumococcal and Haemophilus influenza type B (HiB) vaccines were scheduled to be administered ten days after the discharge from hospital.



Discussion

Pseudoaneurysm formation occurs as a complication of pancreatitis in 3.5-10% [1]. The splenic artery is the most commonly involved vessel accounting for 40% of cases with gastroduodenal (30%), pancreaticoduodenal (20%), gastric (5%) and hepatic (2%) arteries being affected in decreasing

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frequencies [1]. Reported rate of rupture is as high as 37% in those with a splenic artery pseudo aneurysm, with up to 7.5% experiencing exsanguinating haemorrhage [1,2].

The pathogenesis of this condition is thought to be due to the digestion of the vessel wall by the proteolytic enzymes released due to the inflammation of the pancreas. Erosion of the vessel by the enzyme rich fluid within a pseudocyst or direct pressure on the vessel by a pseudocyst causing ischaemic damage to the vessel wall are other possible mechanisms [2]. In a review by Tessier et al. it was reported that out of 82 patients with splenic artery pseudoaneurysms caused by pancreatitis, 64 (78%) had associated pseudocysts [3].

Patients with a ruptured pseudoaneurysm of the splenic artery can present with sudden severe abdominal pain, upper gastrointestinal bleeding with hematemesis, hematochezia, melaena, bleeding from drains left following pancreatic necrosectomy or sudden collapse and death [1,4].Rupture of a pseudoaneurysm can occur in to the general peritoneal cavity, retroperitoneum, in to a pseudocyst, or in to adjacent hollow viscera. Rupture in to the pancreatic duct with bleeding is a rare occurrence, and is known as hemosuccus pancreaticus [4].Angiography is considered the gold standard for imaging of this condition [2]. However contrast enhanced CT and ultrasound with colour Doppler are viable alternatives [3]. In a resource limited environment as this, ultrasound which is cost effective and does not require contrast material is extremely useful and colour Doppler may demonstrate flow within the pseudoaneurysm, as in our patient [3].

Size of the lesion is not a predictor of the risk of rupture hence intervention is recommended for all with this condition [3]. The patient who is haemodynamically unstable due to bleeding splenic artery pseudoaneurysm requires immediate surgery with resuscitation [1]. Splenectomy with or without distal pancreatectomy is the most fail safe procedure described with no reported failures [3]. Splenectomy is associated with increased susceptibility to serious infection and distal pancreatectomy carries the risk of pancreatic duct leaks and fistula formation. Vaccination with pneumococcal, HiB, meningococcal and yearly influenza vaccines are recommended for post splenectomy patients and some patients with a high risk of pneumococcal infection are started on lifelong antibiotic prophylaxis following splenectomy [5].

Ligation of the splenic artery alone with splenic preservation is an option in some patents but it is associated with a recurrence rate of up to 43% [3]. In the elective setting, open surgery for splenic artery pseudoaneurysms is associated with a 0.5% risk of operative mortality [2].In the stable patient, angiography with trans catheter embolization is an option with lesser morbidity and mortality with success rates up to 85% [2]. Post procedure pain, peripancreatic abscesses, , splenic infarctions and abscesses, and death are reported complications following embolization of the splenic artery [3].

Conclusion

In a haemodynamically unstable patient with pancreatitis, the possibility of a leaking peripancreatic pseudoaneurysm should be suspected although it is an uncommon complication. Ultrasound scan with Doppler can accurately diagnose this condition and is most suited for a resource limited setting. Laparotomy with splenectomy and distal pancreatectomy is the commonly preferred procedure in a haemodynamically unstable patient although transcatheter embolization may be preferred in a stable patient at a centre with expertise.

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Learning Points:

- Visceral artery pseudoaneurysm formation is an uncommon but potentially life threatening complication of pancreatitis.
- Splenic artery is the most commonly involved artery in this condition.
- Open surgery is required for the haemodynamically unstable patient with a bleeding splenic artery pseudoaneurysm while endovascular methods are more suited for stable patients.

CASE STUDY

Oesophagocutaneous fistula - a rare complication of thyroidectomy for benign goitre

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Keywords: Thyroidectomy; oesophagocutaneous fistula; gastric heterotopia.

Case presentation

A 26 year old female resident of Western Maharashtra (India) presented with a salivary fistula on the anterior aspect of the neck. She had undergone a left hemithyroidectomy for left lobe goitre at a private hospital 4 weeks back. She had a history of goitre for six months. There was no history of hoarseness of voice, dysphagia or dyspnoea. Operative notes did not mention about intra operative oesophageal injury. On the fifth postoperative day the entire wound dehisced and the patient developed a large salivary fistula. In the same institute the salivary fistula was initially managed conservatively. Nasogastric intubation was tried but failed even under fluoroscopic guidance. A feeding jejunostomy was done. The histopathological report of the goitre was benign.

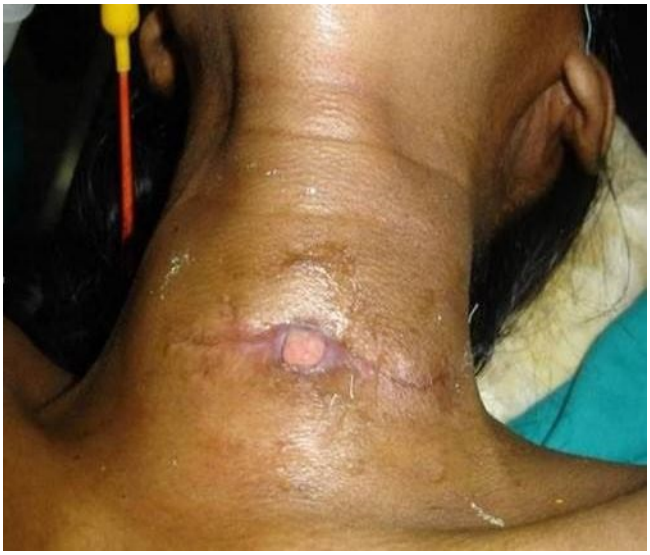

Figure 1: Showing oesophagocutaneous fistula with scar of thyroid surgery

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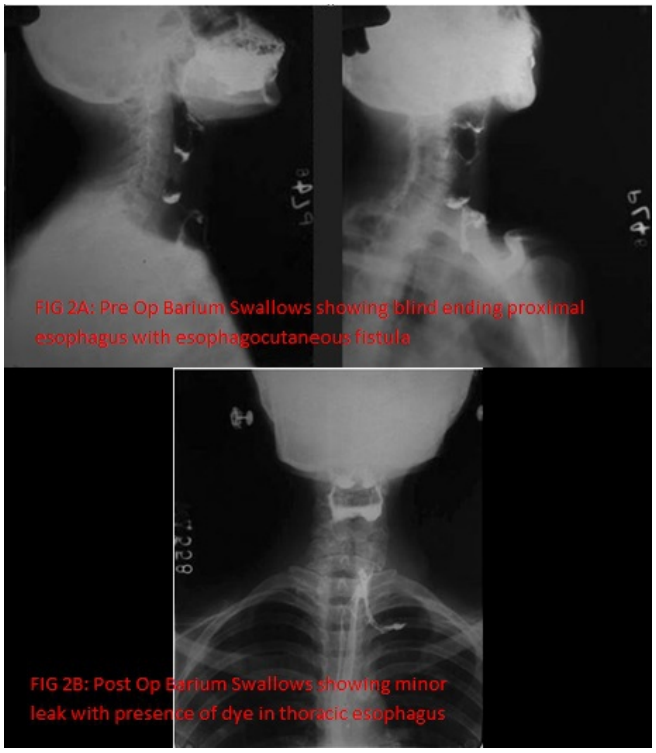

Figure 2: Pre and Post operative Barium swallows

She was referred to our institute for further management. There was no hoarseness or change of voice. On local examination there was a scar of Kocher's incision with a centrally located salivary fistula (figure 1). A feeding jejunostomy was present. Indirect laryngoscopy did not reveal any abnormality. Barium swallow was suggestive of blind ending proximal oesophagus with an oesophago-cutaneous fistula (figure 2). Distal oesophagus could not be visualized on endoscopy. Broad spectrum antibiotics were started.

