

PICTURES IN DIGESTIVE PATHOLOGY

Successive breaks in biliary stents

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CASE REPORT

A 64 year-old male, was diagnosed with obstructive jaundice due to a well-differentiated pancreatic neuroendocrine tumor with liver metastases. The patient underwent endoscopic placement of covered self-expanding biliary stent (10x60 mm, Hanaro) by ERCP. He was admitted with cholangitis one year later. The following ERCP revealed a fractured stent with loss of the distal end (duodenal) and partial migration of the remaining stent to the common bile duct. The fragmented stent was removed from the common bile duct and a new, similar one was inserted. Four months later the patient was admitted with cholangitis. A new ERCP was done and biliary stent was also fragmented. It was removed and an uncovered stent (Wallflex) was inserted.

Evolution: In spite of endoscopic treatment and alternative draining procedures (percutaneous biliary drainage [PBD]) the patient suffered successive episodes of cholangitis. The figure 1 shows the removed fractured stents.

DISCUSSION

The placement of self-expanding metallic stents in the treatment of nonsurgical neoplastic biliary obstruction provides prolonged palliation of symptoms with high efficiency and few complications. Fractures are a rare complication of metallic biliary stents. The cases described in the literature have mostly involved nitinol stents. The time taken for the break to appear varies (1-21 months). The cause is not clearly established. Different mechanisms can be identified:

1. **A manufacturing fault:** this possibility has been considered in cases where the break happens early on.

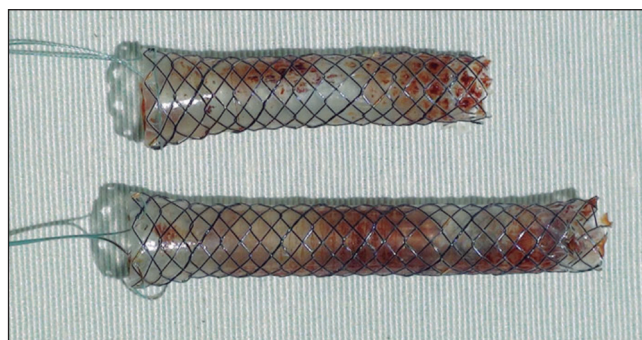


Fig. 1. Retrieved self-expandable metal stents. The broken side of the stents can be observed.

2. **Metal corrosion:** a mechanism possibly related to late breaks.
3. **Metal fatigue/stress (nitinol):** nitinol stents are characterized by a good radial strength and flexibility, with little shortening. These characteristics, together with the fact that the patient had a pancreatic neuroendocrine tumour –characterized by its great rigidity– may have conditioned the successive breaks.

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