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Conflict of interest

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Panenteric melanosis secondary to melanoma of the rectum: A case report[☆]



Melanosis panentérica secundaria a melanoma rectal. Reporte de caso

A 78-year-old woman, resident of Mexico City, had a past history of open cholecystectomy, scoliosis in occasional treatment with anti-inflammatory agents for 10 years, and allergy to penicillin.

Study motive. One year and 6 months with hyporexia, occasional nausea with no vomiting, mild intermittent pain in the epigastrium and hypogastrium, weight loss of 4 kg in one year, stools with reduced consistency, and hematochezia during the past 4 months.

The patient had a body mass index of 25, oval-shaped ephelides measuring 2–3 mm on the face and neck, and 1–2 mm on the back of the hands, a mildly distended abdomen, and hepatomegaly.

Laboratory tests reported negative fecal occult blood, hemoglobin 8.9 mg/dL, and hematocrit 28%.

She had been studied by the Oncology Service 4 months earlier for suspicion of cancer. An abdominal tomography scan showed hepatic lesions consistent with metastasis

and fine needle biopsy of the lesions was performed. The histopathologic study reported malignant melanoma metastasis. Cytology was also consistent with malignant melanoma.

Lower gastrointestinal endoscopy revealed a vegetative, lobulated, hyperchromic lesion 2 cm from the anal margin consistent with malignant melanoma and diffuse flat hyperchromic lesions measuring 2–3 mm in the descending colon and the sigmoid colon (fig. 1). The histopathologic report confirmed malignant melanoma. Upper gastrointestinal endoscopy showed unaltered esophageal mucosa and multiple non-confluent 2–3 mm flat, hyperchromic lesions in the stomach. The first and second portion of the duodenum had multiple flat, hyperchromic lesions of similar characteristics (fig. 2). The histopathologic study reported gastric and duodenal melanosis due to melanin deposits at the macrophage level of the lamina propria. For the differential diagnosis a Fontana-Masson stain was done and its result was positive (fig. 3); a Pearls stain was negative in both biopsies.

A distinction should be made between melanosis, as the pigmentation of mucosae from the deposit of melanin in the macrophages-lysosomes at the level of the lamina propria, and pseudomelanosis, described as a pigmentation of the mucosae secondary to deposits of iron, ferrous sulfide, hemosiderin, lipomelanin, lipofuscin, calcium, potassium, aluminum, magnesium, and silver at the same level.¹ After a review of the medical literature, we found reports of cases with pseudomelanosis secondary to the deposit of iron mainly at the level of the duodenum, with a predominance in Afro-American women in the seventh decade of life (range of 18 months–79 years).^{2–5} Important pigmentation pathology references at the level of the digestive tract

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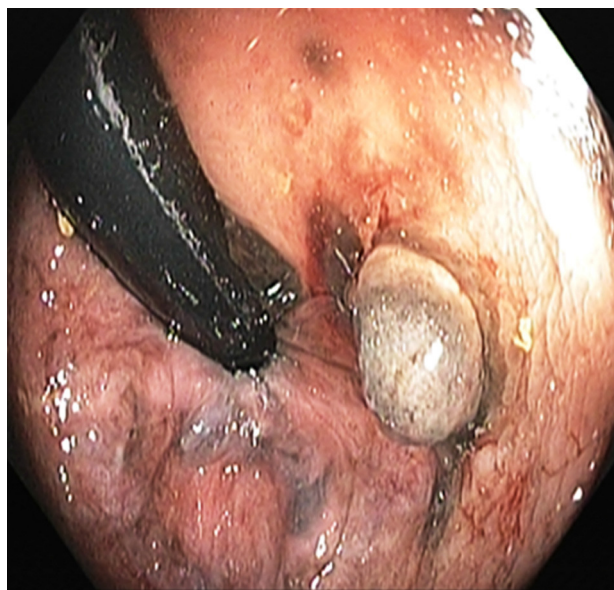


Figure 1 Melanoma of the rectum. A vegetative hyperchromic tumor adjacent to the edge of the anus, suggestive of melanoma, can be seen.

include melanosis coli, which is the deposit of pigments at the level of the colon mucosa associated with the abuse of oral laxatives,⁶ and melanosis at the level of the esophagus, ileum, jejunum, peritoneum, cecal appendix, mesenteric lymph nodes, and the duodenum; the latter is secondary to iron deficiencies and ulcer cicatrization.^{3,5,7} Chronic renal failure (> 60% of the cases) and essential hypertension (> 80% of the cases) are associated with these findings, with no apparent cause-and-effect.⁸ More than 20 drugs have been associated with pseudomelanosis, but the most frequently mentioned are furosemide, beta-blockers, thiazides, and iron supplements.⁵ The pigmentation lesions in the antrum and duodenum, as some reports have described, could be related to iron-deficient anemia; when the anemia was corrected the gastric lesions regressed. There are reported cases of late recurrent melanomas associated with melanin pigmentation at the duodenal level, as well as an isolated case of panenteric melanosis secondary to a malig-



Figure 2 Gastric melanosis. Hyperchromic sub-epithelial plaques in the gastric body and fundus can be observed.