Local exploration and end to end anastomosis was planned. Intraoperatively there was intense fibrosis all around. A nasogastric intubation was tried intraoperatively and the Ryle's tube was seen abutting the upper blind pouch. A stricturous segment 2-3 cm long was evident between the proximal and distal oesophageal pouches. Upper pouch was opened and nasogastric tube was retrieved. Distal oesophagus was mobilized. The strictured segment was excised. A single layer primary anastomosis was done (with polyglycolic acid

suture 3-0) over a transanastomotic nasogastric tube. Incision was closed in layers after closed suction drainage. A mento-sternal stitch was taken so as to avoid excessive extension at neck.

Postoperative course was complicated by a minor leak (figure 2) which subsided over a week after removal of nasogastric tube. The histopathological report of the excised specimen was chronic non-specific inflammation with foreign body granuloma with gastric heterotopia in the oesophageal mucosa. Patient was discharged after 2 weeks on normal oral feeds. She was advised on long term treatment with proton pump inhibitors. The patient was readmitted after 8 weeks for management of the jejunostomy. She was asymptomatic and had gained weight. She was offered a contrast oesophagogram but she refused. The jejunostomy was removed and she was discharged uneventfully.

She again attended surgical OPD after three and half years for unrelated orthopaedic complaints. The patient was asymptomatic and was eating well. The patient was again advised oesophago-gastroscopy and contrast oesophagogram but she was not compliant as she was asymptomatic. Clinically she was well without any symptoms of dysphagia with healthy scar over the surgery site.

Discussion and conclusion

Common complication after thyroidectomy include, hypoparathyroidism, recurrent laryngeal nerve injury, superior laryngeal nerve injury, thyroid crisis etc. oesophageal injury following thyroid surgery leading to oesophagocutaneaus fistula is an extremely rare event. The first such case in the literature is reported by Ozer MT et al [1].

Oesophageal perforation of any etiology has high morbidity and mortality. Mortality rate reported in literature ranges between 5.5 to 29% depending upon the location and the type of perforation [2]. Treatment choices range from conservative methods such as restriction of oral intake, broad spectrum antibiotic administration and total parenteral nutrition, to surgical methods such as oesophageal repair by primary suturing and drainage, repair with flaps and oesophageal resection. The outcome of conservative management has a better prognosis in injuries recognised early and in cervical oesophageal injury [3,4]. In the index case the injury was not recognised early which probably led to the formation of stricture at the site of injury causing oesophageal luminal obstruction and fistula.

Case reports of patients with gastric heterotopia in the oesophagus, ranging from spontaneous tracheoesophageal fistula to esophagitis like symptoms due to acid secretion from the gastric heterotopias, have already been reported in literature. But a review of the literature did not reveal its association of with oesophagocutaneous fistula following thyroid surgeries [3,5]. However in the index case, the finding of gastric heterotopia seems to be coincidental. The finding of a long stricturous segment seems more like a sequel of the operative injury. The previous reported cases of oesophagocutaneous fistula following thyroid surgery have not mentioned presence or absence of gastric heterotopias [3,5].

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Learning Points:

- Surgery involving anterior triangle of neck presenting with post operative salivary fistula should be investigated early with investigations like fistulogram, endoscopy etc, for definitive diagnosis and early initiation of treatment.
- Treatment choices range from conservative to surgical methods such as esophageal repair by primary suturing and drainage, repair with flaps for esophageal fistula and esophageal resection.
- A conservative management has better prognosis in injuries recognised early.

CASE REPORT

Small bowel volvulus due to helminthic infestation in a child

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Key words: Ascaris lumbricoides; intestinal obstruction; volvulus; surgery for complications

Introduction

Ascaris lumbricoides is the largest and the commonest intestinal nematode infesting the humans and is estimated to infect 1.5 billion people worldwide. Asia (73%), sub Saharan Africa (12%) and South America (8%) share most of the global disease burden because the tropical climate and low socioeconomic status prevalent in these regions favouring worm transmission. Ascaris is transmitted by ingestion of infective egg contaminated food or water. The larva hatches out and pierces the small intestine wall on the fourth day to enter the blood stream. Once trapped in pulmonary circulation, it pierces the alveolar membrane and migrates upstream in the airways towards the pharynx and re enter the digestive tract. After further maturation male and female worms occupy the jejunum and reach sexual maturity by 9-11 weeks. Adult worms grow up to15-30cm in size and live for 10-24 months while the female lays 200,000 eggs per day. Fertilized eggs are excreted in faeces and mature in favourable soil to become infective over several weeks. They can remain viable up to 10 years until such conditions ensue [1]. The worm load of an individual is a result of cumulative exposure over time as adults do not multiply within the gut.

Case presentation

A three year and 10 months old boy complaining of abdominal pain, abdominal distension and progressive food intolerance for two days was transferred from a rural hospital to Rathnapura hospital. He was the youngest of four children from a plantation worker's family who shared latrine facilities with the community. The child weighed 14kg (compatible with15th percentile weight for his age) but was free of significant pathologies. He had received anthelminthic drugs as part of a mass treatment programme a day prior to the onset of symptoms. He was admitted with above symptoms to the rural hospital next day and was transferred for further care to Rathnapura hospital as the child became progressively ill despite conservative management.

Upon reception, the child was restless, moderately dehydrated and pale. He was tachyardic but not febrile and did not comply with abdominal examination. A supine abdominal x ray revealed distended bowel loops with “whirlpool” appearance (Figure 1). Initial blood investigations revealed WBC 11000 *103/L with 5% eosinophils, Hb 10.5g/dL, serum Na+ 135 mmol/L, K+ 4.5 mmol/L and CRP of 10mg/L. After resuscitation he was taken to theatre for urgent surgical exploration. Findings during laparotomy included multiple distended small bowel loops filled with dead worms. The terminal ileum was in volvulus with gangrene and

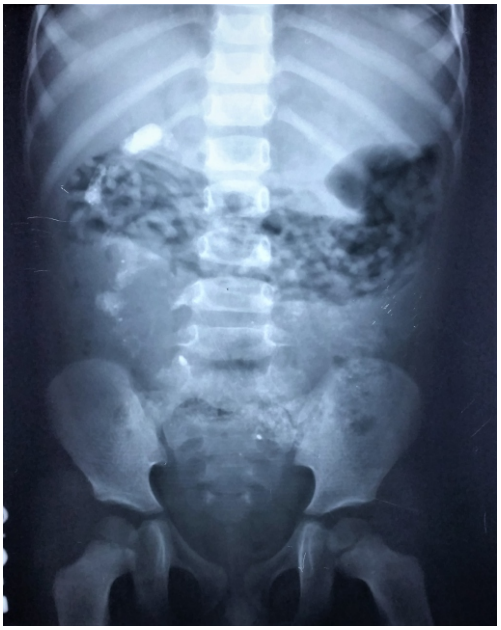

Figure 1. Abdominal radiography of the patient showing whirlpool image

spontaneously perforated when detorsion was attempted. A total of 162 worms were removed from the bowel (Figure 2) until obstruction was relieved by milking them out through the perforation.

Gangrenous ileum was resected and a primary ileocolic anastomosis between jejunum and ascending colon was

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Figure 2. Worms removed during surgery

constructed. The child received post operative critical care observation for two days and subsequently made a complete recovery within a week. His discharge plan included administration of Anthelmintic Treatment (AT) in six weeks, nutritional therapy and instructions on hygienic practices for the whole family to prevent reinfection.

