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CASE REPORT

Heterotrophic gastric mucosa presenting as indolent lower abdominal pain and masking as ectopic pancreas

the role of digital rectal examination in the management of undifferentiated lower abdominal pain

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A case of inflamed ileal Heterotropic Gastric Mucosa, presenting in a non-English speaking migrant of African descent, soon after his recovery from COVID-19, with early predominant signs apparent only on digital rectal examination (DRE); masking as ectopic pancreatic tissue on computed tomography images and the nature of which was only confirmed histopathologically. We put forward an argument for non-dismissal of the role DRE can have in the management of undifferentiated lower abdominal pain while revising the nature of ectopic pancreas and why this case was in fact not such.

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This case report of inflamed ileal heterotropic gastric mucosa presenting as indolent lower abdominal pain elicited mainly on digital rectal examination showcases a tie between Covid-19 Community Migrant Care and emergency medicine roping in expert opinions from radiology, surgery and histopathology. The non-dismissal of clinical signs led to one particular patient receiving a rare diagnosis accompanied by a timely laparotomy with a good post operative recovery.

CLINICAL CASE

A migrant who had just recovered from COVID-19 in an appropriate isolation facility started to report abdominal pain and distention. His condition continued to progress complaining of lack of appetite and tenesmus, with localised tenderness developing in the suprapubic area. A digital rectal examination (DRE) was performed with the patient reporting severe pain on palpation of the anterior rectal wall, more severe than any of the abdominal surface

findings. For this reason, the patient was transferred for further investigations at the Emergency Department (ED).

Initial assessment confirmed the findings as per referral with the tenderness elicited by the DRE being noted. The patient was given pain relief with intravenous (IV) paracetamol, kept nil by mouth and started on IV fluids. Plain radiographs of his chest and abdomen were normal. Further radiology of the lumbosacral region showed no fractures, no degenerative changes and no sacroilitis. Blood tests were also grossly normal. Lactate was 1.7, serum amylase 81 U/L and C-reactive protein (CRP) 7 mg/L.

Further evaluation with computed tomography (CT) of the abdomen and pelvis showed a heterogeneous pancreatic head with small foci of necrosis and mild narrowing of the portal vein. It also showed a mass in the pelvis with a large cystic component; located in the lower mesentery, close to the distal third of the ileum. Composed of a solid part measuring 54 x 30 x 45mm resembling pancreatic tissue with enhancing walls, free fluid and stranding around it a cystic component measuring 42 x 30mm. All other intra-abdominal organs were reported normal with no pathology. The radiological report described ectopic pancreatic tissue in the pelvis with signs of inflammation (pancreatitis) and pseudocyst. A differential diagnosis was of an ectopic pancreas in Meckel's diverticulum with pancreatitis.

A surgical review was done and based on radiological findings, the patient was admitted with a diagnosis of pelvic ectopic pancreatic tissue and signs of pancreatitis, with the site potentially being Meckel's diverticulum. He was consented for a diagnostic laparoscopy which was converted to a mini-laparotomy for small bowel diverticulum resection. Recovery was uneventful and he was discharged after seven days.

Histopathological findings showed a diverticulum measuring 75mm x 70mm x 5mm. On sectioning there was a cystic area adjacent to the diverticulum measuring 55mm in maximum diameter and containing cloudy white fluid. Adjacent to this was a fatty area which was indurated and with a necrotic core. Microscopic sections showed small bowel with inflamed, focally eroded, ulcerated, and in places flattened mucosa. A dense mixed inflammatory infiltrate and reactive fibroblastic proliferation were noted in the surrounding mesenteric adipose tissue. The epithelium of the diverticulum was partly replaced by foveolar-type epithelium and there were occasional mucinous glands and small tubular glands (possibly oxyntic-type glands) in the surrounding stroma. There was no evidence of dysplasia or malignancy. The findings were in keeping with inflamed diverticulum with ectopic gastric mucosa.

