

### False-Positive Result in Endoscopic Ultrasonography in the Sigmoid Colon Due to Submucosal Granuloma Following Tattooing

At the National Cancer Institute in Milan, adenomas of the large bowel containing areas of invasive carcinoma are treated endoscopically after strict selection of patients (1). Endoscopic resection is often followed by tattooing of the area treated, either for endoscopic follow-up alone or for further surgical resection, if needed.

A 63-year-old woman underwent radical endoscopic resection of a sessile adenoma, about 3 cm in diameter, located in the sigmoid colon and showing superficial changes suggestive for early degeneration. The area was therefore tattooed after treatment. Adenocarcinoma within villous adenoma was demonstrated histologically, without malignancy at the resection margin. Laboratory and radiological investigations (chest radiograph, abdominal ultrasound) excluded metastatic disease. No recurrence was evident macroscopically or histologically during the first six-month follow-up period. Then endoscopic ultrasonography (EUS) of the tattooed area showed a well-demarcated, homogeneous, hypoechoic lesion confined to the submucosal layer of the wall (Figure 1). The mucosal surface was regular, and endoscopic biopsies did not show any malignancy. The endosonographic finding was confirmed two months later. Surgical resection of the sigmoid colon was then advised; histological examination demonstrated the presence of a submucosal granuloma in the tattooed area.

We conclude that false-positive results in EUS due to granulomatous tissue can be obtained not only when exploring surgical anastomoses (2), but also during the examination of tattooed areas. In these cases, the suspect image is located within the submucosa, where India ink is retained after injection, inducing a chronic inflammatory reaction. EUS-guided puncture (3), when sector scanning probes can be used, could be useful to differentiate malignant from inflammatory tissue.

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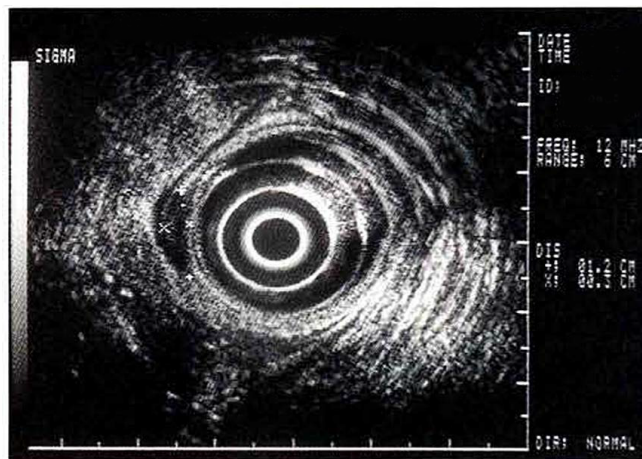


Figure 1: Endosonographic image of a roundish, well-demarcated, homogeneous hypoechoic lesion in the submucosal layer, corresponding to granuloma induced by endoscopic tattooing.

### References

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