Discussion and conclusion

Ascaris infestation is a global epidemic with prevalence as high as 95% in some populations [2]. In Sri Lanka the vulnerable communities include plantation workers with 77% of children having evidence of infection, mostly acquired due to poor hygienic practices [3]. Many infected individuals remain asymptomatic but children between 2-10 years of age develop symptoms due to small calibre of intestine and of the ileocecal valve. Symptoms of Ascariasis are often nonspecific and include abdominal discomfort, anorexia, nausea and sometimes passage of adult worms with stools or vomitus. Complications include malnutrition with growth retardation due to high worm burden, and obstruction of the intestinal lumen or the biliary tree by migrating worms. Such episodes may be triggered by stressors such as AT, fever, fasting or anaesthesia.

Intestinal obstruction (IO) is the commonest complication of Ascariasis and considered the commonest cause of abdominal surgical emergency in children in susceptible communities [1]. Other complications include volvulus, ileocecal intussusception, gangrene, perforation and acute appendicitis. The usual site of blockage is the ileocecal valve and patients present with features of IO together with a shifting mass in right lower quadrant. Laboratory findings may demonstrate a peripheral eosinophilia. Stool microscopy only demonstrates ova if symptoms develop after 40 days of infestation, therefore is not useful for diagnosis in the acute setting.

Useful imaging in arriving at a diagnosis includes plain X ray abdomen demonstrating collections of worms contrasting against bowel gas which is known as the “whirlpool effect”. Ultrasound scan can demonstrate the “railway tract sign”; multiple curvilinear echogenic strips without acoustic shadowing within bowel lumen. Contrast studies, CT and MRI scans are useful but not mandatory in straightforward cases. Patients with intestinal obstruction are initially managed conservatively but surgery is indicated when there is complete obstruction, lack of clinical response within 24-48 hours or volvulus, intussusception, appendicitis or when perforation is imminent.

A single heavy dose of AT, specially paralytic agents should not be used in this setting as it can convert a partial obstruction to a complete obstruction [4]. Surgical management includes worm extraction by enterotomy together with resection and anastomosis in the presence of gangrene or perforation. Attempting to evacuate all the worms can result in bowel injury due to excessive handling so only the obstructing mass is removed. The rest is managed with AT administered once the intestinal transit is restored and repeated around six weeks of discharge. AT is highly effective in elimination of worms (95-100% success rate) but does not confer protection against reinfection. Up to 80% of individuals will acquire a worm load similar to pre-treatment value within six months of therapy [5] unless transmission of infection is controlled by improving sanitary and sewage facilities, public education and periodic mass antihelminthic treatment. Co-infection with other parasitic diseases and nutritional deficiencies are common therefore should be considered in all cases.

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Learning Points:

- Symptoms and complications of Ascaris infection is still prevalent among children living in Sri Lanka.
- Significant morbidity in form of bowel gangrene, perforation and peritonitis is inevitable if prompt diagnosis and management is delayed.

Intraoperative localization of parathyroid adenoma utilizing intravenous methylene blue

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Keywords: Parathyroid; hypercalcaemia; sestamibi

Introduction

Primary hyperparathyroidism is a disease of parathyroid glands, which manifest as hypercalcaemia due to excess production of parathyroid hormone (PTH). It is the most common cause of hypercalcaemia in the ambulatory setting. In nearly 80% of cases, solitary parathyroid adenoma accounts for primary hyperparathyroidism, which is surgically curable [1]. Accurate preoperative localization of the affected gland results in shorter operative time and to identify ectopic parathyroid adenoma [4].

This report presents a case of primary hyperparathyroidism due to a solitary parathyroid adenoma.

Case presentation

A 72 year old Sri Lankan woman from the Northern province presented with polydipsia, polyuria, fatigue and weakness. She also reported a long standing epigastric burning pain. Five years ago, she underwent left sided pyelolithotomy for a renal pelvic calculus. She has hypertension and dyslipidaemia.

Examination revealed no abnormal physical findings. Serological tests demonstrated hypercalcaemia; serum ionized calcium level was 3.11 mmol/L and an elevated parathyroid hormone (PTH 189.7 ng/L). Ultrasounds scan (USS) neck revealed a right parathyroid adenoma. A computed tomography (CT) of the neck confirmed the parathyroid adenoma of 7mm in size. Technetium-99m (Tc-99m) sestamibi scintigraphy failed to identify abnormal focal retention of tracer in the parathyroid region of the neck or elsewhere in ectopic locations and concluded as no evidence of demonstrable parathyroid adenoma. Therefore intravenous methylene blue was used to localize the parathyroid gland intraoperatively. A collar incision was made for bilateral neck exploration. Right superior parathyroid gland was identified as enlarged with methylene blue staining. Excision of the right parathyroid adenoma was done (Figure 1). Other parathyroid glands were normal in size and were free of methylene blue stain. Postoperative recovery was uneventful except post operative hypocalcaemia. Serum calcium reduced to 1.97 mmol/L in the forth post operative day and returned to normal value in a week's time. Histology confirmed the parathyroid adenoma which composed of solid sheets of chief cells.

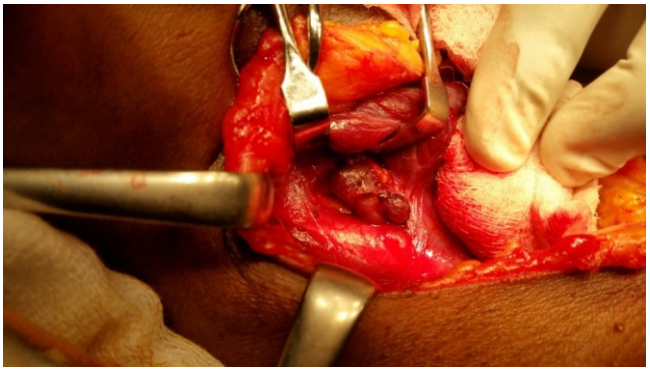

Figure 1: Right parathyroid adenoma during surgery

Discussion and conclusion

An increasing proportion of patients with primary hyperparathyroidism are now being diagnosed at the stage of mild symptomatic disease or asymptomatic stage by incidental finding of hypercalcaemia. Untreated hyperparathyroidism leads to recurrent renal stones, osteitis fibrosa cystica, pancreatitis, gastritis, polyuria, polydipsia, constipation or cognitive impairment [4]. Of those clinical presentations, nephrolithiasis is the most common [1]. Hyperparathyroid crisis is a rare condition, where patients present with lethargy, weakness, vomiting, abdominal pain and confusion. It is an endocrine emergency which requires rapid correction of dehydration and hypercalcaemia followed by surgical resection of diseased parathyroid glands [2].

Preoperative imaging techniques are necessary for localization of the diseased glands. USS neck, CT, MRI and Tc-99m sestamibi scintigraphy are useful imaging techniques [1, 3]. Studies have shown that there are no significant differences in sensitivity and positive predictive value in

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identifying pathologic parathyroid gland between USS neck and sestamibi scintigraphy. However, the combination increases the sensitivity and positive predictive value compared to either single technique [4]. In our patient, initial USS neck and CT scan localized the parathyroid gland although Tc-99m sestamibi scintigraphy failed to localize the parathyroid adenoma .

The only definitive treatment for primary hyperparathyroidism due to parathyroid adenoma is surgical resection of the gland/ glands. Bilateral neck exploration, direct visualization, identification and removal of all abnormal parathyroid glands is considered as the gold standard [1]. Methylene blue is efficacious in intra operative identification of enlarged parathyroid glands with only mild toxicity. Methylene blue is a thiazine dye which contain methylene blue trihydrate as an active ingredient. It stains parathyroid adenoma with a range of 86-100 %. Mechanism of selective uptake of methylene blue by the hyperactive parathyroid gland is poorly understood. Although the accumulation of methylene blue within the mitochondrial matrix was noted and predominance of oxyphil cells rich in mitochondria within the hyperactive parathyroid gland may explain the selective uptake of methylene blue [5].

