A 29-year-old woman presented to our center for the evaluation of recurrent biliary colic. Abdominal ultrasound revealed mild dilatation of the common bile duct (CBD) apparently with a small stone at its distal end (Fig. 1). The patient underwent endoscopic retrograde cholangiopancreatography (ERCP), which showed mild dilatation of the CBD but no stones. A horizontal filling defect was observed at the distal end of the CBD (Fig. 2). Lateral fluoroscopic examination showed a small biliary web (Fig. 3). During a sweep of the CBD with the extraction balloon, mild resistance was encountered at the site of the web, which was then dilated with the balloon (Fig. 4).

Biliary webs are rare, with approximately 20 cases reported in the literature [1]. Most biliary webs are associated with cholelithiasis as a result of impaired biliary drainage [2]. Although the exact mechanism behind the formation of webs in the bile ducts is not known, some are believed to be congenital [3]. During the development of the human embryo, the bile ducts pass through a solid stage, in which the lumen becomes obliterated by epithelial proliferation [4]. Recanalization of the biliary tree usually starts at the end of the fifth week of gestation [4]. Incomplete recanalization can lead to the development of a web. Biliary webs are typically diagnosed by contrast cholangiography or magnetic resonance imaging. Also, direct in vivo cholangioscopic imaging of a biliary web has been reported [5]. During more than 6 months of follow-up evaluation after balloon dilation of the web, our patient has not experienced any biliary problems.

References

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Fig. 1 Abdominal ultrasound image in a 29-year-old woman undergoing evaluation for recurrent biliary colic shows mild dilatation of the common bile duct with a web at its distal end (arrows), misdiagnosed as a small stone. CBD, common bile duct.

Fig. 2 Fluoroscopic image shows a horizontal filling defect at the distal end of the common bile duct.

Fig. 3 Lateral fluoroscopic image shows a small biliary web.

Fig. 4 Balloon dilation of the web.