

# Answer

## Inverted Appendix

**A**ppendix *invertus*, a surgically inverted appendix, is a result of a type of appendectomy, where the appendix is inverted into the cecum. Historically, some surgeons used the technique of inversion-ligation appendectomy to theoretically reduce the risk of peritoneal contamination in the setting of acute appendicitis.<sup>1-4</sup> This technique has also been used for incidental appendectomy performed during laparotomy for unrelated problems. The resultant appendiceal stump usually necroses and sloughs into the colonic lumen after several days, but remnant tissue may persist in some patients. Currently, the inversion-ligation technique is rarely used during an open or laparoscopic procedure. Many adults currently presenting for screening colonoscopy have undergone appendectomy decades earlier when this procedure was common practice. It is likely that our patient underwent appendectomy using the inversion-ligation technique; however, we were unable to confirm it because of the lack of an available operative record.

Inverted appendix does not cause any symptoms but may cause differential diagnostic problems when examining pictures from a large-bowel radiography examination or on colonoscopy.<sup>5</sup> Sometimes the appendicular stump resembles a polyp at the appendiceal orifice in patients postappendectomy, usually with purse-string suture. The most common appearance of the inverted appendiceal stump consists of a raised prominence at the cecal tip. In less prominent cases, correlating this finding with the patient's history of appendectomy allows confident diagnosis. The postoperative appearance at the appendiceal orifice, however, can be quite variable. The appendiceal stump may be enlarged by postoperative hemorrhage or by stump appendicitis. The entire cecal tip may also become flattened as a result of surgery in this area.

Other than resulting from surgery, an inverted appendix can be congenital or due to an intussusception associated with diseases such as appendix tumors, mucocele, fecalith, or worms. Our patient was asymptomatic, suggesting intussusception as an unlikely cause. In our patient, an attempt was made to reduce the appendix but was

unsuccessful, likely because of the ligation after inversion. High-resolution narrow-band imaging is a technologically advanced method of endoscopic imaging that can help differentiate neoplastic and non-neoplastic lesions by revealing their characteristic surface vascular pattern.<sup>6</sup> It showed normal mucosa in our patient and thus excluded mucosa-based neoplasm. Additionally, the characteristic location and endoscopic appearance of the lesion and the surgical history of the patient were considered to be most compatible with an inverted appendiceal stump. No further therapeutic intervention is necessary when the diagnosis is convincing.

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