

# Triple Metal Stenting for Treatment of Malignant Hilar Strictures



CASE PRESENTED BY:  
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## PATIENT HISTORY

A 61-year-old male patient came with history of jaundice. He had Pruritis and anorexia for one month duration and lost 12kg of body weight in a one-month period. Evaluated elsewhere, an ultrasound and computed tomography scan showed a hilar obstruction, which is also a feature of chronic liver disease. His CA was  $19.9 > 600$ . He was a known diabetic on oral hypoglycemic agent. We reevaluated him and confirmed a hilar obstruction with small mass 2cm x 1.5cm in the confluence of right and left ducts and gross biliary obstruction in both lobes of the liver. There were also features of chronic liver disease with ascites.



Because of his comorbid illness he was not recommended for surgery. Percutaneous Transhepatic Biliary Drainage was also not considered because of the cirrhosis of the liver and ascites. Liver function tests showed serum bilirubin 9.8; serum alkaline phosphate 314; SGOT 66; SGPT 49; serum total protein 7; serum albumin 2.8; serum globulin 4.2; and INR 1.45. He was taken up for endoscopic retrograde cholangiopancreatography (ERCP) under fresh frozen plasma and vitamin K cover.



## PROCEDURE

The ERCP findings were as follows: Panendoscopy showed Grade II esophageal varices. Cholangiogram showed a hilar stricture with communicating right and left ducts (Figure 1). A guidewire was passed into the right duct and the stricture was dilated using a 7Fr dilator. The guidewire could not be negotiated to the left duct. A 7Fr, 7cm double pigtail stent was placed into right duct. The patient improved and was discharged but returned after one month with features of cholangitis rising bilirubin.

A second ERCP was performed that showed multiple strictures in the hilum with three separate non-communicating ducts. The guidewire passed into the right posterior, anterior and left ducts. All strictures

dilated with an 8mm Hurricane™ Dilation Balloon and three plastic 7Fr, 7cm double pigtail stents were placed (Figure 2). The patient improved and his LFT became near normal and he was discharged. Three months later he came back with fever. This time another ERCP was performed to remove all plastic stents. The guidewire passed into the right anterior, right posterior and left duct. First, an 8cm uncovered WallFlex® Biliary RX Stent was placed into left duct. During release, the stent migrated a little into the left duct but the lower end of the stent stayed below the stricture. The second stent, an 8cm WallFlex Stent was placed into the right posterior keeping the lower end of the stent outside the papilla (Figure 3). Then a third 8cm WallFlex Stent was placed into the right anterior duct keeping the lower end outside the papilla. All three stents expanded well (Figure 4).

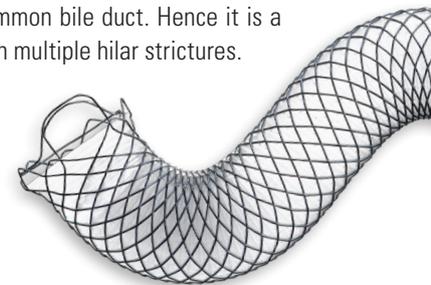
## POST PROCEDURE

Although the patient had some discomfort in the right upper abdomen for one day, it did not require any treatment. He was discharged and on follow up he is totally asymptomatic.

## CONCLUSION

Self-expanding metal stents are the choice when it comes to hilar strictures because of the stent's long-term patency when compared to plastic stents that tend to occlude very quickly. If the patient survival is more than six months, SEMS are the preferred stent.

The WallFlex Biliary RX Stent is very flexible. It did not have any difficulty passing the stent side by side when releasing it. Because of its closed-cell design, the tumor ingrowth is theoretically less. The patient did not have any significant discomfort after placement of the three stents in a non-dilated common bile duct. Hence it is a good choice for palliation in multiple hilar strictures.



*Boston Scientific does not endorse the methodology of tri-lateral stenting as the sole method for treating malignant hilar strictures. As per ESGE guidelines, endoscopic drainage should be performed in high volume centers with experienced Endoscopists and multidisciplinary teams (ref: Biliary stenting: Indications, choice of stents and results: European Society of Gastrointestinal Endoscopy (ESGE) clinical guidelines. Authors: J.-M. Dumonceau, A. Tringali, D. Blero, J. Devière, R. Laugier, D. Heresbach, G. Costamagna.*

**NOTE:** Use of the WallFlex Biliary RX Fully Covered Stent for the treatment of benign strictures or stenoses has not been cleared for use in the United States.

**WARNING:** The safety and effectiveness of the WallFlex Biliary Stent for use in the vascular system has not been established.