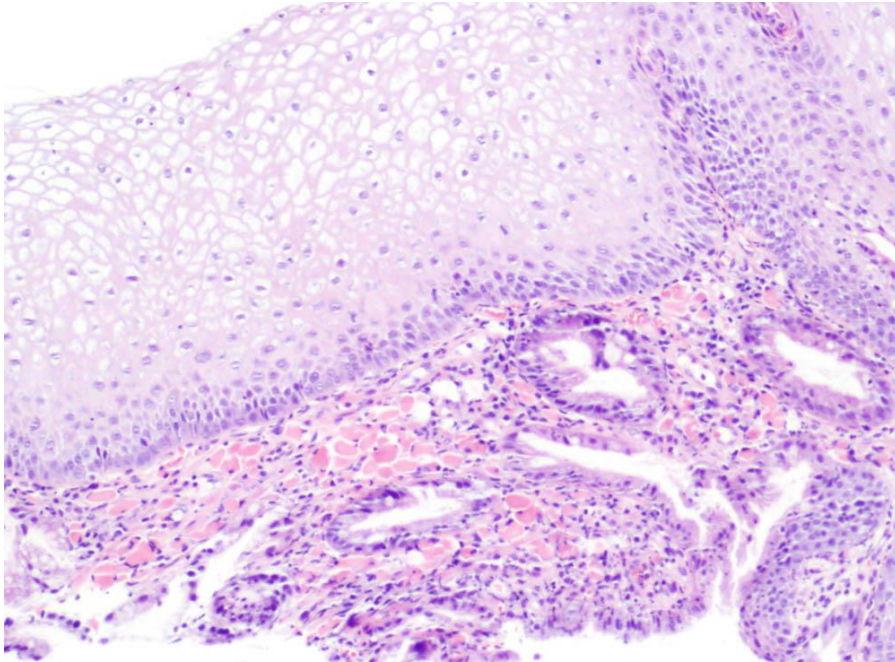
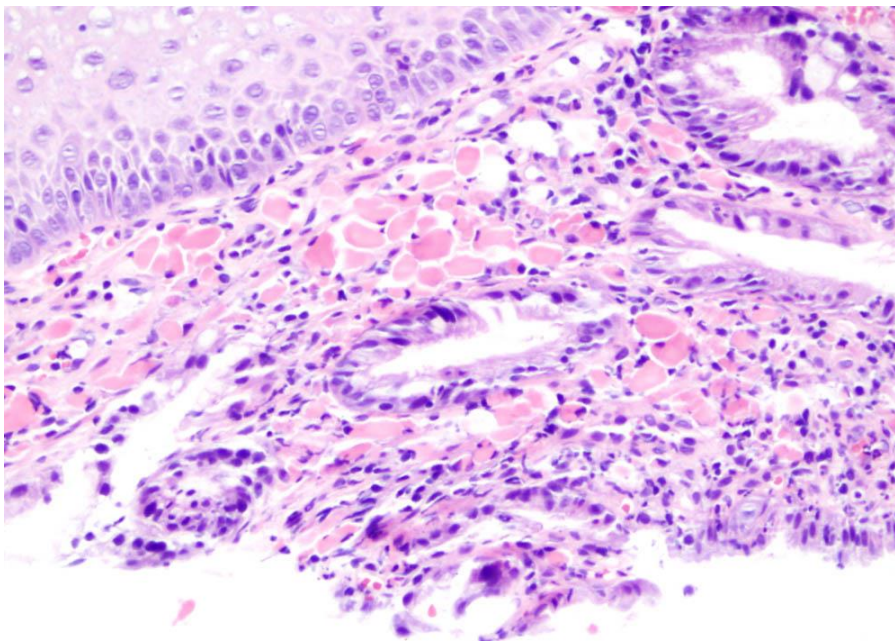


