



## DICLOFENAC INDUCED SEVERE PANCREATITIS – A RARE CASE STUDY

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### ABSTRACT

Acute pancreatitis is sudden inflammation of the pancreas that may be mild or life threatening but usually subsides. Acute Pancreatitis is an acute inflammatory process of the pancreas with varying involvement of regional tissues or remote organ systems. Gallstones and alcohol abuse are the main causes of acute pancreatitis. Severe abdominal pain is the predominant symptom. Blood tests and imaging tests, such as computed tomography, help the doctor make the diagnosis. Whether mild, moderate, or severe, acute pancreatitis usually requires hospitalization. Here case reported with a history of tooth removal and given analgesic – NSAIDS – Diclofenac post intake patient develop severe pain abdomen, vomiting and restlessness. Patient being

hospitalized for the same and regular investigation done suggestive of Acute Pancreatitis. Patient recovered as per standard treatment given.

**KEYWORDS:** Acute Pancreatitis, Diclofenac, Serum Amylase, Serum Lipase, NPO.

Acute pancreatitis is an acute inflammatory process of the pancreas with varying involvement of regional tissues or remote organ systems. The incidence of acute pancreatitis in England, Denmark and USA ranges between 5 & 30 per 100,000 populations with highest incidence recorded in the United states and Finland.

The estimated incidences are however in accurate because the diagnosis of mild diseases may be missed and death may occur before diagnosis in 10 % of people with severe disease.<sup>[1]</sup>

The increased incidence of pancreatitis, coupled with new treatment options, poses a challenge for primary care physicians. Twenty five percent of patient suffer from the severe form of the disease with local or systemic complications, resulting in mortality rate ranging from 2 -10%.

Increased mortality and morbidity are associated with organ failure in 50 % of severe acute pancreatitis cases.<sup>[2]</sup>

The two most common causes of acute pancreatitis are cholelithiasis and alcohol. The other causes includes drugs (Azathioprine, Corticosteroids, etc.).<sup>[3]</sup>

Regardless of the etiology, pancreatic enzymes (Including Trypsin, Phospholipase A<sub>2</sub> & Elastase) become activated within the gland itself. The enzymes can damage tissue and activated complement and inflammatory cascade, producing cytokines. This process causes inflammation, edema, and sometimes necrosis. In mild pancreatitis, inflammation is confined to the pancreas; the mortality rate is 10 to 50%. After 5 to 7 days, necrotic pancreatic tissue may become infected by enteric bacteria. The chances of developing infected pancreatic necrosis depend the extent of necrosis.<sup>[4]</sup>

Activated enzymes and cytokines that enter the peritoneal cavity cause a chemical burn and results in exudation of fluid in third space; those that enter the systemic circulation causes a systemic inflammatory response that can result in acute respiratory distress syndrome and renal failure. The systemic effects are mainly the result of increased capillary permeability and decreased vascular tone, which result from the released cytokines and chemokines. Phospholipase A<sub>2</sub> is thought to injure alveolar membranes of the lungs. Here case reports a 56 years old male non alcoholic, non smoker, vegetarian no history any surgery had history of severe toothache and undergone tooth eruption and has been given diclofenac as a analgesics. Post analgesic consumption patient develop severe pain abdomen, persisting vomiting and abdominal distension.

### **On Examination**

- Pulse – 126 BPM.
- Blood Pressure – 156/90 mm of Hg.
- Spo2 – 96% at RA.
- Temperature – Afebrile.

CVS – S<sub>1</sub> & S<sub>2</sub> – NAS.

R/S – NVBS, B/L EAE.

P/A – Distended Diffuse tenderness, BS – Reduced.

Investigations – At the time admission.

CBC - TLC – 16200 Cubic/mm, Serum Amylase – 6632 IU/L, Serum Lipase– 4322 IU/L, Creatinine – 2.05mg/Dl, K<sup>+</sup> 4.5, NA<sup>+</sup> 134.

	Serum Amylase	Serum Lipase	TLC	K +	NA <sup>++</sup>	Creatinine
DAY 1	6632 IU/L.	4322 IU/L	16200	4.5 meq/L	134 meq/L	2.05 mg/dl
DAY 2	4467 IU/L.	3453 IU/L	14400	4.5 meq/L	137meq/L	1.95 mg/dl
DAY 3	2178 IU/L.	2422 IU/L	12200	4.5 meq/L	142meq/L	1.76 mg/dl
DAY 4	879 IU/L.	834 IU/L	11700	4.5 meq/L	138meq/L	1.56
DAY 5	356 IU/L.	345 IU/L	8200	4.5 meq/L	140 meq/L	1.3 mg/dl
DAY 6	67 IU/L.	135 IU/L	7276			

Above table shows classical recovery - clinically and laboratory wise.

Patient hospitalized and treated as per standard protocols.

- NPO
- RT Aspiration.
- IV – Fluids as maintenance round the clock.
- Foleys catheter for the Urine output.
- Meropenam – 500mg Q8H.
- PPI – 40mg IV Q 12H.

**Probable Mechanism of Diclofenac Causing Pancreatitis** - Drugs associated with pancreatitis have been classified into three groups. In the first group the association is regarded as definite and fulfils the criteria of pancreatitis developing during treatment with the drug, disappearing upon drug withdrawal and, recurring again when the drug is reintroduced. In the second category a probable association is thought to exist when some but not all the above conditions are fulfilled; the third group contains drugs which have been proposed as causes of pancreatitis, but the published evidence is either inadequate or contradictory. Acute pancreatitis in the patient described was probably due to diclofenac consumption. A definite causative association could only have been established after re challenging the patient with the drug. Deliberate subjection of a patient to a potentially

serious or lethal disease can be ethically justified only if the drug in question-and only that drug-is essential for treatment of a serious illness.

### References of Diclofenac causing pancreatitis

- NSAIDs and Acute Pancreatitis: A Systematic Review **Raffaele Pezzilli,\* Antonio Maria Morselli-Labate, and Roberto Corinaldesi**
- Pancreatitis associated with diclofenac. **H. Khan and N. Edward.**

### CONCLUSIONS

Pancreatitis is life threatening conditions, most common factors being alcohol and gall stones but we need to even consider rare incidence such as diclofenac as reported here.

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