DISCUSSION

Recent growing body of evidence points towards a limited role of DRE in the diagnosis of acute, undifferentiated abdominal pain.[1] Studies in appendicitis have shown it as being only 49% sensitive and 61% specific in diagnostic accuracy.[2] In this case, the DRE provided significantly earlier findings indicative of need for further investigations. Palpation of the anterior wall of the anal canal resulted in extreme abdominal pain which was not reciprocated in surface findings. Dismissing DRE as a useful examination in this case would have led to later referral, requiring the build-up of enough intra-abdominal inflammation to give surface signs, potentially complicating intervention. It leads us to question whether DRE should be reconsidered as an early pointer to developing pelvic pathology, allowing for earlier investigation and intervention, especially in clinical settings where physical examination is the main stay of decision making.

Ectopic pancreas was described as early as 1727 by Jean Schults, as a gland-like tissue at the base of the ileal diverticulum.[3] It was confirmed histologically as pancreatic by Klob in 1859.[4] An ectopic pancreas is defined as pancreatic tissues lacking vascular or anatomic communication with the normal body of the pancreas, possessing histological features of pancreatic acinar formation, duct development, and islets of Langerhans, with its own independent blood supply and ductal system. It can be classified using the Heinrich Classification. It is commonly found in the stomach, duodenum and ileum and less so in the ileus, Meckel's, appendix, mesentery, oesophagus, liver, gallbladder, bile duct, spleen, umbilical cord, retroperitoneal cavity, fallopian tubes, lungs and mediastinum.[3] It is a relatively uncommon congenital abnormality with a range of incidence of 0.55% - 13.7%.[4]

Meckel's diverticulum of its own accord is the commonest congenital anomaly of the gastrointestinal tract[], found at 45 to 90 cm proximal to the ileocaecal valve and is mostly asymptomatic. Ectopic pancreas in Meckel's has only been reported in 2.8-7.5% of cases3. In a study of 10 of these cases, 80% presented with symptomatic abdominal and gastrointestinal bleeding or melena.[3] Differentials for CT findings indicative of an

ectopic pancreas include leiomyomas and gastrointestinal stromal tumors (GIST).[5]

This particular case presented with no signs of GI bleeding. Moreover the location of the mass on laparotomy was recorded at 230cm from the ileocaecal valve, well outside Meckel's range. Histological findings reported an inflamed diverticulum with ectopic gastric mucosa with "oxynitic-type glands", changing completely the diagnosis from a radiological suggestion of ectopic pancreatic tissue to histological Heterotropic gastric mucosa.[6,7]

CONCLUSION

We put forward a recommendation that DRE should be considered as an early pointer to diagnosing pelvic pathology and should aid decision-making regarding the need for further in-hospital investigations.

REFERENCES

1. Kessler C, Bauer SJ. Utility of the digital rectal examination in the emergency department: a review. J. Emerg. Med. 2012;43:(6)1196–1204.
2. Bhavsar AK, Gelner EJ, Shorma T. Common Questions About the Evaluation of Acute Pelvic Pain. Am Fam Physician. 2016;93:(1)41-48.
3. Xiang S, Zhang F, Xu G. Ectopic pancreas in the ileum. Medicine 2019;98:44.
4. Giordane A, Alemanno G, Bergamini C, Prosperi P, Bruscine A, Valeri A. The role of laparoscopy in the management of a diagnostic dilemma: Jejula ectopic Pancreas Developing into Jejunojejunal Intussuseption. Case Rep Surg. 2017;2017:8452947.
5. Mulholland KC, Wallace WD, Epanomeritakis E, Hall SR. Pseudocyst formation in gastric ectopic pancreas. JOP. 2004;5:(6)498-501.
6. Kopácová M, Vykouril L, Vacek Z, et al Inverted Meckel's diverticulum with ectopic pancreatic tissue as a source of severe gastrointestinal bleeding. J Gastrointest Surg. 2010;14:(3)578-581.
7. Kim JY, Lee JM, Kim KW, et al Ectopic pancreas: CT findings with emphasis on differentiation from small gastrointestinal stromal tumour and leiomyoma. Radiology. 2009;252:(1)92-100.