Gastrointestinal tract and Russell bodies – a case report of Russell body carditis and review of the literature

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To the editor,

We report a case of rare Russell body (RB) carditis and present an analysis of the available literature on this topic.

Our patient was a 77-year-old man referred for gastroscopy because of non-cardiac chest pain and mild dysphagia. Endoscopy revealed several areas of different and mildly prominent mucosa in the gastroesofageal junction (Fig. 1). Biopsy samples obtained from the gastroesofageal junction showed nondysplastic intestinal metaplasia with mild chronic inflammatory infiltrate of edematous lamina propria and abundant plasma cells containing intracytoplasmic eosinophilic globules highlighted by a periodic acid-Schiff (PAS) ; findings were identified by pathologist as RBs (Fig. 2). Patient's symptoms were controlled by PPI and prokinetics. Follow-up endoscopy with biopsies of different parts of upper GI tract was performed – without RBs presence except of the previously identified RB carditis.

Russell bodies are acidophillic, intracytoplasmatic particles formed by immunoglobulin conglomerates that can be found in cells of many inflammatory, autoimmune and malignant diseases ; most commonly in hematooncological diseases (1).

The GI tract represents another organ system in which RBs have been occasionally described. Accumulation of RBs within the GI tract is most commonly described in gastric mucosa. The first case of dense accumulation of plasma cells with RBs was described and named RB gastritis in 1998 and to date, 39 cases have been published (2). It typically presents as a localized pseudotumoral benign lesion of gastric mucosa that can mimic a malignancy. Awareness of this differential diagnosis is an important aspect of RB gastritis. However, RBs are sometimes seen in normal tissues adjacent to malignancies and also in cells of gastric cancer including MALT lymphoma (3). Thus, patients with verified RB gastritis should be scheduled for endoscopic surveillance. Initially, an association between RB gastritis and HP infection has been suspected. In some reports successful HP eradication led to the disappearance of the lesions (4). Recently, however, case reports of RB gastritis in HP negative patients (5) have challenged an unequivocal connection to HP infection. Even less is known about the origin, natural history and significance of HP negative cases.

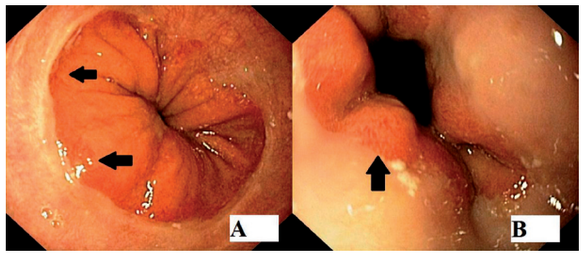

Fig. 1. — A : Endoscopic image of the gastroesofageal junction with several areas of different and mildly prominent mucosa (arrows) histologically identified Russell body carditis. B : Detailed image of the prominent mucosal area (arrow).

In addition to RB gastritis, involvement of other parts of GI tract has been described and a case report of multifocal RB infiltration let to suggestion of the term RB gastroenterocolitis for the spectrum of RB-associated chronic inflammation of the GI tract (2).

The esophagus and gastroesofageal junction represent another notable GI localization in which RBs are found. The presence of RBs in Barrett's esophagus was first described in 2005 by Rubio (6). Several other cases have been published since then, almost all of them, inclusive of the present, describing RBs presence in Barrett's esophagus (intestinal metaplasia per se) or in carditis with intestinal metaplasia (7). The difference of natural history, including the possible difference in cancer risk, between Barrett's esophagus with and without Russell bodies presence, is unknown and warrants further research.

