**FOCUSED REVIEW SERIES:**
Advanced Endoscopic Treatment for Pancreaticobiliary Diseases

Clin Endosc 2015;48:15-19

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# Endoscopic Ablation Therapy for Biliopancreatic Malignancies

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Biliopancreatic malignancies such as cholangiocarcinoma (CCA) has notoriously been diagnosed late. As such most therapy have been palliative in nature. Cholangioscopy allows for an earlier diagnosis to be made. Brachytherapy with the insertion of catheter with iridium-132 seeds, percutaneously or through endoscopic retrograde cholangiopancreatography (ERCP) was the earliest ablative techniques used. It has been shown to have a beneficial effect only in prolonging survival. Photodynamic therapy (PDT) has also been used for several years. Stenting with PDT versus stenting alone for unresectable CCA showed a marked survival benefit with the addition of PDT. However the most exciting endoscopic ablative modality appears to be intraductal radiofrequency ablation using the Habib catheter and device. Several case series have shown the effectiveness of this technique in ablating tumors. This technique is evolving and coupled with early diagnosis of CCA through cholangioscopy will allow for a curative therapy. The crux to the effective treatment of early cancerous lesions in the bile or pancreatic duct is the early diagnosis of such lesions. Effective endoscopic ablative therapy is now available with the advent of radiofrequency ablation probes that can be passed through the duodenoscope via ERCP.

**Key Words:** Cholangiocarcinoma; Radiofrequency ablation; Photodynamic therapy; Brachytherapy

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**INTRODUCTION**

Biliopancreatic malignant neoplasia is an evolving area of interest particularly in terms of treatment since it carries a high association to morbidity and mortality. These types of neoplasia include ampullary adenocarcinoma, cholangiocarcinoma, gallbladder polyp, gallbladder cancer and pancreatic malignancies, of which pancreatic adenocarcinoma being the most common.¹ Among them, cholangiocarcinoma (CCA) has the highest incidence reported in Eastern and Southeastern Asia. The main risk factor of CCA in Asian countries is mostly link to certain liver fluke infestation. *Opisthorchis viverrini* and *Clonorchis sinensis* have been associated with the development of CCA.²³ During the early course of the disease, it runs a silent clinical course and therefore has notoriously been diagnosed late. CCA is slow growing neoplasm and is usually detected advanced at the time of diagnosis. This feature confers a grim prognosis, as such most therapy of this type of neoplasm including endoscopic therapy has always been palliative in nature. Surgical resection offers the best curative treatment, but most of these patients are noted to be unresectable and are poor surgical candidates during the time of presentation. A prospective study by Mihalache et al.⁴ presented the 1-year overall survival of CCA was 22.3%±4.4% and the 2-year survival was 3.4%±2.1%. They are difficult to treat and pose a dreadful outcome when inoperable. On a positive note, newer methods of direct cholangioscopy can perhaps afford an earlier diagnosis of CCA as well as lesions in the pancreatic duct and therefore allow possible “curative” endoscopic ablative therapy. Thus, different endoscopic ablative modalities are currently on investigation to achieve this therapeutic goal.

**THERAPEUTIC ABLATIVE TECHNIQUE**

When different ablative techniques introduced into the field of gastroenterology, various diseases were addressed. These techniques can be performed directly (e.g., brachytherapy and radiofrequency ablation) or indirectly (e.g., photodynamic therapy). The route of administration is done either endoscop-