

Loop Diuretic Induced Pancreatitis

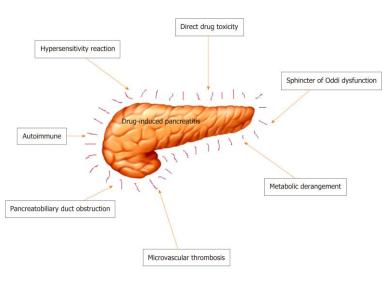
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BACKGROUND

- Drug-Induced Acute Pancreatitis, once considered a rare cause (0.1 – 2%) of pancreatitis, is seen more clinically and reported more frequently in the literature¹.
- Loop diuretic has been reported as the causative agent in a few cases of drug-induced pancreatitis.
 Furosemide is considered a class 1A agent².
- Class 1A agents have at least 1 case report with a positive re-challenge, with other causes for pancreatitis altogether ruled out².

PATHOPHYSIOLOGY



CASE PRESENTATION

36-year-old woman with past medical history of nephrotic syndrome and pulmonary embolism was in the ED with acute epigastric pain, nausea, and vomiting.

Three weeks prior to this presentation, she was started on Furosemide for generalized anasarca.

Initial labs - lipase 122, BUN 20, triglycerides 252
Imaging - CT Abdomen revealed acute interstitial edematous pancreatitis.

Denied alcohol, no hypercalcemia. Normal IgG4 levels
Abdominal ultrasound - no evidence of gallstones.
EUS - no evidence of pancreatic mass, cysts, CBD stones, or chronic pancreatitis

Furosemide was held as it was a possible etiologic agent.

Clinically improved and discharged.

Switched to bumetanide, but within 10 days of starting bumetanide Developed acute epigastric pain with Lipase 907.

Bumetanide was held and switched to ethacrynic acid with no recurrence.

DISCUSSION

- Based on Naranjo et al. Adverse Drug Reaction Probability Scale, our patient scored 7, making loop diuretic the most probable cause of pancreatitis.
- Loop diuretic exerts direct toxicity on the pancreas and a concurrent decrease in extracellular fluid volume leading to pancreatic ischemia and inflammation¹.
- Our patient developed pancreatitis only with furosemide and bumetanide, indicating a possible underlying immune-mediated mechanism related to sulfa metabolites³.

CONCLUSION

The greatest challenge in diagnosing drug-induced pancreatitis is the inability to completely rule out other risk factors. Further research is crucial to learn more about this disease process.

REFERENCES

¹Jones MR et al. Drug-induced acute pancreatitis: a review Ochsner J. 2015;15(1):45-51. PMID: 25829880

²Simons-Linares CR et al. Drug-Induced Acute Pancreatitis in Adults: An Update. *Pancreas*. 2019; 48 (10). PMID: 31688589

³Juang P et al. Probable loop diuretic-induced pancreatitis in a sulfonamide-allergic patient. Ann Pharmacother. 2006;40(1) PMID: 16352777