CLINICAL IMAGES PEER REVIEWED | OPEN ACCESS

Dark colored duodenum: Has anyone dimmed the scope light? A case of pseudomelanosis duodeni

Hamzeh Saraireh, Muhannad Al Hanayneh, Habeeb Salameh, Marc Shabot

CASE REPORT

A 43-year-old female with a past history of type II diabetes mellitus, hypertension, non-ischemic cardiac myopathy, end stage renal disease on hemodialysis and hypothyroidism presented to the emergency department with nausea, hematemesis and melenic stools for three days. She reported occasional naproxen ingestion for joint pain. She denied any previous episodes of similar gastrointestinal bleeding or any oral iron supplementation. Blood work was significant for 2-gram drop in her hemoglobin. An urgent esophagogastroduodenoscopy (EGD) revealed a gastric ulcer with a visible vessel in its base and black pigmentation involving the 2nd part of duodenum (Figure 1). The antral ulcer was treated with epinephrine injection and gold probe cautery. Biopsies were obtained from both the stomach and the duodenum. Gastric biopsies showed chronic active gastritis with immunostaining positive for Helicobacter pylori. Biopsies from duodenum revealed duodenal villi with prominent pigment (Figure 2). Special staining highlighted iron-containing pigment that is consistent with pseudomelanosis duodeni (PMD) (Figure 3). The patient was treated for H. pylori infection with triple therapy.

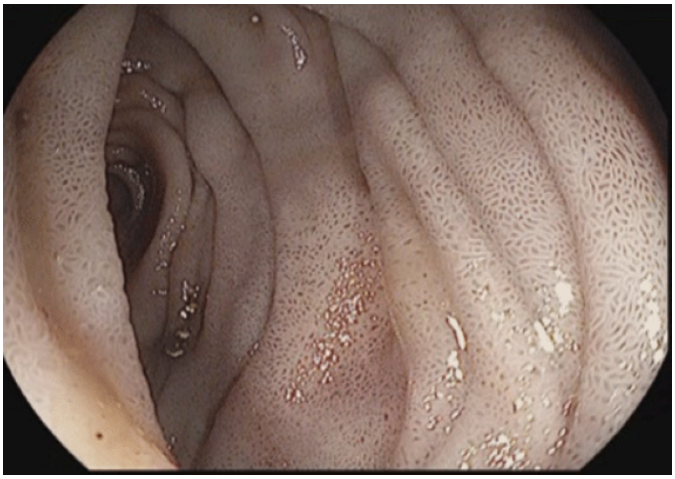

Figure 1: Black speckled pigmentation of second part of duodenum.

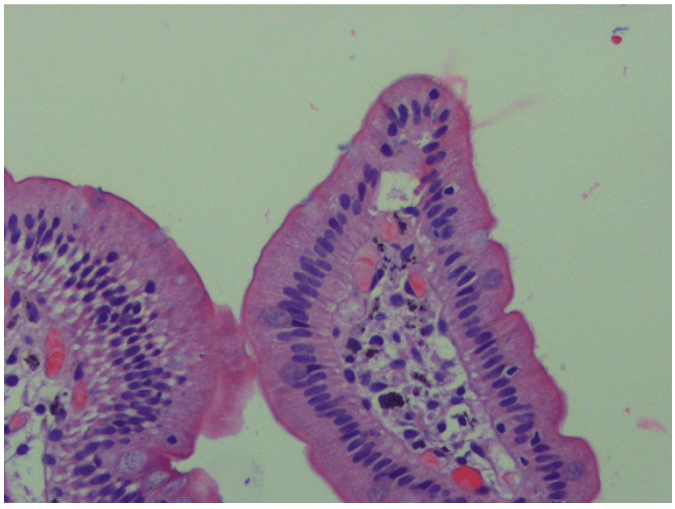

Figure 2: Duodenal villus with staining in tip.

Hamzeh Saraireh[1], Muhannad Al Hanayneh[2], Habeeb Salameh[2], Marc Shabot[3]

Affiliations: [1]MD, Internal Medicine Resident, Department of Internal Medicine, University of Texas Medical Branch at Galveston, 301 University Blvd 77555, Galveston, TX, USA; [2]MD, Gastroenterology and Hepatology Fellow, Department of Internal Medicine, Division of Gastroenterology and Hepatology, University of Texas Medical Branch at Galveston, 301 University Blvd 77555, Galveston, TX, USA; [3]MD, Gastroenterology and Hepatology Professor, Department of Internal Medicine, Division of Gastroenterology and Hepatology, University of Texas Medical Branch at Galveston, 301 University Blvd 77555, Galveston, TX, USA

Corresponding Author: Hamzeh Saraireh, Department of Internal Medicine, University of Texas Medical Branch, 301 University Blvd, Galveston, Texas, USA; Email: hasarair@utmb.edu