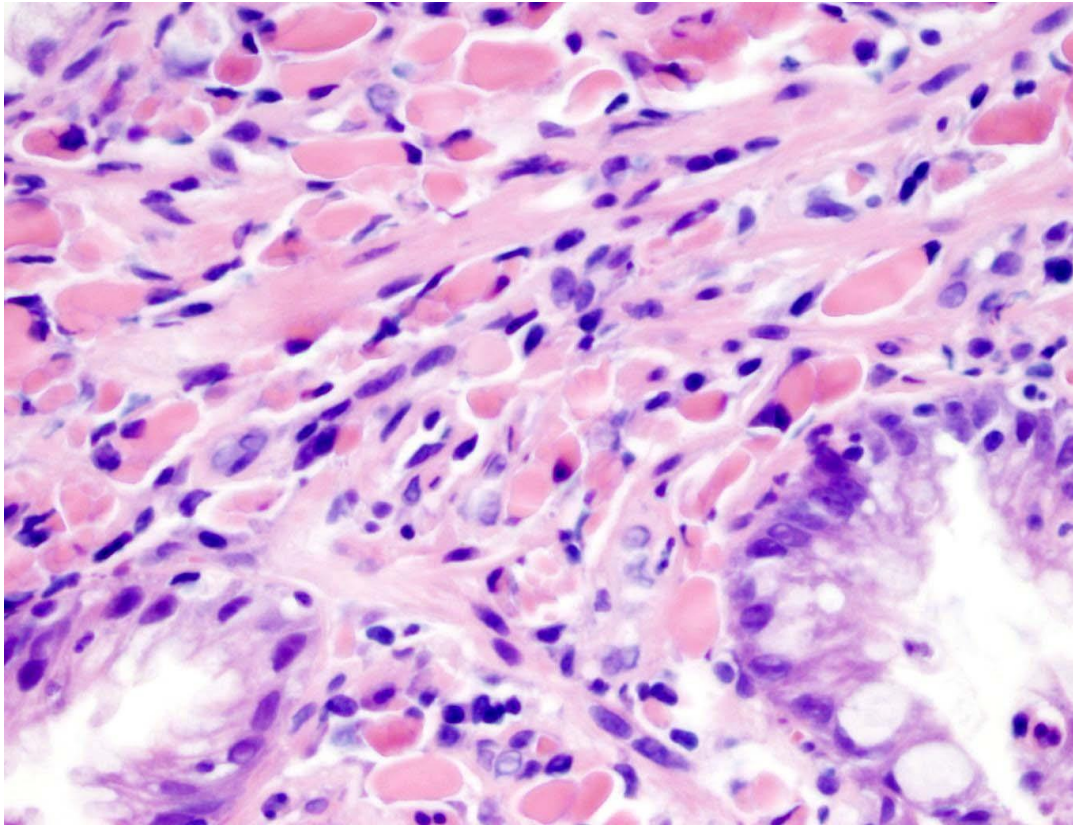
An 84 year old male with a past medical history of COPD, atrial fibrillation, and long-segment Barrett's esophagus presented with anemia and weight loss. Biopsies from the lower GI series were significant for several tubular adenomas as well as adenocarcinoma in the sigmoid colon. Upper endoscopy was also performed for Barrett's esophagus surveillance. Biopsies from the upper GI series were positive for intestinal metaplasia in a background of erosive reflux esophagitis but were negative for dysplasia. In addition, an unusual finding captured in provided images below, was present in the esophageal biopsies.



GEJ; Hematoxylin and eosin, 10x.



GEJ; Hematoxylin and eosin, 20x.



GEJ; Hematoxylin and eosin, 40x.

