

Pharmacotherapy strategies to modulate the inflammatory response following pancreatectomy

D Hughes¹, L Hall², G Karagiannidis³, A Smith⁴, S Pathak⁴

¹ Department of HPB Surgery, Oxford University NHS Foundation Trust, UK

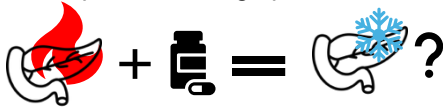
² Queen Elizabeth Hospital, Birmingham, UK

³ Imperial College London, UK

⁴ Department of Pancreatic Surgery, Leeds Teaching Hospitals NHS Trust, UK

Background

- Pancreatectomy generates a significant post operative inflammatory response in the remnant gland
- This may clinically manifest as Post Operative Acute Pancreatitis (POAP) which contributes to pancreatic fistula (POPF) formation
- Can the inflammatory response be manipulated through pharmacotherapy?



Methods

- Systematic review of the published literature
- Primary outcome measure - Post operative complication rate
- Secondary outcome measure – assessment of pharmacotherapy intervention (dose, delivery route, acceptability).

Results



22 included articles



3,671 patients receiving pharmacotherapy



Corticosteroids

6 articles = 601 patients

Dexamethasone most frequently used 4/6 (67%)

Variable dosing strategy

No adverse drug events reported



5/6 (83%) of the included studies demonstrated a reduction in POPF



0 study specifically looked at whether corticosteroid reduced POAP



NSAIDs

16 articles

Ketorolac (6/16, 38%) and Indomethacin (4/16, 25%) were the 2 most frequently used NSAIDs

Variable dosing strategy

No adverse drug events reported



10/16 (33%) of the included studies demonstrated a reduction in POPF rates



2 studies specifically looked at whether NSAIDs reduced POAP, both of which demonstrated a reduction of POAP rates

Discussion

- Suggestion in the literature that there is merit to pharmacotherapy to reduce post operative inflammatory response
- Highly heterogenous studies with variable drug dosing
- Clear lack of active patient and public involvement (PPI) regarding study/trial design and acceptability of pharmacotherapy treatment.

Conclusion

The literature regarding pharmacotherapy for manipulating the inflammatory response following pancreatectomy is heterogenous.

There is however a signal to suggest that such an approach may reduce POPF.

Further work is required in a prospective setting in order to determine the optimal dose, delivery and its implementation into the perioperative treatment pathway.