Received: 16 February 2017
Accepted: 22 April 2017
Published: 19 May 2017

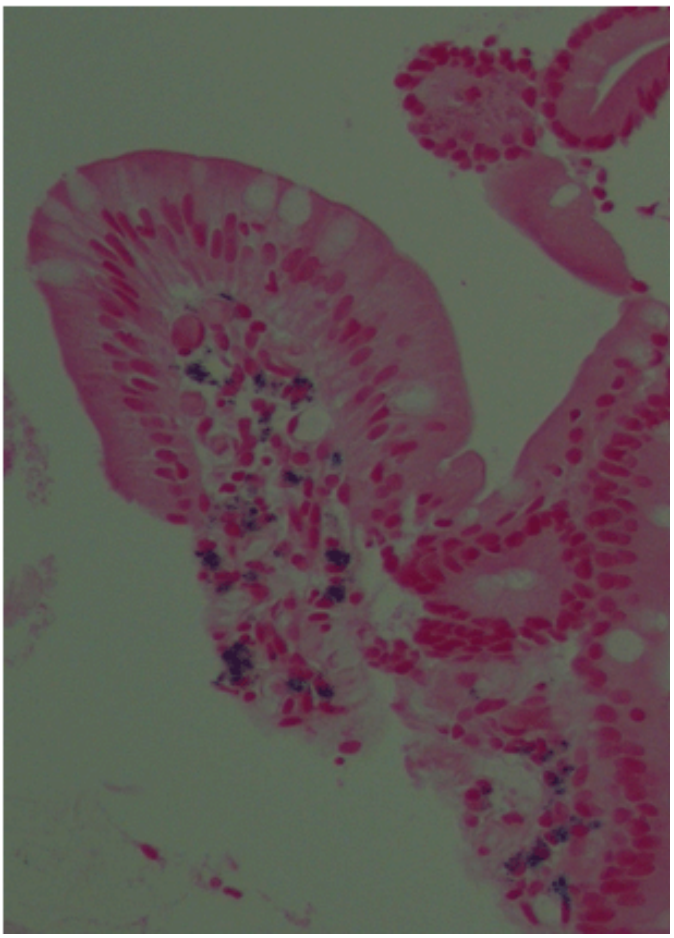

Figure 3: Special staining highlighting iron-containing pigment.

DISCUSSION

Pseudomelanosis duodeni (PMD) is a rare benign endoscopic condition that was initially described by Bisordi et al. [1] in 1976 as Melanosis Duodeni. It is characterized by the presence of brown to black colored speckled pigmentation of duodenal mucosa [1]. Pseudomelanosis duodeni occurs predominantly in middle-aged to elderly people and is more common in females (1.2–2:1) [2]. In contrast to melanosis coli where the deposited pigment is lipofuscin, PMD pigment is demonstrated to be mostly ferrous sulfide, hemosiderin, and small amounts of other elements [3]. Pseudomelanosis duodeni is an asymptomatic condition and is usually diagnosed incidentally at endoscopy [2]. The pathogenesis remains unclear. Iron containing deposits could be formed secondary to intramucosal hemorrhage, impaired intra-mucosal iron transport after oral ferrous sulfate supplementation, or an acquired inherent macrophage defect that affects the metabolism of drugs containing cyclic compounds like phenols, indoles and skatoles leading to the production of iron sulfide [4]. Pseudomelanosis duodeni has been associated with certain medical conditions such as hypertension, chronic renal failure, gastrointestinal bleeding, chronic heart failure and with certain medications including hydralazine, ferrous sulfate, furosemide, propranolol, thiazides, vitamins, methyldopa, and digoxin [5]. Although endoscopic finding of PMD is interesting, it's clinical significance is yet to be determined [4].

CONCLUSION

Pseudomelanosis duodeni is an interesting, rare and yet a benign finding with no determined clinical significance. We, as internists and gastroenterologists, should be aware of such finding, so that we can limit further workup upon visualizing it incidentally on endoscopy.

Keywords: Black duodenum, Pseudomelanosis Duodeni, Speckled pigmentation

How to cite this article

Saraireh H, Al Hanayneh M, Salameh H, Shabot M. Dark colored Duodenum: Has anyone dimmed the scope light? A case of pseudomelanosis duodeni. J Case Rep Images Med 2017;5:11–13.

Article ID: 100032Z09HS2017

****

doi:10.5348/Z09-2017-32-CL-4

****

Author Contributions

Hamzeh Saraireh – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Muhannad Al Hanayneh – Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Habeeb Salameh – Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Marc Shabot – Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be publishedo

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© 2017 Hamzeh Saraireh et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

REFERENCES

1. Bisordi WM, Kleinman MS. Melanosis duodeni. Gastrointest Endosc 1976 Aug;23(1):37–8.
2. Jain SS, Shah DK, Khot AA, T NR, Gharat AR, Rathi PM. Pseudomelanosis duodeni of undetermined etiology. Gastroenterology Res 2012 Aug;5(4):171–3.
3. Mundi I, Pankaj R, Chhabra M, Banerjee AK. Pseudomelanosis Duodeni: A Striking Finding on Duodenal Biopsy. Int J Surg Pathol 2017 Apr;25(2):165.
4. de Magalhães Costa MH, Fernandes Pegado Mda G, Vargas C, et al. Pseudomelanosis duodeni associated with chronic renal failure. World J Gastroenterol 2012 Mar 28;18(12):1414–6.
5. Yun L. Education and imaging. Gastrointestinal: Pseudomelanosis duodeni. J Gastroenterol Hepatol 2010 Feb;25(2):427.

Access full text article on other devices

Access PDF of article on other devices