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## Re-establishing patency of occluded metallic biliary stents by endobiliary-RF ablation technique

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**Background & Aim:** Biliary drainage with the use of Metallic Biliary Stents (MBS) is a well-accepted palliative therapy for patients with unresectable malignant hilar obstruction. These stents often lose their patency over a period of 6-9 months secondary to tumor ingrowth or overgrowth, epithelial hyperplasia. Occlusion caused by sludge deposition or clot or stone formation. Limited treatment options are available for such a condition. Endobiliary Radio Frequency Ablation (RFA) has been shown to be an effective modality in the treatment of malignant biliary obstruction. Here we present our experience with endobiliary RFA technique for restoring the patency of occluded MBS.

**Method:** Patients were taken with previously placed MBS for malignant etiology, presented with rising serum bilirubin and signs of cholangitis secondary to occlusion of MBS. Percutaneous trans-hepatic biliary drainage was achieved in all cases. After negotiating guide-wire across the stent, biliary drainage was established. After treating cholangitis, endobiliary-RFA was performed. Post-procedure cholangiogram was performed to ascertain the patency. Periodic clinical follow-up was scheduled for 6-months or till their survival.

**Result:** The patients were followed up clinically and with USG to a minimum of 6 months or till their survival. The presence of pneumobilia on USG along with normal LFT were considered as the signs of stent patency. All patients showed restoration of patency on cholangiography examination performed on the following day of RFA (restored diameter 6-8 mm). The mean duration of stent patency after the first session of RFA was 3.9 months (range 2-7 months) which was comparable to the primary patency of these stents (4.8 months). This extended period of stent patency ensured administration of additional cycles of chemotherapy in these patients coupled with objective improvement in the quality of life. Progressive tumor in growth through the openings between the struts of the stents can lead to stent block, thereby significantly reducing their primary patency. Till date little progress has been made in terms of improving the duration of stent patency for malignant strictures. Endobiliary RF ablation is a recently developed option in the management of such patients. Stent patency achieved after RFA is comparable to the primary patency of biliary stents.

**Conclusion:** Our experience suggests that endobiliary-RFA with balloon-sweep maneuver can be a safe and useful technique for re-establishing the patency of occluded MBS. Re-opened stent with good short term patency offers medical oncologist a chance of administering additional chemotherapy which may improve patient's survival.

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