**Which of the following stains would you expect to be positive?**

- A. CD 79a
- B. Congo Red
- C. Desmin
- D. Pan-cytokeratin AE1/AE3
- E. Silver stain (GMS)

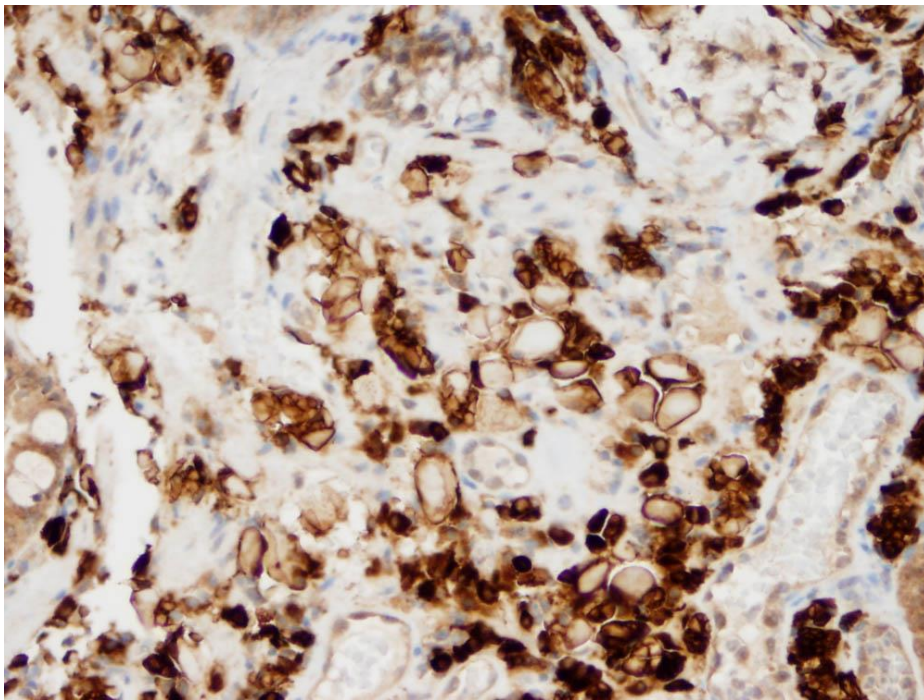
[SCROLL DOWN FOR ANSWERS]

Correct answer: A: CD79a – This is an example of Russell body gastroenteritis

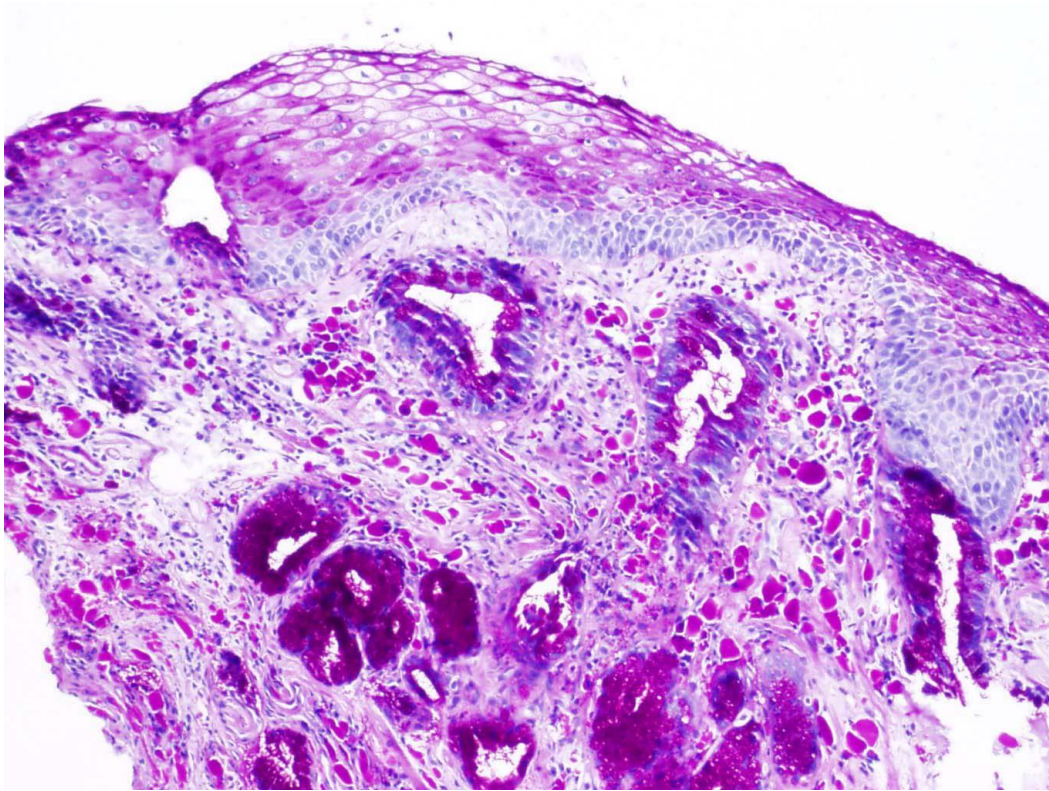
The images highlight monomorphic cells with nuclei eccentrically placed secondary to an eosinophilic amorphous material filling their cytoplasm. The morphology of the monomorphic cells at low power may bring to mind a signet ring cell carcinoma and a desire to stain for keratin (choice D). The amorphous eosinophilic material is reminiscent of amyloid (choice B) while the addition of the eccentrically placed nuclei raises the possibility of atrophic skeletal muscle (choice C).

