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ECTOPIC PANCREAS IN APPENDIX WITH REVIEW OF LITERATURE

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ABSTRACT
Heterotopic pancreas is a congenital disorder defined as the presence of pancreatic tissue in an abnormal location without any anatomical or vascular continuation with the main body of the pancreas. Most common locations are stomach, duodenum and jejunum. Rare cases have been documented in ileum, omentum, colon, gall bladder, cystic duct, spleen, liver, urinary bladder, lungs, fallopian tube, tongue and submandibular salivary gland. Ectopic pancreatic tissue in appendix and that too in a child is very rare. We present a case of a three year male child operated for acute appendicitis and microscopy revealed pancreatic tissue within the muscular layer of appendix.

KEYWORDS: Child, Appendix, Ectopic Pancreas.

INTRODUCTION
Heterotopic pancreatic tissue is usually an asymptomatic incidental finding[1,2,3] and has an incidence of 0.5-13% in postmortem studies and is discovered in 0.5% of abdominal laparotomies. The first reported case was documented in 1729 by Schultz and possess a genetic determination and physiological functioning of pancreas. It can present at any age but commonly found in 50-60 years with male preponderance. It is very rare in pediatric age group and only few cases are reported in literature.[1] It represents normal pancreatic tissue outside pancreas and usual locations are stomach, duodenum and jejunum. Rare cases have been documented in ileum, omentum, colon, gall bladder, cystic duct, spleen, liver, urinary bladder, lungs, fallopian tube, tongue and submandibular salivary gland.[2] Most cases are asymptomatic and are incidental findings[2,3] but can present as nausea, vomiting, abdominal pain and weight loss and even malignancy though very rarely. Resection is indicated only if associated with symptoms or preoperatively diagnosis is not certain.[1,2] Here we present an incidental finding of heterotopic pancreatic tissue in appendix in a 3 year male patient who underwent appendicectomy for clinically suspected acute appendicitis.

We found this case of pancreatic heterotopia worth reporting because of its rare incidence especially in children and also to add on to the literature on heterotopic pancreas.

CASE REPORT
A 3 year male child was admitted to the surgical ward with complaints of pain in abdomen colicky, continuous mainly in the right iliac fossa for a day with high grade fever and nausea. Blood investigations revealed Hb 12.3 gm%, WBC 11,600 cells/cmm with Neutrophils 69% and Lymphocytes 31%. USG abdomen suggested acute appendicitis. Laparaoscopic appendicectomy was performed and the specimen was sent for histopathology.

MORPHOLOGY
Received specimen of appendix, 10 cm in length, externally congested, tip was intact. Cut surface had patent lumen. Serosa was thickened.

MICROSCOPIC FEATURES
Section stained with H & E showed appendicular lumen, mucosa lined by columnar and goblet cells beneath fibrocollagenous stroma showing scattered lymphocytes and hypertrophied muscular layer showing pancreatic tissue with many ducts (Fig.1,2). Serosa appeared unremarkable. No granuloma or necrosis seen. No fungus or parasite was detected. The microscopic features favoured the diagnosis of ectopic pancreas in appendix and the same was conveyed to the surgeon.

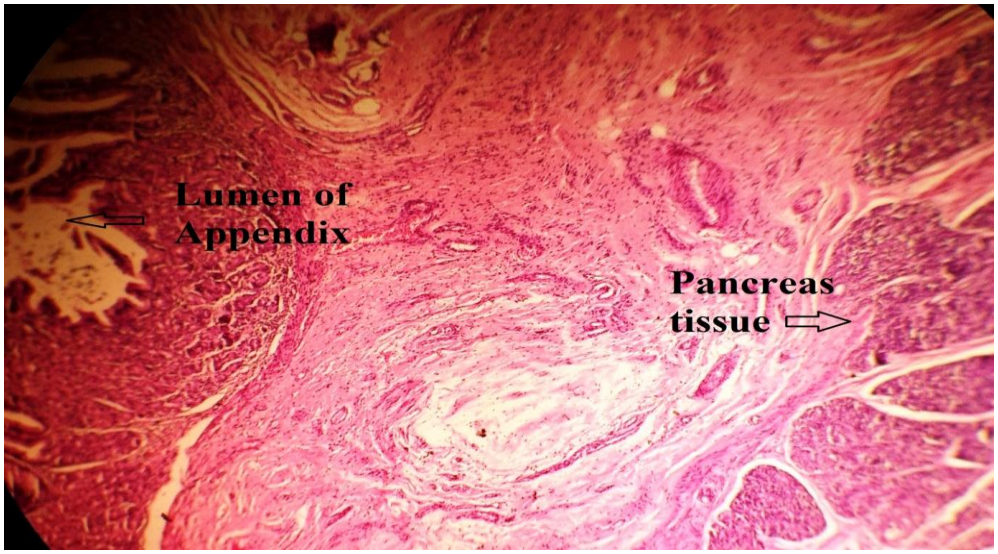

Fig 1: shows appendicular lumen and mucosa along with pancreatic tissue (H & E 10x X 10x).

