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Establishment of an endoscopic retrograde cholangiopancreatography (ERCP) program in rural Kenya: a review of patient and trainee outcomes

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Abstract

Background: Endoscopic retrograde cholangiopancreatography (ERCP) is a leading modality for treatment of biliary and pancreatic disease but is not widely available in sub-Saharan Africa. We aimed to assess the development and outcomes of an ERCP service in southwestern Kenya, including case volumes, success rates, infrastructure, and training.

Methods: We conducted a retrospective review of all ERCPs performed at Tenwek Hospital in Bomet, Kenya between January 1, 2011 and March 31, 2020.

Results: In total 277 ERCP procedures were attempted during the study period. The commonest indication was obstructive jaundice: 91 patients (32.9%) had malignancy and 85 (30.7%) had choledocholithiasis. Overall clinical success rate was 76.1% and was the highest in patients with biliary stones (81.2%) and lowest in those with tumors (73.5%) ($p = 0.094$). Procedure-related adverse events occurred in 11.9%, including post-ERCP pancreatitis in 3.6%, with a procedure-related mortality rate of 1.4%. Annual case volumes increased, and mean procedure duration decreased from 162 to 115 min ($p = 0.0007$) over time. A previously-trained endoscopist initially performed all cases; two staff endoscopists were trained in ERCP during the study period, performing 130 and 89 ERCPs during training, with clinical success rates of 84% and 74% during their subsequent independent practice.

Conclusion: An ERCP service can be successfully developed at a rural African hospital, with acceptable success and adverse event rates. Biliary obstruction due to stones or tumors are the most common findings. While a previously trained endoscopist should initiate and champion the service, staff endoscopists can be successfully trained despite limited case volumes.

Keywords: Choledocholithiasis; ERCP; Obstructive jaundice; Pancreatitis.

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