

Retrospective analysis of the role of intravenous fluids in the prevention of Post-ERCP pancreatitis

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Background

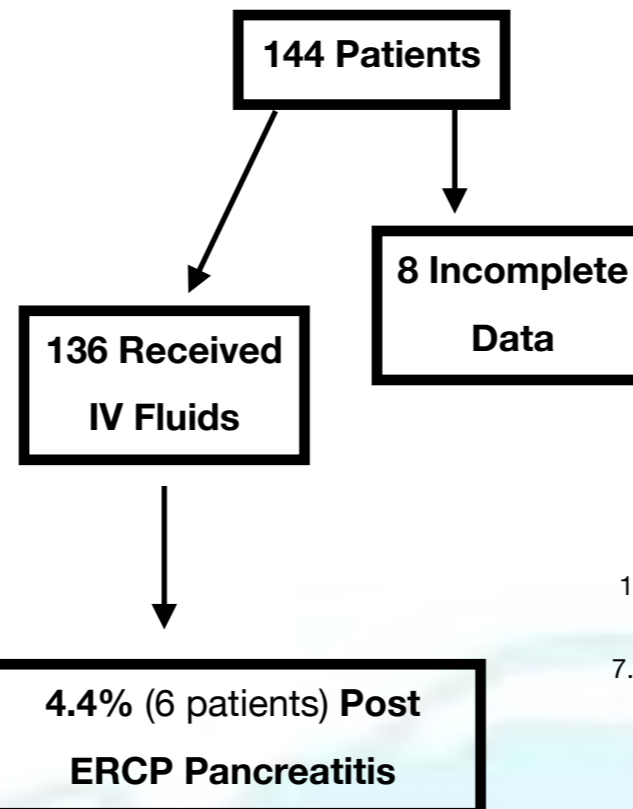
- Acute pancreatitis (AP) is the most common and harmful complication of endoscopic retrograde cholangiopancreatography (ERCP) with rates ranging from 8%-15% depending on risk.^{1,2}
- Intravenous fluid (IVF) therapy is the main treatment of acute pancreatitis and randomised control studies have demonstrated that when given over 3ml/kg/hr during ERCP there is a potential reduction in the pancreatitis rates.³
- Recent guidelines from the American Society for Gastrointestinal Endoscopy (ASGE) recommend the 'conditional' use of IVF in prevention of those at moderate to high risk of post-ERCP pancreatitis.⁴
- Within in Dumfries Royal Infirmary the administration of prophylactic IVF at the time of ERCP is routine and therefore represents an ideal cohort to look at the pancreatitis rates.

Aim:

To appraise the rates of post-ERCP pancreatitis following the administration of intravenous fluids (Hartmans) procedural and post-ERCP within a years period in a large district general hospital.

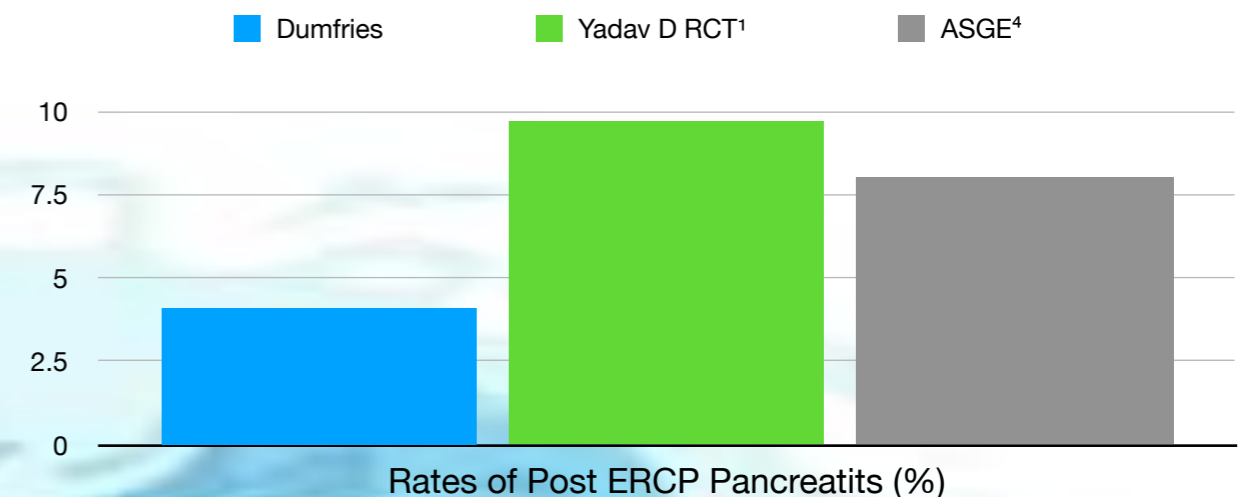
Method:

- Retrospective analysis of all patients, totalling 144, which underwent ERCP in Dumfries Royal Infirmary from 04/11/2021-04/01/2023.
- Data was collected on all patients undergoing ERCP in the allocated time period using Clinical Portal (online patient records).
- Information was gathered on patient demographics, if IVF were given at the time or post-ERCP (within 1hr), type of IVF and the corresponding volume.
- 8 Patients were excluded due to incomplete data.
- Rates of acute pancreatitis were collected in accordance with national guidelines.
- Results were analysed using Microsoft Access.



Results:

1. 144 Patients underwent ERCP with in the 1 year and 2 month period.
2. 100% of the patients received IVF at the time of ERCP (<1hour).
3. The acute pancreatitis rate in those which received IVF at the time of ERCP (<1hour) was 4.4%.
4. All those which had acute pancreatitis post-ERCP had received IVF.
5. The mean amount of IVF received in a 24hour period was 1030mls.



Conclusion:

- The acute pancreatitis rates post ERCP within Dumfries Royal Infirmary were below the national average (4.4% vs 8%) and we would attribute that in part to the use of IVF.
- Given the potential benefit over harm, cost effectiveness and feasibility of IVF we would recommend the routine use of peri-procedural ERCP IVF.
- Further studies into the benefits of IVF on reducing post ERCP post ERCP rates is required.

References & Further reading:

1. Yadav D, Lowenfels A B. The epidemiology of pancreatitis and pancreatic cancer. Gastroenterology.
2. 'incidence, severity, and mortality of post-ERCP pancreatitis: a systematic review by using randomized, controlled trials', Kochar B et.al. Gastrointest Endosc. 2015 Jan;81(1):143-149.e9. Epub 2014 Aug 1 (Charted bar 1)
3. <https://clinicaltrials.gov/ct2/show/results/NCT02050048>
4. 'American Society for Gastrointestinal Endoscopy guideline on post-ERCP pancreatitis prevention strategies: summary and recommendations', James L. Buxbaum Et al, GASTROINTESTINAL ENDOSCOPY Volume (Charted bar 2)