Focus parathyroidectomy using unilateral neck exploration is facilitated by preoperative radiological localization of parathyroid adenoma and intra operative PTH measurement. PTH has a half life of less than 5 minutes and can be measured before and after adenoma excision to ensure that the suspected adenoma has been removed. Intra operative gamma probe identification also assists with intra operative parathyroid adenoma localization [1]. Preoperative differentiation between benign and malignant parathyroid lesion is often challenging task. Studies suggest that preoperative PTH value can be helpful as a PTH level less than four times the upper limit of normal excludes a malignancy. However, benign conditions presenting with very high level of PTH is also reported in the literature [2]. Therefore intra operative assessment of the enlarged parathyroid gland is necessary to differentiate benign from malignant enlargement as malignant lesion will need a more radical procedures. Adherence due to fibrosis, local infiltration or lymph node involvement favors malignant lesion [1]. Decrease in serum calcium level is usually mild following successful removal of hyperactive parathyroid glands. Post operative hypocalcaemia ensures that hyperactive gland has been successfully removed [3].

In summary, primary hyperparathyroidism can present with nonspecific symptoms, high index of suspicion is necessary for diagnosis. It can be surgically curable if the exact location of diseased glands could be identified and excised. Intraoperative methylene blue is a valuable localization tool.

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Learning Points

- Hypercalcaemia must be considered in patients complaining of recurrent abdominal pain or nonspecific symptoms
- Localization of parathyroid adenoma is facilitated by ultrasound scan and CT scan pre operatively .
- Intraoperative methylene blue is a safe and effective way of locating the ademona.

Acute portal vein thrombosis leading to small bowel stricture

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Key words: Portal vein thrombosis; small bowel stricture; small bowel resection

Introduction

A 38 year old patient with a family history of thrombotic disease presented with sudden onset diffuse abdominal pain and derangement of liver functions. On imaging there was thrombosis of the main truck of the portal vein with oedema of the proximal jejunum. The episode was managed with anticoagulants. Two months after he presented again with bilious vomiting after meals. Barium meal and follow through revealed an obstruction at the proximal jejunum. This part was resected and primarily anastomosed.

Case presentation

A 38 year old male presented to the emergency department with sudden onset diffuse abdominal pain and deterioration of liver functions. He had strong family history of thrombotic disease. Computed tomogram (CT) and portal venous angiogram revealed acute portal vein thrombosis (PVT). There was oedema of proximal small bowel loops (figure 1). The acute episode was managed conservatively. He was started on low molecular weight heparin and warfarin. During follow-up visits his liver functions improved and there were no oesophageal varices. He was referred to the haematologist and the family members were encouraged for thrombophilia screening. No definite thrombotic disease was found following extensive screening.

Two months after the acute attack, he presented with progressive bilious vomiting after meals. The upper gastric endoscopy was normal up to the third part of the duodenum. The patient underwent barium meal and follow through. There was a stricture at proximal jejunum 20cm from the duodenojejunal flexure (figure1). Upper jejunal stricture was noted during the laparotomy. There were no adhesions, bands, ongoing intra-abdominal inflammatory process or evidence of previous sepsis. Stricture was resected and anastomosed. Patient made an uneventful recovery. Patient was started on life-long anticoagulation. Histology revealed 10 cm trans mural fibrosis of small bowel without any other pathology in the normal mucosa. The Follow-up abdominal CT after 3 months showed extensive collaterals around the portal vein and flow in superior mesenteric vein.

Discussion and conclusion

Acute portal vein thrombosis is known complication seen in patients with thrombotic disease [1]. The question of starting anticoagulation is a crucial decision. With anticoagulants, recanalization rates close to 80% has been reported [2, 3]. However thrombolytic therapy should be reserved for patients with severe disease and are associated with severe complications including bleeding [4]. Rate of spontaneous recanalization is not well documented. Acute ischemia caused by PVT can lead to congestion and bowel infraction. In most cases this does not happen because of the collateral venous drainage [5]. However collaterals may not be adequate rarely leading to late ischemic strictures. Few similar cases have been reported in the literature [6]. This rare complication needs to be considered in patients complaining of intestinal symptoms after acute PVT.

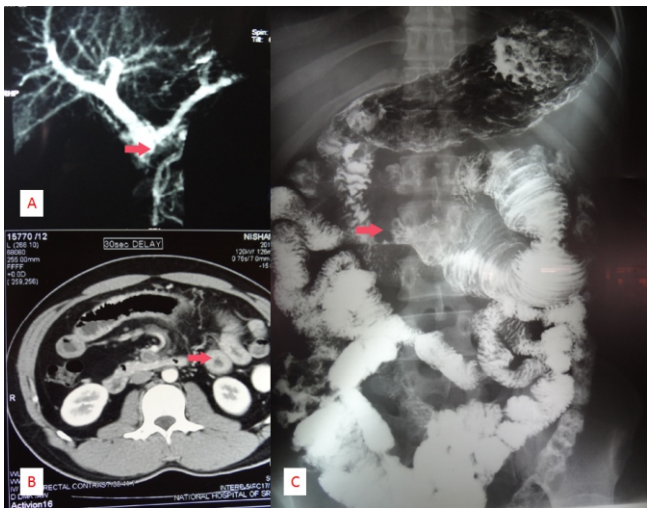

Figure 1. A - Thrombosed main portal vein,
B - Computed Tomogram\ showing oedema of proximal small bowel loops,
C- Barium meal showing stricture at proximal jejunum.

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Learning Points:

- Patient with a history of portal vein thrombosis presenting with upper gastrointestinal symptoms should be further investigated to exclude small bowel obstruction.
- Other causes for bowel obstructions should be carefully ruled out on preoperative evaluation and during surgery.
- Early systemic anticoagulation during acute episode of PVT reduces the devastating complications like bowel necrosis while enhancing recanalization.

A benign extra adrenal pheochromocytoma

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Keywords: Extra adrenal pheochromocytoma; benign; vanillylmandelic acid

Introduction

Pheochromocytomas are functional catecholamine secreting tumours of chromaffin cells found in the adrenal medulla. It is a rare tumour [1,2]. Traditionally it was considered that 10% of Pheochromocytomas were extra-adrenal, but recent literature reviews show that extra-adrenal pheochrocytomas constitute 15% of adult and 30% of paediatric pheochromocytoma. Extra adrenal Pheochromocytomas (EAP) are observed in the second and third decade of life with slight male predominance. They are often multi-centric and more likely to be malignant [1,2].

The most common location of EAP is the superior para-aortic region between the diaphragm and lower pole of the kidney [2]. Less commonly reported sites are bladder, thorax, neck and pelvis [1]. Here we report a case of EAP which was successfully treated with surgical intervention.

Case presentation

A 47-year old house wife presented with headaches and dizziness which were paroxysmal for last one year duration. Her medical history was notable for hypertension which was kept under control with medications. She was on Prazocin, Amlodipine and Losartan. On examination, the patient had no abnormal physical findings. Complete blood count, blood sugar, blood urea, chest x ray and ECG reports were within normal limit. 24 hour urinary Vanillylmandelic acid level was done twice which found within normal range. Computed Tomography (CT) scan revealed a solid lesion measuring 3.3 x 2.6 x 2.4 cm, located in the left para-aortic region at first and second lumbar vertebrae level. The lesion was demonstrated between the left main renal artery and renal vein. It was closely related to the renal vessels but had no vascular invasion or encasement (Figure 1). In the pre-operative preparation, Propranolol was added to the drug list and the patient was well hydrated.

