

A 65-year-old woman was admitted to the emergency room with right lower quadrant abdominal pain, nausea, vomiting, fever, and chills. She had a history of complicated cholecystectomy with secondary stenosis of the common bile duct, which was treated with biliary stents for 24 months. On physical examination, she was febrile (38.6 C), with tenderness in the right lower quadrant and a negative psoas sign. Laboratory tests revealed a leukocytosis of  $15.2 \times 10^9/l$  and an elevated C-reactive protein level at 8.2 mg/l. The bilirubin, alkaline phosphatase, and gamma-glutamyl transferase levels were within normal limits.

A plain abdominal radiograph showed that one of the biliary stents had migrated to the region of the ileocecal valve (Figure 1) and an emergency colonoscopy was performed. At colonoscopy, the stent was shown to be located in the appendiceal orifice (Figure 2) and it was removed with a snare. Instantly, the patient was pain-free, and the laboratory indices of inflammation were soon within normal limits. The biliary stents were removed and were not replaced, and the patient is doing well after a follow-up period of 9 months.

Stenting of the biliary duct with multiple prostheses is an established procedure for the management of benign biliary strictures [1], but proximal and distal stent migration occurs in around 5% and 6% of cases respectively [2]. Major complications due to distal migration are rare and most commonly consist of enteral fistulas or overt perforation [3]. To the best of our knowledge, appendicitis as a complication of biliary stent migration has not been reported previously. This case is an unusual example which illustrates the obstruction hypothesis in the pathogenesis of acute appendicitis, which accounts for the majority of cases of appendicitis [4].



Figure 1 Plain abdominal radiograph taken on admission, showing two plastic endoprotheses which are in a satisfactory position and one stent which has migrated to the region of the ileocecal valve.



Figure 2 Endoscopic view of the cecum, showing the impacted stent in the appendiceal orifice. The stent was removed with a snare.

#### D. Schwab<sup>1</sup>, U. Baum<sup>2</sup>, E. G. Hahn<sup>1</sup>

<sup>1</sup> Department of Medicine I, University Erlangen-Nürnberg, Erlangen, Germany

<sup>2</sup> Department of Diagnostic Radiology, University Erlangen-Nürnberg, Erlangen, Germany.

#### References

- <sup>1</sup> Costamagna G, Pandolfi M, Mutignani M et al. Long-term results of endoscopic management of postoperative bile duct strictures with increasing numbers of stents. *Gastrointest Endosc* 2001; 54: 162 – 168
- <sup>2</sup> Johanson JF, Schmalz MJ, Geenen JE. Incidence and risk factors for biliary and pancreatic stent migration. *Gastrointest Endosc* 1992; 38: 341 – 346
- <sup>3</sup> Wilhelm A, Langer C, Zoeller G et al. Complex colovesicular fistula: a severe complication caused by biliary stent migration. *Gastrointest Endosc* 2003; 57: 124 – 126
- <sup>4</sup> Shelton T, McKinlay R, Schwartz RW. Acute appendicitis: current diagnosis and treatment. *Curr Surg* 2003; 60: 502 – 505

#### Corresponding Author

##### D. Schwab, M. D.

Department of Medicine,  
University Erlangen-Nürnberg  
Ulmenweg 18  
91054 Erlangen  
Germany

Fax: +49-9131-85-35228

E-mail: dieter.schwab@med1.imed.uni-erlangen.de