

A newly designed plastic stent for multiple occluded metallic stents deployed in malignant hilar biliary strictures



Fig. 1 The patient had a Bismuth-type stricture resulting from invasion by pancreatic cancer.



Fig. 2 Deployment of three metallic stents into the left hepatic duct and the posterior and anterior branches of the right hepatic duct.

The feasibility and safety of endoscopic deployment of multiple metallic stents in malignant hilar biliary strictures have been addressed in several articles [1–5]. However, once metallic stents are occluded, multiple deployment of plastic stents through the previously deployed metallic stents is sometimes difficult. We have designed a new plastic stent for dealing with

multiple metallic stent occlusion, and report a successful case using this new stent.

A 64-year-old man with obstructive jaundice was referred to our hospital. He had malignant hilar biliary strictures caused by pancreatic cancer (Fig. 1).

We used a Zeostent (Zeon Medical, Tokyo, Japan) and deployed three-branched me-

tallic stents using a partial stent-in-stent procedure (Fig. 2) following administration of gemcitabine.

Three months after chemotherapy, the patient was readmitted to our hospital with fever and elevated serum biliary enzymes. Endoscopic retrograde cholangiography revealed occlusion of the metallic stents with a filling defect (Fig. 3).

We used a newly designed plastic stent (Through The Mesh stent [TTM stent], Cathex, Tokyo, Japan), 7 Fr in diameter with a distal tapered hook tip and a proximal pigtail-shaped end (Fig. 4).

The length and taper of the hooked distal end of the TTM stent are shorter and narrower, respectively, than those of the 7-Fr Zimmon-type plastic stent (Wilson-Cook Medical Inc., Winston-Salem, North Carolina, USA) (Fig. 5) and facilitate the tip's entry into the proximal bile duct through the previously deployed metallic stents without getting caught in the stricture and the interstices of the metallic stents. We negotiated each stent's lumen with a guide wire following successful deployment of three TTM stents (Fig. 6).

The patient's fever resolved, and the bilirubin level decreased from 4.11 mg/dL to 0.79 mg/dL. The patient was discharged and chemotherapy resumed.

We believe that this newly designed plastic stent will be useful for biliary decompression following occlusion of multiple metallic stents deployed in malignant hilar biliary strictures.

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Competing interests: None

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Fig. 3 Occlusion of the metallic stents because of tissue ingrowth.



Fig. 6 Deployment of the three plastic stents into the left hepatic duct and the posterior and the anterior branches of the right hepatic duct.

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Fig. 4 The Through The Mesh (TTM) stent is available in three lengths (19, 21, and 22 cm).

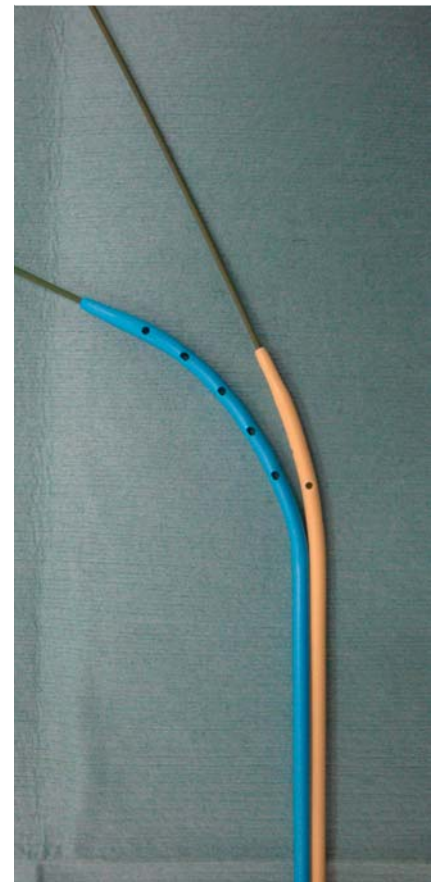


Fig. 5 The Through The Mesh (TTM) stent and a Zimmon-type stent mounted over the guide wire.