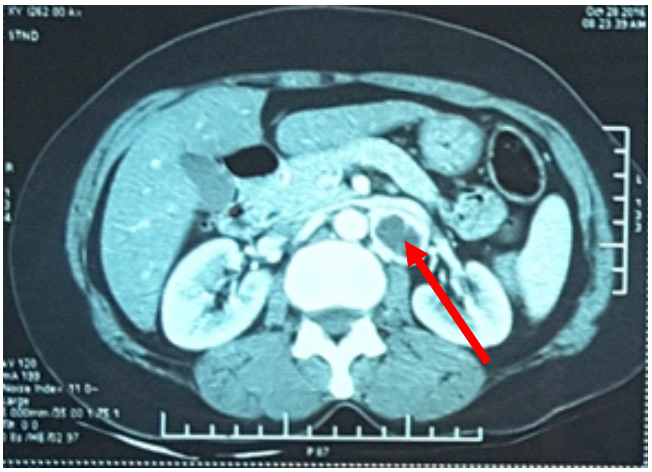

Figure 1: CT scan of abdomen. Red arrow indicates the tumour

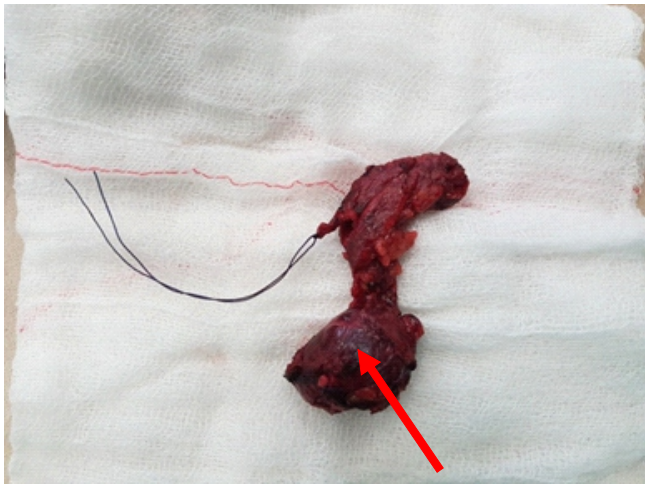

Figure 2: Arrow indicates the tumour

The tumour was accessed through a left subcostal incision. It was approached retroperitoneally and the adhesions to the left renal artery and vein were released. Continuation with left adrenal gland was noted. Therefore tumour was excised with left adrenal gland after ligating all feeding vessels (Figure 2). Blood pressure was maintained within normal limit throughout the procedure. Post operative recovery was uneventful. Histopathology confirmed the benign nature of the EAP with an unremarkable adrenal gland. The adrenal gland was separated from EAP by fibro fatty tissue. At the 1st postoperative visit in 1 month, the patient was normotensive

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and free of episodic symptoms of headache and dizziness.

Discussion and conclusion

Patients with pheochromocytoma or EAP presents with headache, excessive and inappropriate sweating and palpitation. Other symptoms include weakness, fatigue, nausea, abdominal pain and dizziness [1,2]. The most common sign is hypertension. Clinical characteristic of hypertension may vary and may show a sustained or paroxysmal pattern [4]. The clinical manifestations are due to uncontrolled secretion of catecholamines, mainly norepinephrine. Excessive secretion may leads to life threatening hypertension and cardiac arrhythmias. Therefore missing the diagnosis almost invariably results in cardiovascular complications and death [4].

EAP can also be non functional. They may develop symptoms and signs related to the organs compressed by the tumour, e.g. unilateral ureteric obstruction, small bowel obstruction and ileofemoral deep venous thrombosis [1].

Biochemical evaluation is the first step in diagnosis of pheochromocytoma and EAP by demonstrating elevated level of catecholamines and their metabolites in the blood and urine. The sensitivity of Vanillylmandelic acid (VMA) is 64% and specificity is 95%. Normal values were found in 25% of VMA assay [5]. Plasma free metanephrine is the test of choice for confirming the diagnosis. It has sensitivity of 99% and specificity of 89% [1]. However this test is not currently available at our institution.

Imaging is important for evaluating the location, extent and multifocality of disease [1]. The most widely used imaging technique is the CT scan [1, 5]. Sensitivity of CT is 98.9% for intra-adrenal pheochromocytoma and 90.9% for extra-adrenal pheochromocytoma [5]. MRI is recommended for patient with biochemically proven disease when CT is negative. In addition it can be used in pregnancy, children and patient with renal insufficiency or contrast allergy [1]. If preliminary imaging failed to identify the tumours, an 131I labelled Metaiodobenzylguanidine (I-MIBG) study should be ordered. It is extremely useful in EAP and a negative result excludes a pheochromocytoma. It also helps to evaluate multifocality and metastatic disease [1, 3]

Symptomatic treatment should be started with the aim of controlling blood pressure and heart rate before definitive treatment. Initially blood pressure can be controlled with alpha blockers or vasodilators with additional beta blockers to control heart rate. The most effective alpha blocker is Phenoxybenzamine, an irreversible long acting alpha adrenoceptor blockers that oppose vasoconstriction caused by catecholamines.

Surgical removal of the tumour is the definitive management. Preoperatively patient must be properly prepared with combined alpha and beta blockers to combat the effect of noradrenaline. Even with the best preoperative preparation, wide changes in blood pressure, irregular rhythm and bleeding can occurs. A hypertensive crisis occurs during handling of the tumour and ligation of adrenal vein may precipitate a hypotensive crisis. Therefore the patient needs invasive arterial and cardiac monitoring. Intravenous infusion of alpha blockers and beta blockers are given during surgery according to intra operative blood pressure and pulse rate. A sudden fall in blood pressure is managed with an infusion of large volume of fluid and intravenous epinephrine [1, 3]. Post operative normalization of blood pressure was observed in 60% and an improvement in 26% of patients. However blood pressure did not change significantly in 14% of patients [5].

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Learning Points:

- This case alerts us that when patient presented with typical symptoms and signs pheochromocytoma must be excluded.
- VMA can be normal in small proportion of patient but imaging will reveal the tumour.

Primary hydatid cyst of anterior thigh - an unusual location

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Key words: Hydatid cyst; intramuscular; zoonosis; thigh

Introduction

Hydatid disease is a zoonotic infection and is endemic in India. The most commonly affected organs are liver (75%) followed by lungs (25%).Primary skeletal muscle hydatidosis is extremely rare and occur in approximately in 2.3%of cases. Given its rarity and its close similarity with other entities like soft tissue tumour, abscess, sarcoma, diagnosis of intramuscular hydatid cyst may be challenging.

Case presentation

A 45 year old gentleman, security guard by profession presented to us with swelling of his left thigh for the last 3 months. The swelling was progressively increasing in size and was also associated with low grade intermittent fever for the last one month. There was no history of trauma to thigh or history of similar swelling elsewhere in body. He denied any difficulty in movement or pain in his thigh.

There was no other systemic complaints. He had no history of contacts with pets, animals or birds. His general survey was essentially normal. On local examination there was a non-tender firm, mass with smooth surface and indistinct margin measuring approximately 20 x19 cms, occupying the entire anterior and lateral aspect of the left thigh. There were no palpable inguinal nodes.

A bedside ultrasonography done showed presence of multiple cystic lesions in the anterior aspect of his Magnetic Resonance Imaging (MRI) of left thigh showed a large peripherally enhancing multiloculated cystic mass of 111 x 175 x 133 mm located within the adductor group of muscles, along with displacement of vastii medialis and intermedius muscle (Figure 1 &2). The bone marrow was normal. Chest X ray and USG abdomen did not reveal any other sites for hydatid cyst. Routine laboratory tests were normal. However serology for hydatid cyst was positive. He

