

Endoscopic Metallic Stenting and Intraductal Ultrasonography in a Case of Bile Duct Cancer

We report here the case of a 69-year-old man who presented with obstructive jaundice. An endoscopic retrograde cholangiopancreatographic (ERCP) examination showed obstruction of the lower portion of the common bile duct (Figure 1) and a diagnosis of cancer of the pancreatic head was made from an endoscopic biopsy sample from the common bile duct epithelium. An expandable metallic stent (EMS; Wallstent) was inserted endoscopically on 31 March 1997, because of the inoperability caused by severe portal vein invasion as revealed by portography. Narrowing of the lumen in the stent was already apparent from another ERCP and intraductal ultrasonography (IDUS) on April 22 (Figure 2 [ii]). This narrowing progressed to the point of near-obstruction about 1 month after stenting, at which time the patient complained of right hypochondralgia, fever, and nausea, which was improved by antibiotic administration. However, obstructive jaundice recurred on July 1, i.e. 3 months after stenting, and another IDUS examination clearly demonstrated tumor invasion around the lower portion of the

stent and massive debris in the proximal region of the stent (Figure 2 [iii]). Repeated biliary washing using saline and antibiotics was carried out and another Wallstent was inserted endoscopically to expand the narrow region (Figure 2 [iv]). However, since the inner Wallstent did not expand well proximally, probably due to severe stenosis in the lower portion of the common bile duct, on 30 September reobstruction of the stent developed, with debris formation in the proximal portion of the later inserted inner stent and in the spaces between the double stents (Figure 2 [v]). The insertion of a plastic tube in the stents was unavoidable because biliary washing using balloon catheters did not improve the flow of bile (Figure [vi]).

The development of IDUS (1,2) allows detailed examination of the bile or pancreatic duct, and we applied this technique to a patient undergoing endoscopic metallic stenting as an ERCP examination could hardly present in detail what occurred in the stent during the clinical course (3). The stents did not adversely affect the probe or



Figure 1: Bile duct cancer showing a distal CBD stricture in a 69-year-old man.

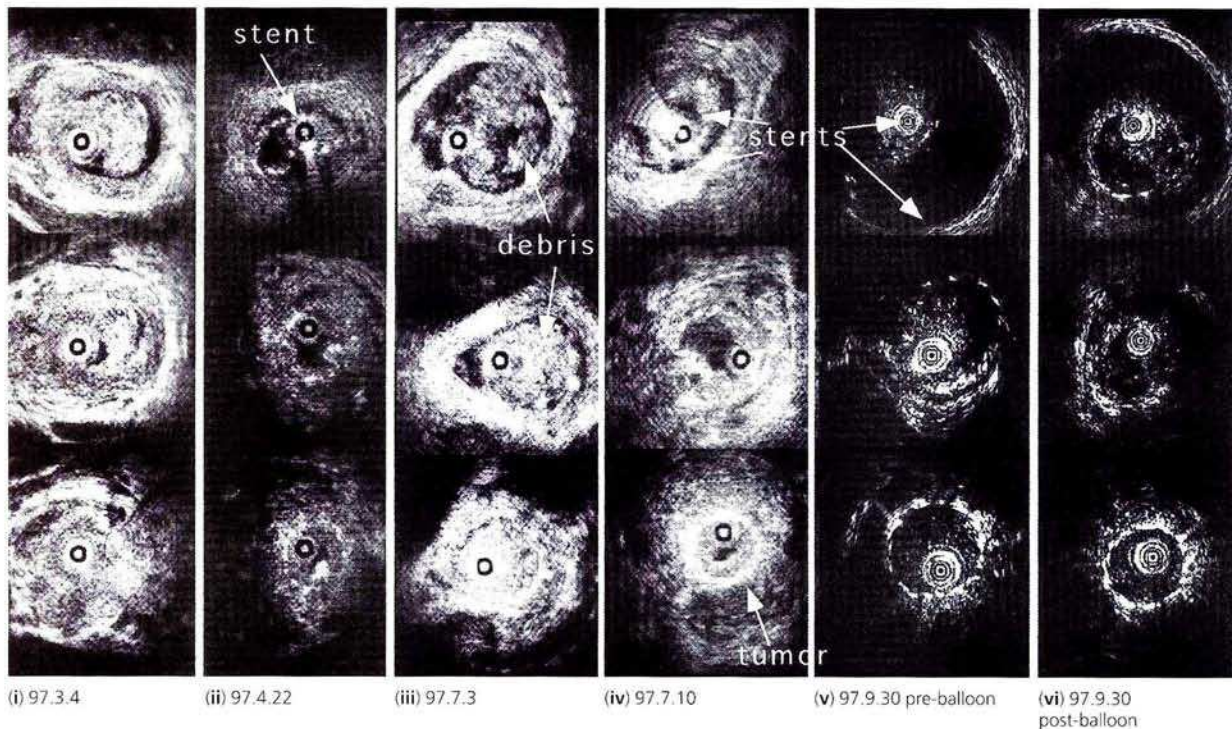


Figure 2: Intraductal sonography (IDUS) findings from the same patient on: (i) 4 March, (ii) 22 April, (iii) 3 July, (iv) 10 July, (v) 30 September (before biliary washing using balloon catheters), (vi) 30 September (after biliary washing using balloon catheters). (All dates in 1997).

the quality of the images, which we had feared initially. Since the post-stenting IDUS predicted rapid detection of intraluminal obstruction, we followed up this patient carefully so as not to miss the chance of endoscopically inserting another stent within the first one, without percutaneous transhepatic biliary drainage.

IDUS showed in detail the early stent damage due to constrictive tumor ingrowth and massive debris formation proximally in the stent. These are believed to cause a vicious cycle of retrograde cholangitis in the case of obstructive jaundice arising from pancreatic cancer (4,5). There is a slight difference between the mechanisms of stent reobstruction in patients with pancreatic cancer and those with bile duct cancer; in the latter very early reobstruction of a stent with massive debris is rare.

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