Esophageal Melanosis: A Rare Disorder with Unknown Implications

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An 80-year-old man went through elective esophagogastroduodenoscopy to investigate the etiology of iron deficiency anemia. Except for symptoms of gastroesophageal reflux disease, dysphagia, abdominal pain, and weight loss were all denied by the patient. The patient had no comorbidities other than hypertension and had no history of smoking or alcohol consumption.

Esophagogastroduodenoscopy showed patchy areas of black discoloration, mostly flat and some slightly elevated from the mucosa, on an approximately 5-cm segment in the middle of the esophagus (Video 1). Patch biopsies revealed an uncommon dark brown hyperpigmentation at the epithelium's basal layer with no atypia, as well as abundant pigment-laden melanophages in the subepithelial lamina propria, all of which were compatible with esophageal melanosis (Figure 1). In the present case report, informed consent was obtained from the patient.

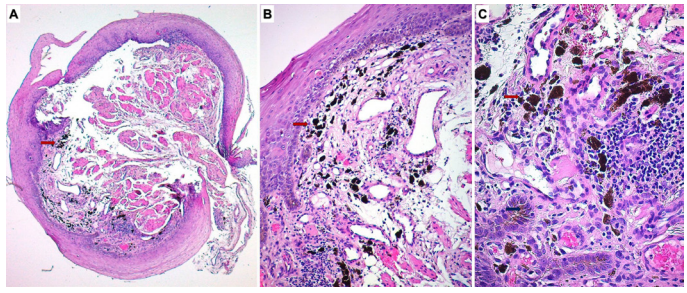

Figure 1. a-c. Histopathological appearance of esophageal melanocytosis on hematoxylin-eosin sections. Numerous dark brown pigment depositions under the esophageal squamous epithelium (red arrow) (a, b). Melanin pigment deposition at the basal layer of the squamous epithelium (blue arrow) and numerous pigment-laden melanophages in the subepithelial lamina propria (red arrow) (c)

Esophageal melanosis (EM) is a rare and benign condition that affects 0.7%-2.1% of all upper GI endoscopies. Melanocytic proliferation is defined as an increase in the amount of melanin in the basal layer of the esophageal mucosa.[1] Although there are different hypotheses about how EM develops, the etiology and pathophysiology are unknown. The abnormal migration of melanocytes during embryogenesis is thought to be the cause of EM. Another hypothesis proposes that gastroesophageal reflux disease or other chronic stressors that damage the mucosa lead to keratinocytic differentiation of multipotent stem cells in the basal epithelial layer of the esophagus.[2] Other disorders characterized by the accumulation of melanin, such as melanocytic nevus and malignant melanoma, should be considered in the differential diagnosis of EM.[3] Although no definite correlation has been proven, some experts believe that EM is a condition that can lead to malignant melanoma.[2,4,5] There is inadequate evidence to establish management and surveillance guidelines for esophageal melanocytosis.[6] Gastroenterologists, however, should be aware of the syndrome and its relation to melanoma and carcinoma.

Video 1. Esophagogastroduodenoscopy showed patchy areas of black discoloration, mostly flat and some slightly elevated from the mucosa, on the segment of about 5 cm in the middle of the esophagus. (You can access the video at https://doi.org/10.5152/DiagnIntervEndosc.2022.220105)

Informed Consent: Written informed consent was obtained from the patient who participated in this study.

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