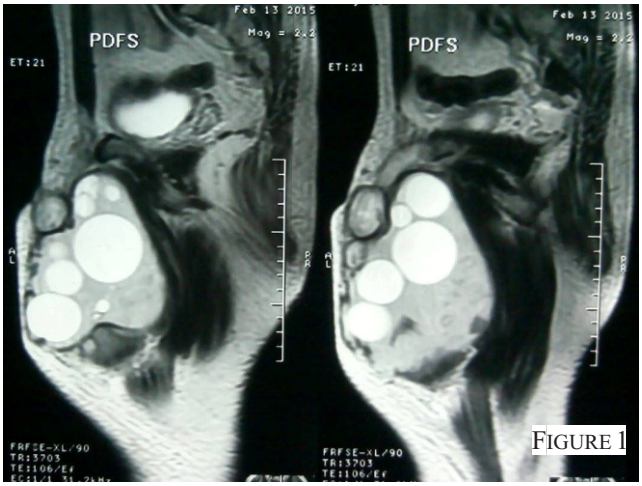

FIGURE 1

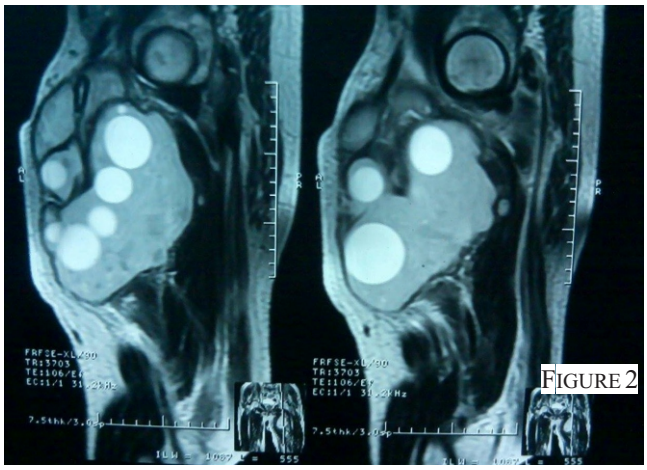
FIGURE 2

Figure 1 & 2. MRI of left thigh showed a large peripherally enhancing multiloculated cystic mass of (111 x 175x133)mm located within the adductor group of muscles,along with displacement of vastii medialis and intermedius muscle.

was given a course of antibiotic and antihelminthic treatment. The final histopathology report was 'infected hydatid cyst'. However the swelling did not subside. He was next planned for enbloc excision of the lump. Under regional anaesthesia the cyst was excised enbloc from the quadriceps muscle using an elliptical transverse incision. The cavity was irrigated with solicidal agents and closed. Postoperative recovery was uneventful. He continues to be in excellent state of health on 2 years follow up.

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Discussion

Hydatid cyst is caused by echinococcus granulosus where dog is the definitive host and man is often the accidental host. Lung and liver are the two most commonly affected organs. Intramuscular hydatid cyst can be either primary or occur secondarily due to spread from other involved organs [1]. Primary intramuscular hydatid cyst is extremely rare because contractility of muscle and presence of lactic acid often inhibit their growth [2, 3]. Such cysts grow slowly as the incubation period ranges from 5-20 years.

Hence presentation may be several years after primary exposure, when most patients deny any history of exposure to pets or animals as was in our case. Diagnosis may be confirmed by a battery of laboratory tests and radiological investigations. The Casoni skin test is rarely used now. There are other serological tests out of which Immunoelectrophoresis is the most specific method.

Plain X rays, Ultrasonography, Computed tomography scan, MRI all has been used for diagnosis of muscular hydatid cyst [4]. MRI has been found to be superior to US and CT scan. It can delineate the exact relation between the cyst and the muscle group. The Rim Sign found on T2 weighted images of MRI has been described as a characteristic sign of Intramuscular Hydatid cyst, which is not a usual finding in cysts present elsewhere in the body [5]. Preoperative diagnosis is extremely important to avoid inadvertent rupture of the cyst and life threatening anaphlacic shock. Treatment incudes complete surgical excision of the cyst along with irrigation of the cavity with scolicidal agents. Systemic antihelminthic therapy may be given and the patients' needs to be kept in lifelong follow up for recurrences [6, 7].

Conclusion

In conclusion though hydatid cyst is a common disease its uncommon presentation as was in our case should be borne in mind. A combination of patients' history, clinical examination, serology and radiological findings should be used in arriving at diagnosis.

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Learning Points:

- The diagnosis of a hydatid cyst should be kept in mind while evaluating a thigh lump.
- Detailed clinical history and high index of suspicion is key to diagnosis.

Gastric lipoma presenting with dyspeptic symptoms

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Key words: Gastric lipoma; gastrectomy

Introduction

Lipomas occurring in the digestive tract are benign tumours made up of mature adipose tissues. They can exist in any part of digestive tract [1]. Gastric lipomas (GL) do not occur frequently and represent less than 1% of all tumours occurring in stomach. GL constitute of 5% of all gastrointestinal lipomas [1, 2, 3, 4]. GL occur most frequently in the fifth or sixth decade of life[2]. Patients with GL usually have no symptoms and are commonly identified incidentally. However, patients with GL can present with symptoms like abdominal pain, upper gastrointestinal bleeding, dyspepsia and gastric outlet obstruction [1, 2, 3, 5]. The symptoms can be related to the size of GL and the location in stomach [1]. Symptomatic GL and those GL that are difficult to differentiate from malignant tumours need surgical treatment [4, 5].

Case presentation

A 58 year old Sri Lankan Muslim female patient presented with four months history of dyspeptic symptoms associated with on and off vomiting. There was no history of haematemesis, melaena, loss of appetite or loss of weight. She was a diagnosed patient with hypertension and diabetes mellitus on regular follow up. Her BMI was 27.6 Kg/m2. The physical examination of abdomen was unremarkable without any evidence of palpable intra-abdominal or epigastric masses. Her haemoglobulin level was 9.9 g/dl. An upper gastroinestinal endoscopy (UGIE) revealed a normal oesophagus, cardia & fundus, but there was a large growth with smooth surface extending from the lesser curvature side of antrum towards the pylorus. (Figure 1).

Scope could not be passed beyond the mass into the duodenum. The mass could be easily compressed and the overlying mucosa could be lifted with biopsy forceps. Biopsy of overlying mucosa showed features of reactive gastropathy.

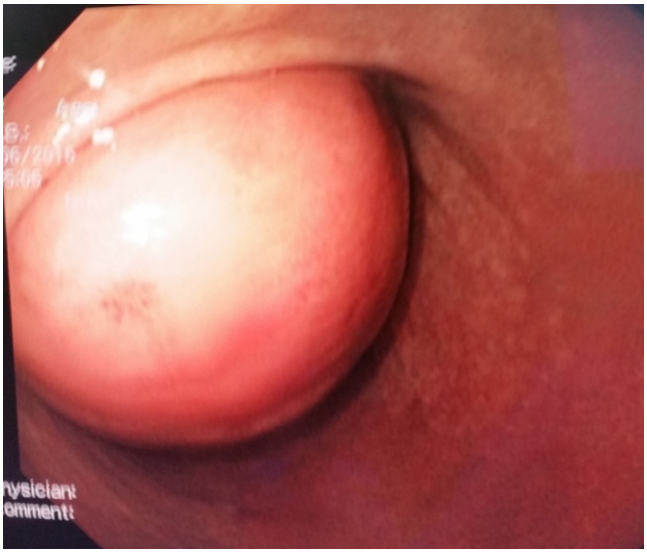

Figure 1. Endoscopic photograph showing the lipoma at the lesser curvature of the antral region

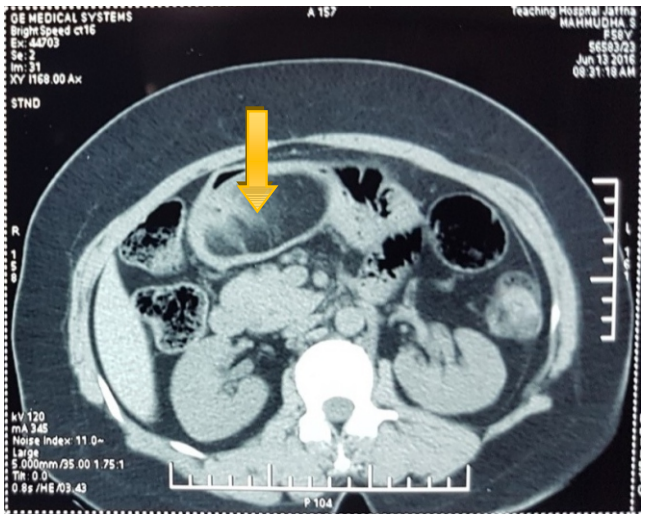

Figure 2: Computed Tomography picture of submucosal gastric lipoma

Computed tomography (CT) revealed an ovoid well circumscribed large submucosal mass in pyloric region favouring a lipoma at pyloric region (Figure 2).

