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IMAGE | SMALL BOWEL

Calcified Small Bowel Mass

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CASE REPORT

A 61-year-old man after bilateral lung transplantation for chronic obstructive pulmonary disease presented with recurrent postprandial abdominal pain with nausea and vomiting. His laboratory work, including a complete metabolic panel and a complete blood count, was notable for persistently low hemoglobin. Computed tomography of the abdomen/pelvis revealed a 5-mm calcified focus with surrounding soft tissues in the third portion of the duodenum (Figure 1). Upper gastrointestinal endoscopy revealed a 3-cm sessile polyp in the third part of the duodenum. Endoscopic ultrasound showed a hyperechoic focus with acoustic shadowing suggestive of a calcified focus within the superficial layers of the duodenal polyp (Figure 2). A preresection biopsy of the polyp revealed a duodenal adenoma with low-grade dysplasia. Owing to the calcification of the polyp, we removed the lesion en bloc with endoscopic submucosal dissection in case there was advanced histology. A calcified nodule was visible and palpable in the postresection specimen (Figure 3). Postresection histopathology showed a duodenal tubular adenoma with high-grade dysplasia and negative margins. The calcified nodule was not present on final histology, but there was a 7-mm space in the submucosa with an epithelial lining, likely a dilated gland/duct (Figure 4). It was postulated that the calcified nodule was in the dilated gland and dissolved after fixation and acidic decalcification on staining.[1]

Radiologically visible calcifications have been reported in mesenchymal tumors, such as gastrointestinal stromal tumors, hemangiomas, Brunneromas, lipomas, schwannomas, somatostatinomas, and other neuroendocrine tumors. Sometimes diffuse calcifications, such as

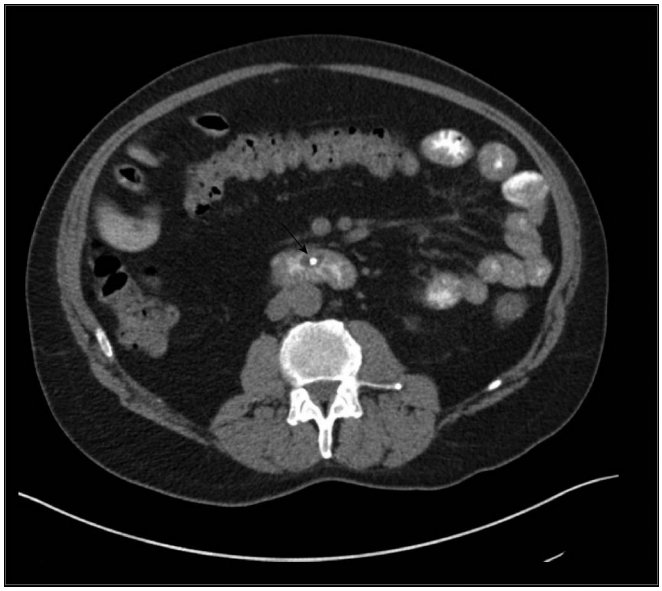

Figure 1. Abdominal/pelvic computed tomography showing a 5-mm calcified focus in the third portion of the duodenum, with surrounding soft tissues (arrow).

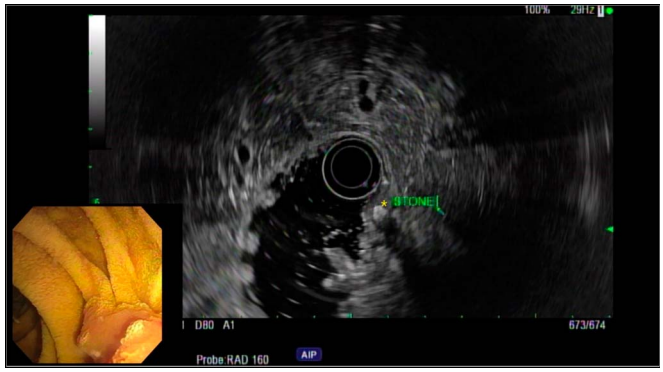

Figure 2. Endoscopic ultrasound showing an ovoid hyperechoic focus with acoustic shadowing consistent with a calcified focus, within the superficial layers of the duodenal polyp (asterix).