However, CD79a stain (see below), confirms that these cells are plasma cells filled with a marked amount of intracytoplasmic immunoglobulin (Russell bodies). Periodic acid-Schiff (PAS) stain (see below) highlights the cytoplasmic immunoglobulin globules. The cells were also positive for kappa and lambda by immunohistochemical staining in a normal (non-clonal) ratio.

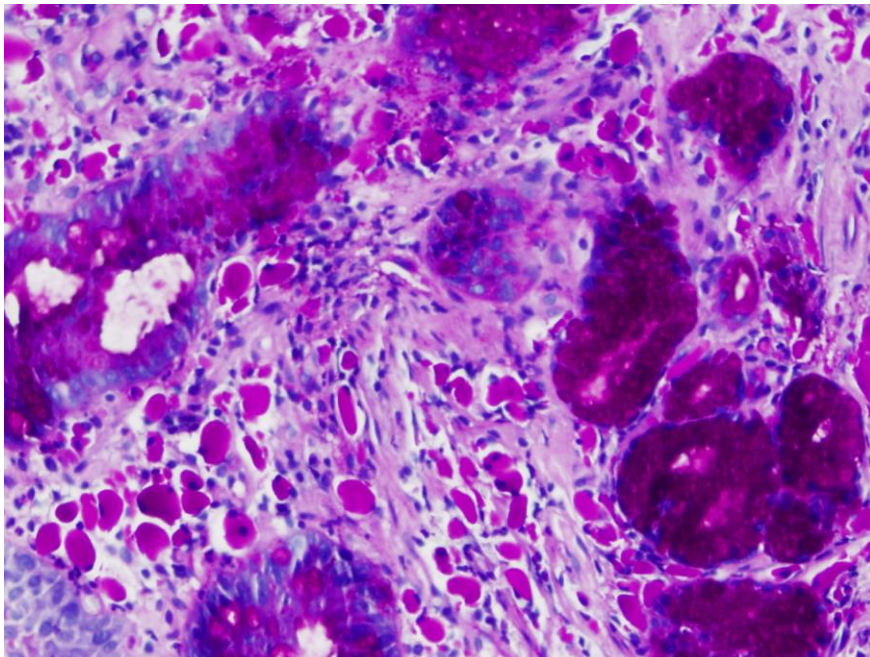
Russell body gastroenteritis is a rare entity that is most commonly seen in the gastric antrum in association with *Helicobacter pylori*-associated gastritis. However, it has also been described in the duodenum and rarely in association with Barrett's esophagus. The Russell bodies, present in reactive plasma cells, are eosinophilic intracytoplasmic inclusions containing condensed immunoglobulin, thought to result from hyperactivity of plasma cells in the setting of chronic inflammation.



CD79a, 20x.



Periodic acid-Schiff stain, 10x.



Periodic acid-Schiff stain, 20x.

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