

## Can indomethacin be helpful in double balloon enteroscopy-assisted procedures?



We have read with interest the article by Kashani et al, on use of double-balloon enteroscopy (DBE) in patients with Roux-en-Y gastric bypass to perform endoscopic retrograde cholangiopancreatography (ERCP) [1]. This is a highly specialized procedure that can be complicated by pancreatitis, an adverse event that was reported in 7.8% of patients in the same study [1]. In patients undergoing antegrade DBE, the rate of pancreatitis has been reported to be up to 3%, particularly in the context of therapeutic or prolonged procedures [2].

High amylase is one of the markers of acute pancreatitis together with clinical and radiological evidence that help establish the diagnosis. Hyperamylasemia following antegrade DBE has been reported in up to 69% of patients [3]. It can be secondary to focal areas of ischemic necrosis due to mechanical stress during DBE resulting in subacute pancreatitis [4].

Use of rectal nonsteroidal anti-inflammatory drugs (NSAIDs) to prevent post-DBE pancreatitis has never been explored unlike in endoscopic retrograde cholangiopancreatography (ERCP), in which patients receiving rectal indomethacin or diclofenac have a lower incidence of post-ERCP pancreatitis [5]. We would like to share our experience from a tertiary center on use of rectal indomethacin in patients undergoing DBE.

Patients who received 100 mg of rectal indomethacin 30 minutes prior to antegrade DBE were compared to a group of patients who underwent antegrade DBE prior to implementation of the indomethacin protocol. Serum amylase and CRP measured before the procedure from these 2 groups of patients were compared to serum levels 3 hours after DBE.

240 patients (56 indomethacin, 184 controls; 50% males; mean age  $58.5 \pm SD14.0$ ) were included in this study. Patients had a median of  $13.0 \pm SD13.0$  passes,  $65.0 \pm SD25.0$  minutes,  $170 \pm SD52.0$  cm of small bowel (SB) examined. 36.3% underwent a therapeutic procedure during DBE: argon plasma coagulation/adrenaline/clips (27.5%), foreign body removal (0.4%), polypectomy (8.3%).

Mean amylase ( $51.6 \pm SD22.7$  vs  $143.0 \pm SD143.9$  IU/L  $P=0.01$ ) and C-reactive protein ( $13.0 \pm SD46.1$  vs  $17.3 \pm SD81.7$  mg/L  $P=0.01$ ) after the procedure were significantly higher than levels before the procedure. Mean amylase 3 hours after DBE was significantly lower in patients who received indomethacin (114 vs 152) ( $P=0.04$ ). 83.9% had a rise in amylase in the indomethacin group compared to 92.2% of controls ( $P=0.06$ ).

Only four patients (1.67%; 2 females) developed pancreatitis, all prior to implementation of indomethacin in the protocol. They had a median age of  $47.0 \pm SD3.20$  years,  $11 \pm SD29.4$  passes,  $90 \pm SD52.0$  minutes,  $150 \pm SD64.2$  cm of small bowel (SB) examined and median hospital stay of  $14 \pm SD3.70$  days. Three had polypectomies. All had evidence of pancreatitis on computed tomography scan. None of these patients received indomethacin before DBE.

There was a significant association between amylase post-procedure and length of SB examined (Spearman's rho 0.186;  $P=0.005$ ).

This study identifies an important role for rectal indomethacin in antegrade DBE. We have demonstrated that rectal indomethacin reduces amylase post-DBE and no patients given indomethacin experienced pancreatitis. The same drug can be an important consideration in patients undergoing DBE-assisted ERCP, a select group of patients that are at an even higher risk of pancreatitis than patients undergoing just DBE due to cannulation of the biliary tree.

### Competing interests

None

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