on fibrosis would have to be further examined.
Jagdish Nachnani, Avinash Supe

Entrapment of delivery catheter: an unusual complication during deployment of biliary self-expandable metallic stent

Entrapment of delivery catheter during deployment of self-expanding metallic stent (SEMS) in the biliary tract is an unusual complication that has been reported with the Wallstent (Boston Scientific, Microvasive®). We report such a complication with the use of the Diamond biliary stent (Boston Scientific, Microvasive®).

A 62-year-old woman with unresectable cancer of gall bladder was taken for endoscopic palliation of jaundice by placement of biliary SEMS. At ERCP, cholangiogram showed Bismuth type 2 stricture; this was dilated and the stent assembly (8 cm long and 9F delivery system) was passed over a stiff guidewire into the right hepatic duct. After releasing the stent, the delivery catheter could not be withdrawn despite applying forceful traction. Fluoroscopic image showed that the expanded olive-shaped upper end of the delivery catheter was entrapped in the strictured segment (Fig).

Dilating the stent using a biliary balloon was attempted after pushing the olive up, but was unsuccessful. The endoscope was removed, leaving behind the delivery catheter, which was re-routed through the nostril to function as a nasobiliary drain. The next day the patient was taken for a repeat procedure to remove the entrapped catheter. Fluoroscopic image showed that the upper end of the stent had partially expanded and the delivery catheter could be pulled out with gentle traction.

The assembly of biliary SEMS has the stent constrained by a sheath over a delivery catheter that has a lumen for a 0.035-inch guidewire. The diameter of the delivery catheter is smaller than that of the collapsed stent, except at the tip, where it has an expanded olive shape. Thus, some expansion of the stent is required to allow the removal of the delivery catheter.

In this case the upper end was trapped in the strictured segment of the bile duct. Since full expansion of the stent can take 24-48 hours, waiting for this period can allow expansion of the stent and removal of the impacted catheter, as happened in this case. Similar observation has been reported in one of the five patients with impacted delivery catheter reported by Jowell et al. Re-routing the catheter, as a nasobiliary drain is a good option to allow biliary drainage while one awaits expansion of the stent.

To solve the problem immediately, one can try balloon dilation of the stent, which was unsuccessful in this case. Dividing the catheter at its duodenal end using electrocautery or cutting the nasal end of the catheter and leaving it coiled in the stomach are other options. Cutting the delivery catheter using monopolar current is difficult because it is not in direct continuity with tissue, and leaving the catheter may impair stent patency.

To conclude, in case of entrapment of delivery catheter of SEMS due to positioning in a strictured segment, waiting for stent expansion is usually rewarding. In the interim the catheter can be re-routed as a nasobiliary drain.

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Reference

Fig: Diamond biliary stent with dilated olive-shaped upper end of delivery catheter entrapped in stricture

Prolonged anti-HAV IgM positivity in a pregnant woman

A 33-year-old pregnant woman was referred to our unit in January 2003 with liver enzyme elevation at thirty weeks of gestation. She was asymptomatic. On review, elevated serum AST and ALT levels were first detected in September 2000. She had hepatitis A virus infection diagnosed by anti-HAV IgM and IgG positivity and elevated transaminases in August 2001. The AST and ALT values peaked, then decreased gradually but persisted to date (Table).

Physical examination findings were unremarkable. Laboratory tests were within normal limits except for ALT (105 U/L; normal range 5-40), AST (115 U/L; normal range 8-33) and triglyceride (TG) (320 mg/dL; normal <200). Additional tests were performed to investigate the cause of elevated tran-
have led to such prolonged anti-HAV IgM positivity in our patient. This prolongation may pose challenges in the differential diagnosis of abnormal liver function tests.

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References


Isolated posterior wall gastric rupture in blunt trauma to abdomen

Gastric tears following blunt abdominal injuries are rare and in various series the incidence has been reported to be less than 1.7%.

A 14-year-old boy presented with history of fall from a rooftop approximately 4 meters high. On examination, his Glasgow coma scale was 15, blood pressure was 110/70 mmHg, pulse rate 128 per minute, and respiratory rate 20 per minute. There was a small abrasion over the epigastric region. No other external injury was present. Abdomen was tender, guarded and rigid. A nasogastric tube was inserted and blood-stained gastric contents were aspirated.

Laparotomy revealed extensive peritoneal contamination with recently ingested food and two tears in the posterior wall of the stomach, which were found on opening the lesser sac. One tear was about 10 cm long, starting from just near the gastro-esophageal junction and going towards the greater curvature of the stomach. The second tear was around 5 cm long, in the body parallel to and near the greater curvature.

The tears were sutured in single layer using silk. The peritoneal cavity was thoroughly irrigated with normal saline. Drains were kept in the lesser sac and pelvis. The patient had an uneventful recovery.

Blunt trauma to the abdomen commonly occurs due to motor vehicle accidents. Other causes are fall from height, seat-belt injuries, and even vigorous resuscitation. It occurs more commonly

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ALT = alanine aminotransferase; AST: aspartate aminotransferase; NT: Not tested

Three months after delivery, liver biopsy was performed. Histology demonstrated focal steatosis. Apolipoprotein deficiency was ruled out by normal cholesterol profile. With a diagnosis of non-alcoholic fatty liver disease, weight loss, dietary fat restriction and exercise were advised to the patient.

Anti-HAV IgM is the mainstay of diagnosis of acute hepatitis A infection. It can be detected in the serum of patients early in the disease concurrent with the elevation of transaminases, and may persist for up to one year. In one study, the longest period that HAV RNA was detected after the peak of ALT was 383 days and the mean duration that HAV RNA was detected in serum was 95 days (range, 36-391 days). The longest duration of viremia was 490 days in one patient out of 11 infected with HAV genotype IA. In another study, the probability of anti-HAV IgM positivity was 25% at the end of the sixth month, and 3.4% at the end of the ninth month after onset. The authors suggested that the timing of the assay and the level of anti-HAV IgM should be considered in the diagnosis of acute hepatitis. Females were reported to have more prolonged anti-HAV IgM positivity.

Gender-related differences and intervening pregnancy-associated changes in humoral immunity may

ALT = alanine aminotransferase; AST: aspartate aminotransferase; NT: Not tested

Inflammation was ruled out by normal cholesterol profile. With a diet...mucosal-1 and anti-mitochondrial antibodies were negative. Abdominal ultrasonography was normal. Anti-HAV IgM titers were positive in August 2001, January 2002 and January 6, 2003, by the AxSYM® HAVAB-M™ 2.0 quantitative assay that utilizes micro-particle enzyme immunoassay testing (MEIA) (Abbott Laboratories, Illinois, USA). Anti-HAV IgM titers became negative January 24, 2003. Markers for hepatitis B, C, D, E, G and transfusion-transmitted virus were negative. Levels of complement 3 and 4, immunoglobulin G, A and M, and rheumatoid factor were within normal limits. Serum ceruloplasmin, ferritin, transferrin saturation and alpha-1 antitrypsin levels along with copper excretion in a 24-hour urine sample were in normal limits.

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