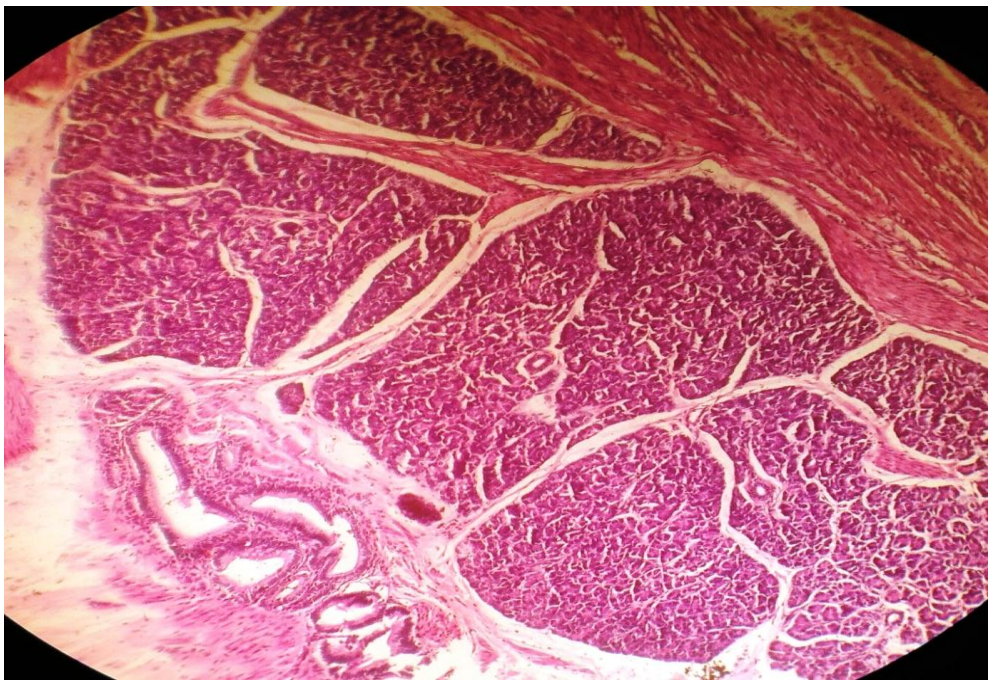

Fig. 2: Shows hypertrophied muscular layer with pancreatic tissue (H & E 10x X 40x).

DISCUSSION

Heterotopic pancreatic tissue is a developmental malformation that is characterised by development of pancreatic tissue outside the normal site of pancreas.[4] Moreover this aberrant pancreatic tissue does not have any anatomical and vascular continuity with normal pancreas. It is usually an asymptomatic incidental finding. Other terminologies used for heterotopic pancreas are aberrant pancreas, ectopic pancreas and accessorium sue supranumerale. Most common locations are stomach (27%), duodenum (26%) and jejunum (18%). Appendix is an uncommon site of heterotopic pancreas and our search of literature also did not find many results. Two main theories that have been proposed are the misplacement theory and metaplastic theory. Misplacement theory states that separation of pancreatic tissue during the embryonic rotation of dorsal and ventral buds results in formation of aberrant pancreatic tissue anywhere along the entire gastrointestinal tract. According to metaplastic theory site of pancreatic metaplasia of endoderm which migrates to submucosa during embryogenesis gives rise to ectopic pancreatic tissue.[1,2] Preoperative diagnosis is not possible.[3] Ectopic pancreas can occur at any age and only histopathological examination confirms the diagnosis of aberrant pancreatic tissue.

Aberrant pancreas can be classified into three categories (Heinrich's classification) as Type I (typical pancreatic tissue), Type II (pancreatic glands devoid of pancreatic islet) and Type III (pancreatic ducts only).[2] Our case fitted into type 1. It commonly involves submucosa but

can occur in muscularis mucosa or serosa as seen in our case. Most common symptoms include nausea and vomiting, abdominal pain, ulceration and weight loss. Pain can be attributed to tissue inflammation caused by local hormone production or mechanical obstruction. Presentations like pancreatitis, pseudocyst formation and malignant transformation of pancreatic tissue are rare but have been reported.[3,5]

REFERENCES

1. Hang-Fai So, Trent J. Cross, Mark Zonta – A case report of incidental ectopic pancreatic tissue during laparoscopic appendicectomy. In Int J Surg Case Rep, 2018; 45: 77-78.
2. Sunita Singh, Shivani Malik, Nitika Chawla, Pradeep Sansanwal and Nisha Sharma Heterotopic pancreas in appendix – A case report. In Indian Journal of Medical Case Reports, July-September 2014; 3(3): 15-17.
3. Christodoulidis G, Zacharoulis D, Barbanis S, Katsogridakis E and Hatzitheofilou K. Heterotopic pancreas in the stomach: a case report and literature review. In World Journal of Gastroenterology, 2007; 13: 6098–6100.
4. Dolan RV, ReMine WH and Dockerty MB (1974). The fate of heterotopic pancreatic tissue - A study of 212 cases. In Archives of Surgery, 1974; 109: 762–765.
5. Bini R, Voghera P, Tapparo A, Nunziata R, Demarchi A and Capocefalo M. Malignant transformation of ectopic pancreatic cells in the duodenal wall. In World Journal of Gastroenterology, 2010; 16: 1293–1295.