In conclusion, because of its connection to potential malignancies, an increased recognition of RB inflammation is important. Based on the knowledge to date,

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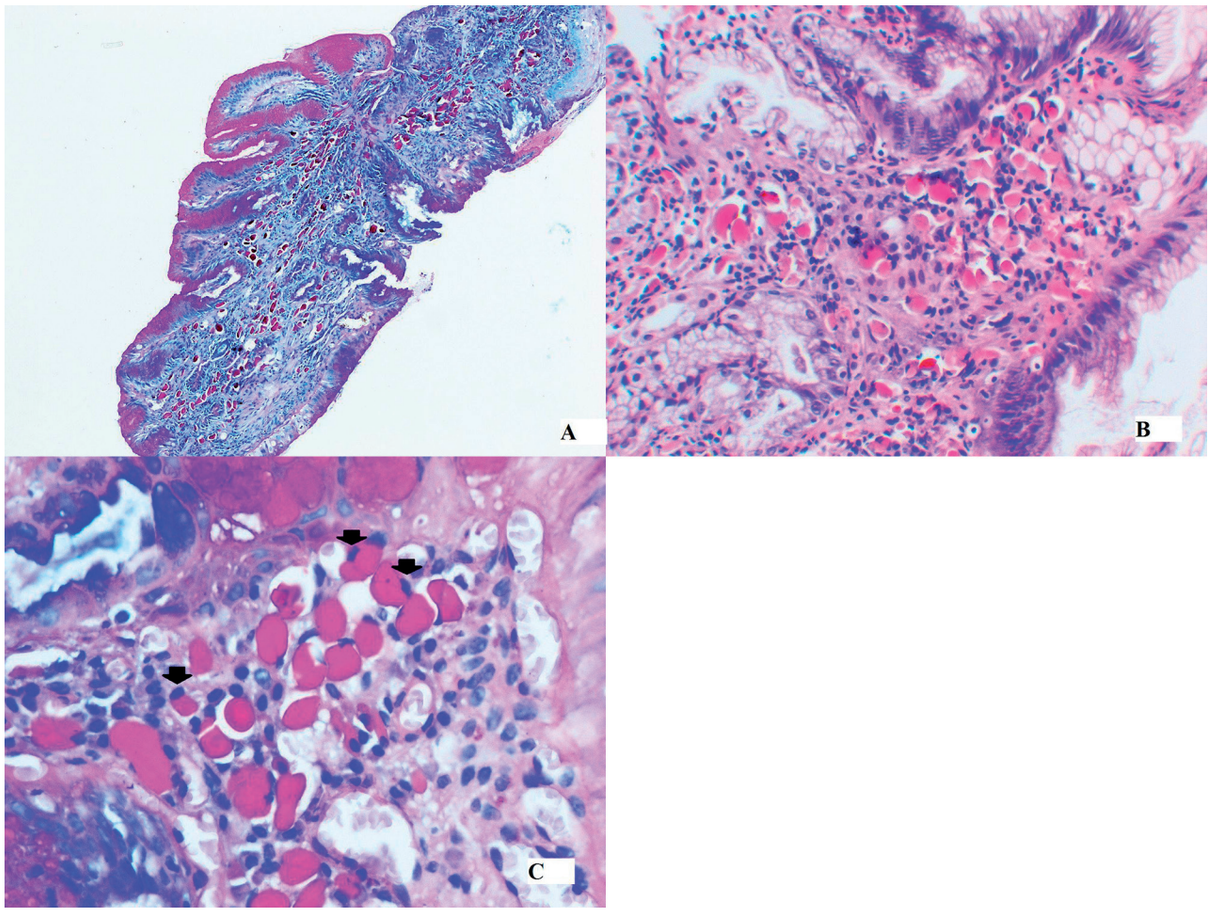

Fig. 2. — A : Mucosal biopsy fragment with abundant accumulation of Russell bodies, PAS positive (purple-magenta color). Original magnification x 40 ; PAS/Alcian blue stain. B : Cardiac-type mucosa densely infiltrated by Mott cells with Russell bodies (stained bright pink in haematoxylin and eosin). Original magnification x 200 ; H&E stain. C : Russell bodies as the smooth and homogenous inclusions and bland nuclear cytology of Mott's cells (arrows). Original magnification x 400 ; PAS/Alcian blue stain.

it is advisable, regardless of GI localization, to keep the patients under endoscopic surveillance and carefully exclude underlying malignancy, due to the association between chronic inflammation and RB presence. More research is clearly needed to elucidate the true natural course (including the risk of cancer development) of these diseases and to find out if it differs from their RB negative counterparts.

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