

Endoscopic Tattooing: From Blue to Black

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CASE REPORT

A 66-year-old female underwent a colonoscopy for evaluation of diarrhea. Two polyps were seen (10 mm and 20 mm) in the ascending colon. Due to poor preparation in the right colon, a polypectomy was not pursued. Because the lesions were hard to identify, 2 tattoos were placed 3 cm distal to each polyp. It was discovered that instead of Endomark (PMT Corporation, Chanhassen, MN), undiluted methylene blue was injected in the submucosa (Figure 1). Eight days later a repeat colonoscopy was performed to attempt polypectomy. Two deep, necrotic, exudate-covered ulcers were at the site of the tattoos, each measuring about 20 mm (Figure 2). No bleeding was present. The polyps were successfully removed with saline injection snare

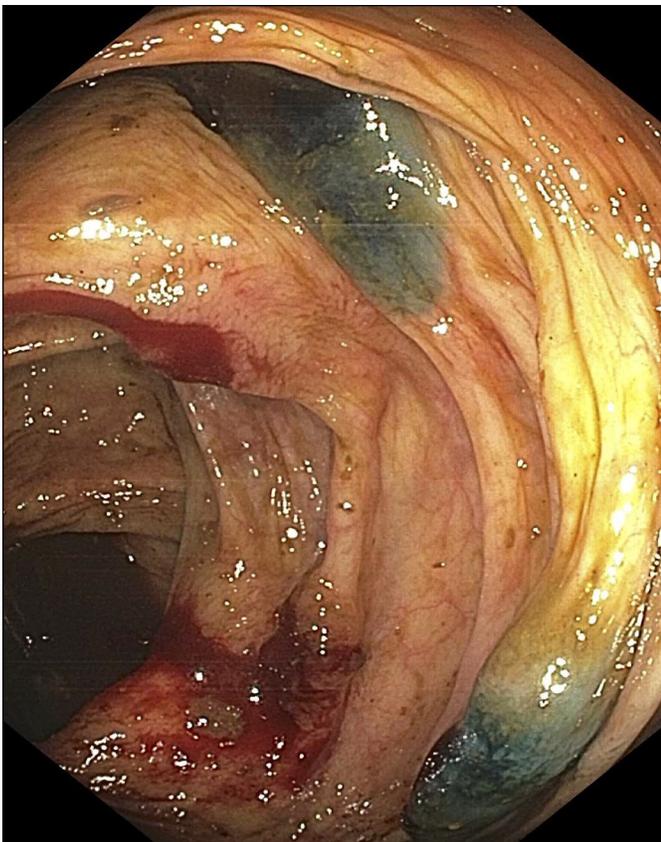


Figure 1. Colonoscopy showing 2 polyps in the ascending colon after two tattoos were placed using undiluted methylene blue.

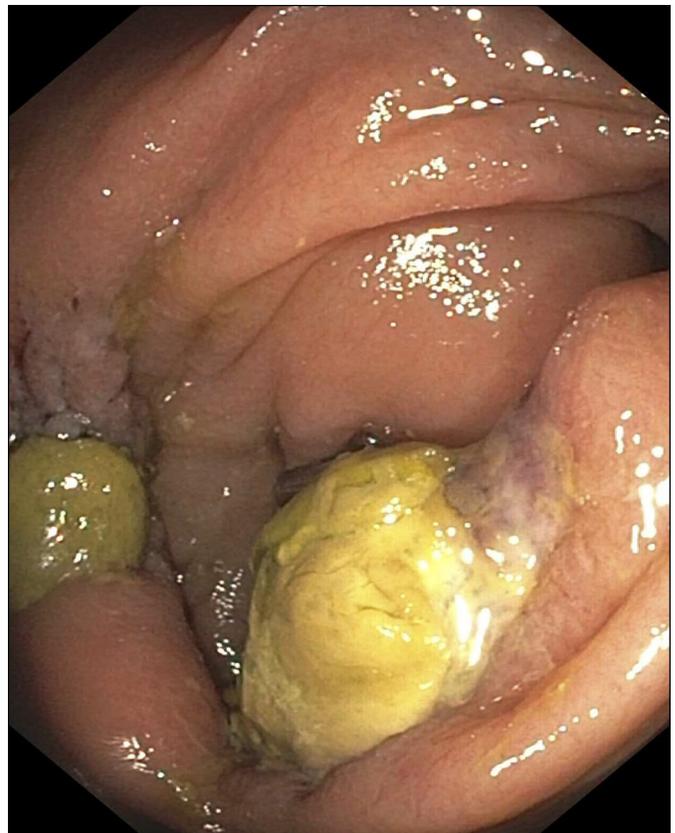


Figure 2. During subsequent colonoscopy, 2 deep, necrotic exudate-covered ulcers were found at the site of the tattoos in the ascending colon.

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Figure 3. Follow-up colonoscopy at 6 months showed a well-healed polypectomy with methylene blue induced ulcer sites.

polypectomy, and histology revealed sessile serrated adenomas. Follow-up at 6 months showed a well-healed polypectomy with methylene blue-induced ulcer sites (Figure 3).

Endoscopic tattooing is indicated to localize a luminal lesion during repeat endoscopy or surgery. The most commonly used substance is India ink, which consists of a suspension of carbon particles.¹ Other agents are much less useful compared with India ink in terms of ease of use, efficacy, and safety.¹ Furthermore, tattoos made with higher diluted preparations of India ink were consistently seen at 5 months and produced no gross inflammation.² Even there are few complications associated with endoscopic tattooing, they are not

limited to issues related to transmural injection. Injection of methylene blue has been reported to cause ulceration and necrosis during breast surgery, cochlear implantation, and laparotomy.^{3,4} Our case is the first description of a necrotic ulcer due to inadvertent injection in the colon. This could have been due to the fact that both methylene blue and India ink have similar containers with similar solution color. Methylene blue does hold value in the endoscopy suite as it is commonly used for chromoendoscopy. Endoscopists should be aware of this adverse event and verify the type of solution to be used for tattooing.

DISCLOSURES

Author contributions: TS Brar reviewed the literature and wrote the manuscript. PV Draganov edited the manuscript and is the article guarantor.

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Informed consent was obtained for this case report.

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