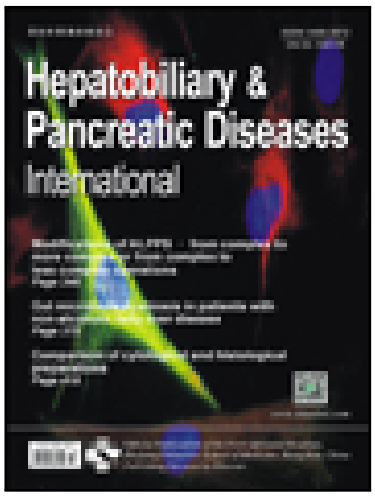

Management of occluded self-expanding biliary metal stents in malignant biliary disease

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Running title: Management of occluded SEMS

Management of occluded self-expanding biliary metal stents in malignant biliary disease

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BACKGROUND: Occlusion of self-expanding metal stents (SEMS) in malignant biliary obstruction occurs in up to 40% of patients. This study aimed to compare the different techniques to resolve stent occlusion in our collective of patients.

METHODS: Patients with malignant biliary obstruction and occlusion of biliary metal stent at a tertiary referral endoscopic center were retrospectively identified between April 1, 1994 and May 31, 2014. The clinical records were further analyzed regarding the characteristics of patients, malignant strictures, SEMS, management strategies, stent patency, subsequent interventions, survival time and case charges.

RESULTS: A total of 108 patients with biliary metal stent occlusion were identified. Seventy-nine of these patients were eligible for further analysis. Favored management was plastic stent insertion in 73.4% patients. Second SEMS were inserted in 12.7% patients. Percutaneous transhepatic biliary drainage and mechanical cleansing were conducted in a minority of patients. Further analysis showed no statistically significant difference in median overall secondary stent patency (88 vs 143 days, *P*=0.069), median survival time (95 vs 192 days, *P*=0.116), median subsequent intervention rate (53.4% vs 40.0%, *P*=0.501) and median case charge (€5145 vs €3473, *P*=0.803) for the treatment with a second metal stent insertion compared to plastic stent insertion. In patients with survival time of more than three months, significantly more patients treated with plastic stents needed re-interventions than patients treated with second SEMS (93.3% vs 57.1%, *P*=0.037).

CONCLUSIONS: In malignant biliary strictures, both plastic and metal stent insertions are feasible strategies for the treatment of occluded SEMS. Our data suggest that in palliative biliary stenting, patients especially those with longer expected survival might benefit from second SEMS insertion. Careful patient selection is important to ensure a proper decision for either management strategy.

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