Management of Endoscopic Retrograde Cholangiopancreatography (ERCP) Related Periduodenal Perforations

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Purpose: Evidence based strategies are lacking regarding the appropriate management of periduodenal perforations complicating endoscopic retrograde cholangiopancreatography (ERCP). The aim of this study is to review our experience with management of periduodenal perforations after ERCP.

Methods: A retrospective chart review was conducted to identify their incidence, types of the perforation (type I: injury by duodenoscope before approach to papilla, type II: injury by guidewire during puncture of papilla, type III: injury of bile duct or pancreatic duct by guidewire after puncture of papilla), clinical manifestations, diagnostic methods, radiologic findings, methods of management, and clinical outcomes.

Results: From April 1999 to April 2008, 6,658 ERCP were performed, 10 of which (0.15%) resulted in ERCP related periduodenal perforation. Four of the perforations were discovered during ERCP, and another six had performed CT or chest PA. Six patients (60%) were managed conservatively, and recovered successfully without significant incident. Two patients underwent emergency primary repair and loop duodeno-jejunostomy. Other two patients underwent elective Whipple’s operation and pylorus preserving pancreatico-duodenectomy after conservative management for 3 days and 10 days, respectively. There was no mortality.

Conclusion: Clinical and radiographic findings can be used to stratify patients into non-operative or surgical treatment. The patients with type I as well as type II and III can be managed non-operatively by endoscopic drainage and aggressive use of endoscopic clipping device to repair a duodenal perforation. We can perform elective extensive procedure like Whipple’s operation after conservative treatment for several days, if the patient responds to that.