She underwent a midline supra-umbilical laparotomy. Intra operatively a firm mass was palpated in the pyloric region of the stomach. A distal gastrectomy, gastro-jejunostomy and jejuno-jejunostomy were performed on her. An ovoid lump

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measuring 8.8 x 5.5 x 4.5 cm with smooth surface was resected with distal stomach. She had an uneventful post operative recovery. The lump had solid and firm yellowish homogenous appearance on cut section. Microscopically of this well circumscribed lump, confirmed a benign sub mucosal gastric lipoma.

Discussion

Colon, ileum and jejunum are the frequent sites of occurrence of GL. They are predominantly asymptomatic [2]. GL are not common. GL are usually well demarcated solitary lesion and three fourth of them occur in the gastric antrum [1, 2, 4]. Almost all (95%) of GL are submucosal but exceptional occurrence of subserosal or intramural lesions have been reported [2, 3, 5]. GL may develop either due to a wrong placement of mesenchymal tissue during embryonic development or as an acquired lesion. The exact aetiology of GL remains unknown [1].

GL usually produce no symptoms, but sometimes patients with GL can present with abdominal pain, dyspepsia, upper gastrointestinal bleeding and gastric outlet obstruction. Iron deficiency anaemia has also been reported as first manifestation of large benign gastric lipoma [6]. Size of GL and location of GL in stomach influence symptoms and signs. GL greater than two cm in size frequently causes abdominal pain [2, 3].

Obstructive symptoms of GL can either be due to block at pylorus or to bulge into the duodenum [3]. When gastric outlet obstruction by GL is associated with chronic upper GI blood loss in old patients, it may be mistaken for a malignant growth [5]. Occasionally it may be difficult to differentiate GL which are benign in nature from a low-grade gastric sarcoma. Although GL have no malignant potential, an association with carcinoma of stomach has been reported in literature [1].

The diagnostic tools for GL are UGIE and imaging [2, 4]. The characteric signs described in UGIE for GL are tenting sign, cushion sign and naked fat sign. Easy retraction of mucosa over the GL with biopsy forceps is known as tenting sign. A soft cushion like indentation when pressed with forceps over the GL is the cushion sign. Biopsies from the mucosa overlying the GL expose the underlying fatty tissue of GL and is the naked fat sign [2]. Endoscopic biopsy does not usually reveal conclusive results because most GL are situated sub mucosally.

CT is a valuable imaging tool for the diagnosis of GL. A well-circumscribed submucosal mass with uniform fat density is the key feature to detect GL by CT imaging [1, 2, 4, 8]. Endoscopic ultrasonography (EUS) is an efficient alternate diagnostic tool to identify GL. EUS demonstrates gastric walls in layers and the size, shape and location of GL can be delineated clearly. EUS – guided needle biopsy may help confirm the diagnosis [1, 4]. EUS visualises GL as a slightly hyperechoic homogenous solid mass [1]. Magnetic resonance imaging (MRI) is also helpful in diagnosing GL.

Symptomatic GL and / or GL that are difficult to differentiate from malignant tumours necessitates surgical removal. Small GL are generally asymptomatic and are usually not treated. As far as the surgical removal is concerned circumferential excision with clear margin of normal tissue is the aim of the treatment [6]. However, the choice of the treatment is still contraversial. It can be resected surgically or endoscopically. Small submucosal GL < 3cm in diameter can be resected by endoscopic surgery [5]. Use of laparoscopy and endoscopy together will reduce the risk of a missed gastric perforation [4]. GL < 6cm are amenable to laparoscopic resection [4].

The large broad base GL, as in our case, needs surgical resection [5]. A laparotomy and distal gastrectomy performed in our patient has relieved her dyspepsia and gastric outlet obstruction symptoms. Histological diagnosis is essential to rule out malignancy [6]. The histopathology report of our patient confirmed the benign nature of the tumour.

Conclusion

Gastric lipomas are rare benign tumours frequently located submucosally in the antral region. Although majority are asymptomatic they can cause symptoms depending on their size and location in stomach. The diagnosis can be made with UGIE and imaging techniques. Surgical excision is the definitive treatment of choice.

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Learning Points:

- Gastric lipomas (GL) are benign submucosal lesions with no malignant potential.
- Although most of the GL are asymptomatic yet some can produce symptoms based on size and location in the stomach
- Endoscopy and imaging modalities will aid in the diagnosis of GL
- Large and/ or symptomatic GL need surgical resection

Intussusception secondary to gastrointestinal plasmacytoma

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Keywords: Plasmacytoma; gastrointestinal; intussusception

Introduction

According to World Health Organization [1], two groups of plasma cells tumour are identified, namely multiple myeloma and plasmacytoma. Plasmacytoma are classified into bone plasmacytoma and extramedullary plasmacytoma. Extramedullary plasmacytoma is rare, mostly occurring in the oral cavity and upper airways [2]. Around 10% are found in the gastrointestinal tract [3, 4]. Only seven cases of isolated primary plasmacytoma of colon are found in the literature.

Case presentation

A 66 year-old man presented with persistent loose stool (four times a day, yellowish), right hypochondriac and lumbar pain for the past one month, associated with significant weight loss and anorexia for 2 months. On physical examination, he appears cachexic, abdomen was distended but not guarded, and a smooth, non-tender right hypochondriac mass extending to the right lumbar region was palpable. Blood investigation showed microcytic hypochromic anaemia with haemoglobin of 9.7g/dL

Abdominal ultrasonography revealed a right upper quadrant hypoechoic mass with abdominal lymphadenopathy while, colonoscopy could only be performed up to distal descending colon, where a stricture was seen. Barium Enema however, showed bowel mass with intussusception and CECT abdomen highlighted an enhancing mass in the right lumbar region with a `whirl-pool' appearance.

He underwent a right hemicolectomy revealing a right ileo-caecal intussusception with a malignant looking caecal tumour.

Histopathology report confirmed intestinal plasmacytoma. He recovered well post-operatively and was counselled for chemo radiotherapy.

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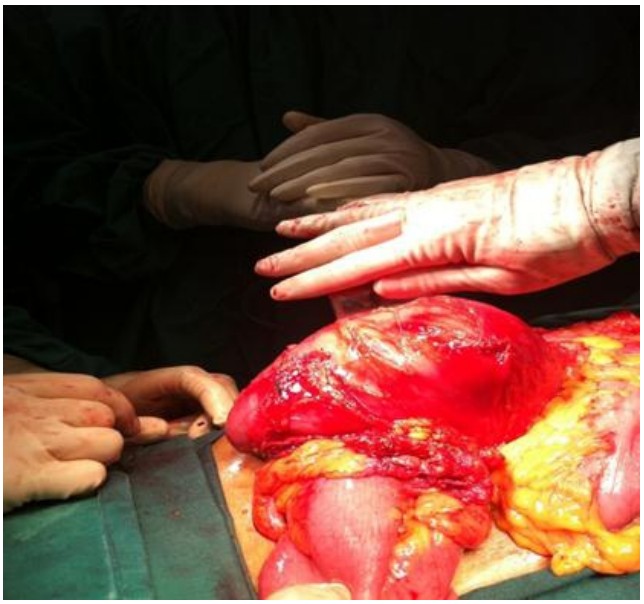

Figure 1. Ileocolic intussusception - intraoperative

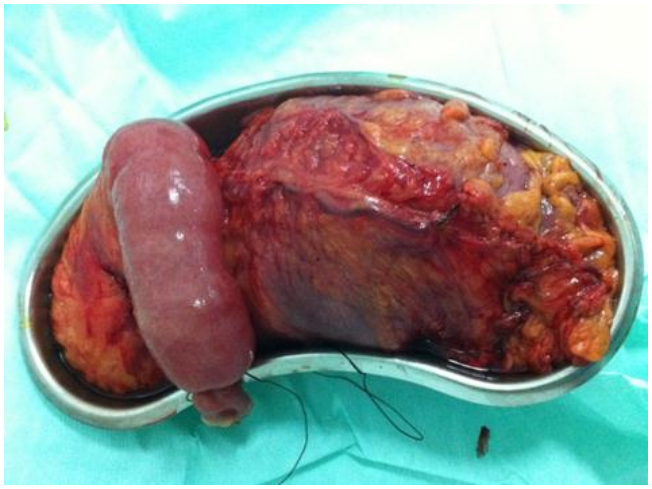

Figure 2. Ileocolic intussusception- ex vivo

Discussion

Extramedullary plasmacytoma are scarcely seen. It usually accompanies multiple myeloma. Only very few primary gastrointestinal plasmacytoma are found at present, hence, no well-defined treatment guideline is available. In several case reports, plasmacytoma of gastrointestinal tract are treated by surgical resection. As the number of solitary plasmacytoma of colon is scarce, the natural history, treatment and prognosis is not well outlined [6]. Nevertheless, some of these tumours are

found to be radiosensitive, and radiotherapy has been advocated instead of surgery for rectal tumours [5]. Chemotherapy has also been used in cases of associated systemic disease.