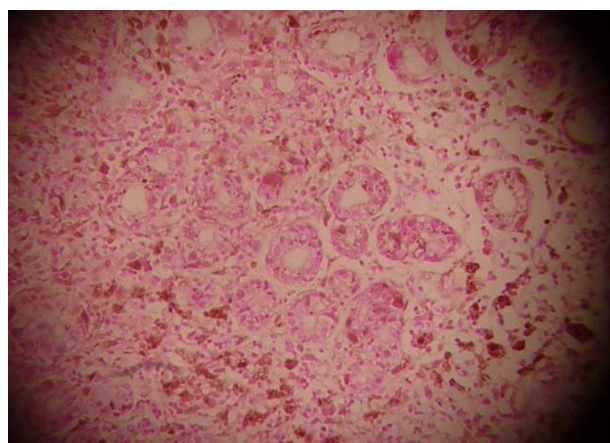


Figure 3 Histopathologic image of the gastric mucosa. Histopathologic image of the gastric mucosa with the Fontana stain, showing the melanin deposit at the macrophage-lysosome level of the lamina propria.

nant melanoma confirmed by histopathology.^{9,10} In relation to malignant melanoma presentation sites, the rectum holds third place, after the skin and the eye.

In regard to our particular case, we found only one reported case in the medical literature of panenteric melanosis secondary to a malignant melanoma that was histologically confirmed by corroborating the benign, sub-mucosal, hyperchromic lesions at the gastric, duodenal and colonic levels.

The outcome and progression of these types of diffuse, hyperchromic lesions initially observed is highly suspicious of malignancy, therefore a complete study protocol that searches for an accurate clinical and endoscopic diagnosis must be started, emphasizing the fact that the lesions initially described in our case were a benign manifestation of an underlying malignant melanoma.

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Usefulness of endoscopic ultrasound elastography in evaluating and differentiating pancreatic lesions[☆]



Utilidad del ultrasonido endoscópico con elastografía en la evaluación y diferenciación de las lesiones pancreáticas

The precision of endoscopic ultrasound (EUS) in the differential diagnosis of solid pancreatic lesions made through fine-needle aspiration biopsy (FNAB) is 74-95%.¹⁻³

EUS elastography evaluates tissue elasticity and rigidity and is based on the premise that the compression of a given tissue through an echoendoscope produces a certain tension, which differs from organ to organ, depending on the hardness or softness of each one. EUS elastography can improve the diagnostic precision of EUS and FNAB.⁴

We present herein 2 patients presenting with pancreatic lesions that we treated with EUS elastography; up to the present, ours is the first report on this technique in Mexico. A linear

echoendoscope (EG-3870UTK®, Pentax) and a fine needle aspiration 22G needle (Wilson Cook, Winston-Salem, NC, USA) were used in the 2 cases. The Hitachi Preirus® platform (Hitachi-Aloka Medical, Ltd) was used for the elastography; it produces an image that shows a color map representing the distribution of tissue elasticity within a preselected region of interest, superimposed on the conventional EUS mode-B image. Hard tissue is blue and soft tissue is red; tissues with an intermediate elasticity are in the green-yellow spectrum. Images are interpreted by comparing the elasticity of a given lesion with that of a reference area that is selected inside the same organ or from an adjacent soft tissue; this is called the strain ratio (SR).⁵ It is important to remember that the pressure or strength applied to the

tissue with the EUS modifies or determines the color tones and therefore the SR value, making adequate technique a necessity in order to prevent acquisition and interpretation errors.

Case 1

A 75-year-old man presented with a hypodense lesion in the neck of the pancreas. A EUS-guided FNAB was performed. The cytopathologic report was adenocarcinoma of the pancreas. During the elastography, the pancreatic lesion was seen as blue, which was indicative of hard and not very elastic tissue, compared with the peripheral tissue that was green, corresponding to soft tissue (fig. 1).

Case 2

A 59-year-old woman presented with a cystic lesion in the body of the pancreas. EUS revealed a 7.3 x 3.6 mm lesion, suggestive of an intraductal papillary mucinous neoplasm with no poor outcome data. The cyst was aspirated, obtaining a transparent and viscous fluid. The pancreas had a normal aspect. In the elastography, the cyst and the pancreas were green, suggesting soft and elastic tissue (fig. 2).

EUS elastography measures the magnitude of the strain produced by a given tissue; this strain is inversely proportional to the risk for malignancy, and so could aid in distinguishing between benign and malignant lesions.⁶

This technique has been used and developed mainly in European countries,^{7,8} with different sensitivities, specificities, and diagnostic precision for differentiating malignant tumors from benign ones. The combined results of 2 meta-analyses conducted by Asian groups that included 10⁹ to 13¹⁰ studies for a total of 893 to 1,042 cases presenting with pancreatic masses in which EUS elastography was used reported an accumulated sensitivity of 95-98% (95% CI 93-100) and an accumulated specificity of 69% (95% CI 52-82) for differentiating between benign and malignant pancreatic masses, respectively. Both studies concluded that this is a minimally invasive technique and a promising method for evaluating pancreatic masses, as well as an effective complement to EUS-guided FNAB.

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