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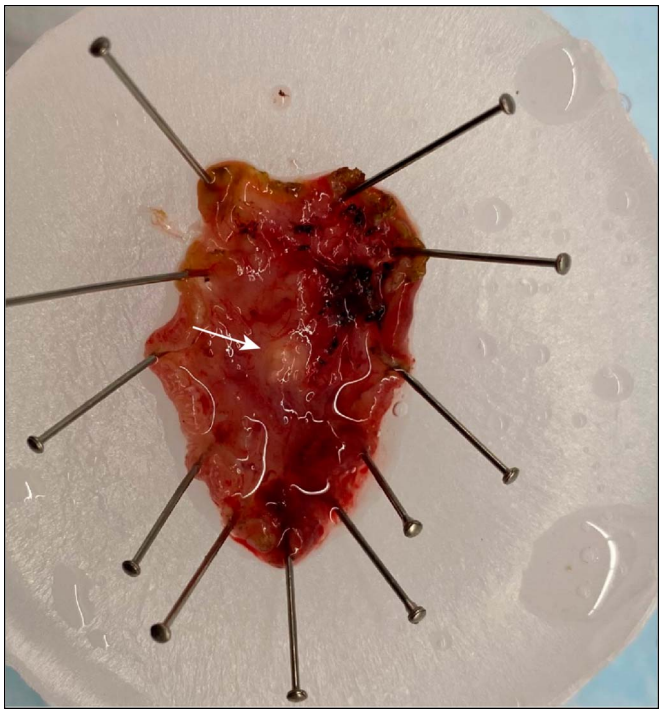

Figure 3. Postresection gross specimen containing a 5-mm calcified nodule (arrow).

mucosal calcinosis, can be seen in hemodialysis patients. Polyp calcifications are extremely rare in benign epithelial gastrointestinal tumors and can be a sign of mucinous adenocarcinoma.[2,3] Mucinous adenocarcinoma often shows glandular formation with significant extracellular mucin deposition. The calcifications are believed to arise from the alkaline mucin in the glands/duct of the polyp, which promotes calcium salt deposition.[1] Rarely, Brunner gland tumors usually seen in the duodenal bulb can present with dystrophic calcifications.

This case of a duodenal polyp with likely calcification was found to have high-grade dysplasia on histopathologic analysis. All adenomatous duodenal polyps are recommended to be removed. However, duodenal polyp calcifications may signify advanced histology, and management should be approached carefully to avoid malignant transformation. When expertise is available, endoscopic submucosal dissection allows for higher en bloc resection rates with lower recurrence rates and precise histopathologic analysis. Further studies are required to elucidate the association between dysplastic polyps and calcified nodule.

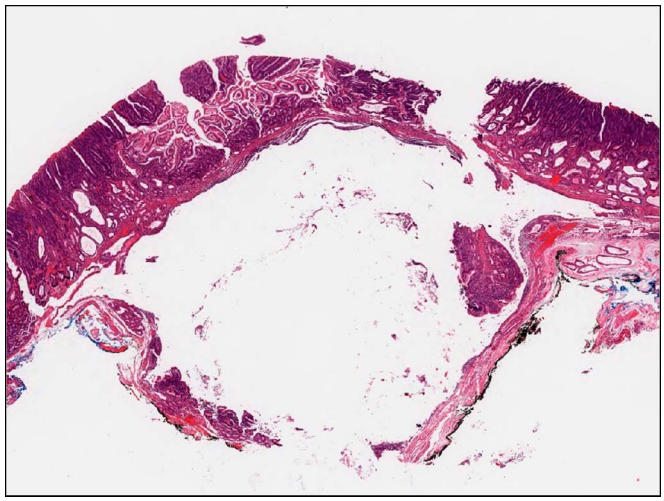

Figure 4. Postresection histology of duodenal adenoma with high-grade dysplasia containing a 7-mm space in the submucosa with an epithelial lining, likely a dilated gland/duct.

DISCLOSURES

Authors contributions: A. Joseph drafted the article and conceptualized the study and design. N. Mehta, H. Siddiki, and X. Zhang acquired, analyzed, and interpreted the data. A. Bhatt conceptualized the study and design, acquired data, revised the article, and is the article guarantor.

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REFERENCES

1. Lin YM, Chiu NC, Li AF, Liu CA, Chou YH, Chiou YY. Unusual gastric tumors and tumor-like lesions: Radiological with pathological correlation and literature review. *World J Gastroenterol*. 2017;23(14):2493–504.
2. Park SH, Han JK, Kim TK, et al. Unusual gastric tumors: Radiologic-pathologic correlation. *Radiographics*. 1999;19(6):1435–46.
3. Izawa N, Sawada T, Abiko R, et al. Gastrointestinal stromal tumor presenting with prominent calcification. *World J Gastroenterol*. 2012;18(39):5645–8.