Conclusion

Even though these tumours are rare, treating doctors including radiologists, and pathologists must be aware of this disease as these are known to occur in non-osseous sites. Colonic plasmacytoma may even mimic a stricture.

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Learning Points:

- Solitary intestinal plasmacytoma is a very rare disease entity
- Surgeons, physicians and radiologists need to be aware of this rare disease to accurately diagnose these patients
- There is no management guidelines found and treatment is based on expertise and the scarce experience.

Removal of an impacted rectal foreign body - avoiding laparotomy

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Keywords: Foreign body; rectum; anal canal

Introduction

Insertion of foreign bodies (FB) into the rectum accidently or voluntarily for sexual enjoyment has been reported since the 16th century [1]. The true incidence in our population is unknown as many cases are unreported due to the nature of the condition [2]. Abraham et al reported that there is an increase in incidence of rectal foreign bodies presented to the emergency departments in the United Kingdom [3]. Patients normally seek medical attention when attempts at self removal fails at home. We report a 48-year-old male who presented with a rectal FB which led to constipation and abdominal distension.

Case presentation

A 48 year old male was referred to the general surgery team for an impacted rectal FB with constipation and abdominal distension for three days. Further history revealed a voluntary insertion of a foreign body for sexual pleasure with failure of removal. Physical examination revealed no signs of peritonism with a mildly distended abdomen. On per rectal examination, a hard plastic mass was felt which was lodged firmly in the lower rectum. Attempts at bedside transanal extraction with sedation failed. Abdominal radiograph (Figure 1) showed longitudinal mass lodged in the upper to lower rectum withoutany evidence of pneumoperitoneum. Endoscopic removal using snare-wire also was unsuccessful and hence, operating theatre was booked for removal of rectal FB under general anaesthesia. Following induction of general anaesthesia, the lax abdomen (effect of muscle relaxant) allowed gentle manipulation of the FB over the suprapubic region which helped with successful transanal removal (Figure 2). Approximately six hours post removal, the abdominal pain and distension resolved. There were no signs of peritonism and vital parameters remained normal. However, the patient was discharged on his request despite being informed of potential post-operative complications such as bowel perforation, laceration and anal sphincter injury. The patient also refused subsequent psychiatry and general surgery follow up visits.

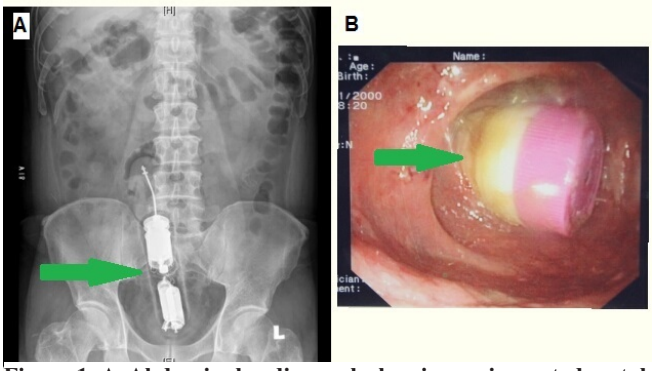

Figure 1: A. Abdominal radiograph showing an impacted rectal foreign body(green arrow); B. Failed colonoscopic removal of the foreign body.

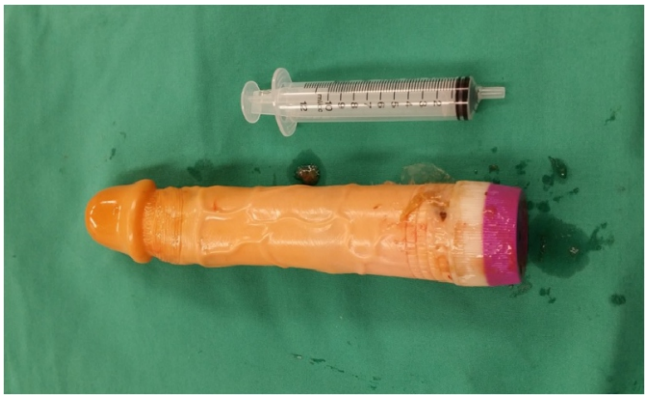

Figure 2: Successful trans-anal removal of a vibrator after induction with general anesthesia and muscle relaxation.

Discussion

Although there are no exact figures, an increasing trend in incidence of retained rectal FB is reported [1]. Malaysia, a multi racial, Asian country which is still considered a conservative nation is of no exception. Sexual gratification is the most common reason for rectal insertion of FB [2]. Due to the nature of the condition, many cases go unreported to avoid embarrassment. An urgent explorotive laparotomy after adequate fluid resuscitation is mandatory for patients with positive peritonism or pneumoperitoneum on abdominal

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radiographs. If there no evidence of bowel perforation several techniques of extraction may be attempted. Bedside trans-anal extraction has been reported to be successful in 60-75% of cases [4]. Endoscopic extraction with snare wire may also be attempted which however may not be successful as seen in our case, due to the size of the FB and its shape which prevented an adequate grip with the snare-wire. In this reported case, the rectal FB was removed only after induction of general anaesthesia with muscle relaxation. Muscle relaxation allowed for gentle pressure on the suprapubic area in lithotomy position, which allowed manipulation of the FB towards the anus and successful delivery of the plastic vibrator device. Decision for a non-operative method of removal initially was attempted as there were no signs of peritonism or penumoperitoneum on abdominal radiograph, and patient had stable vital parameters.

In 2013, a similar case of a lodged vibrator in the rectum with failed removal under general anaesthesia was reported by Sanger et al (1). This case was treated in a Malaysian government hospital and was removed via a laparotomy and a sigmoid colotomy which was primarily repaired. In cases of trans-anal removal, patients need to be followed up for signs of incontinence from anal sphincter injury. More importantly, a referral to a psychiatrist may be necessary to establish the motivation for FB insertion, which is important in prevention of further occurrences. Apart from sexual gratification, psychiatric illnesses (borderline personality disorder, psychosis with or without mood disturbance, factitious disorder and depressive disorders with psychotic features) are also known to predispose to such FB insertions and hence, a referral to a psychiatrist will help with these aspects [5].

This case report, highlights the occurrence of such cases in Southeast Asian countries which requires an increase in awareness among Surgeons on management options and implications. It is difficult to quantify the occurrence of such cases due to the embarrassing nature of the event where most instances would remain unreported. Medico-legal issues also may arise from such insertions especially if a third party had been involved or the insertion had been performed against willful consent. Insertion for shear self-gratification still remains a grey area in contrast to insertion without consent which is legally considered as a case of assault [6].

Conclusion

The mainstay of management of a rectal foreign body is primarily the removal of the retained foreign body, preferably by the least invasive method, or by operative procedure if all other attempts at removal fails. Treatment does not end after removal and it is important to identify and treat any underlying psychiatric disorders where relevant.

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Learning Points:

- Reported incidence of foreign bodies in rectum is increasing and techniques of removal of these foreign bodies is of importance to surgeons, emergency physicians and gastroenterologists.
- A proper psychiatric assessment post removal may be important to prevent recurrent episodes.

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