

# Massive Hypertriglyceridemia (6200 mg/dL) Presenting as Acute Pancreatitis: First Reported Case from Nepal

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## ABSTRACT

Hypertriglyceridemia-induced acute pancreatitis (HTG-AP) is an uncommon but severe form of pancreatitis, usually occurring when serum triglyceride (TG) levels exceed 1000 mg/dL. We report the first documented case from Nepal of massive hypertriglyceridemia (6200 mg/dL) presenting as acute pancreatitis in an alcoholic and previously undiagnosed diabetic male. Early diagnosis, aggressive triglyceride-lowering measures, and supportive care resulted in full recovery.

**Keywords:** hypertriglyceridemia; acute pancreatitis; alcohol; Nepal; diabetes mellitus.

## INTRODUCTION

Acute pancreatitis is most commonly caused by gallstones and alcohol consumption. Hypertriglyceridemia (HTG) ranks as the third most common etiology and contributes to 1–10% of all cases.<sup>1,2</sup> Levels above 1000 mg/dL significantly increase risk, with severe complications more common at extremely high concentrations (>2000–5000 mg/dL).<sup>2</sup> Globally, the best recent estimates for incidence of acute pancreatitis are around ~30–35 cases per 100,000 person-years and higher age-standardized rates reported for South Asia.<sup>3</sup> This case represents the first reported Nepalese case of massive hypertriglyceridemia (TG 6200 mg/dL) presenting with acute pancreatitis, highlighting diagnostic challenges and therapeutic considerations in low-resource settings.

## CASE PRESENTATION

### Patient Information

A 38-year-old male from Chitwan, Nepal, presented to the Emergency Department with severe epigastric pain for 12 hours, radiating to the back, associated

with vomiting and reduced oral intake. He had no history of gallstones, or prior lipid disorders. He is a regular alcoholic consumer. Family history was non-contributory.

**Table 1. Initial laboratory investigations.**

Parameters	Results
Serum amylase	412 U/L
Serum lipase	760 U/L
RBS	328 mg/dL
HbA1c	10.20%
Triglycerides	6200 mg/dL
Total cholesterol	772 mg/dL
LDL (direct)	Not calculable
VLDL	1240 mg/dl
Serum sodium	128 mEq/L
Serum calcium	7.8 mg/dL

### Clinical Findings

- Vitals: BP 100/70 mmHg, HR 112/min, RR 24/min, Temp 37.6°C

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- General: Mild dehydration
- Abdominal exam: Epigastric tenderness without guarding

Liver function tests- Normal, Complete blood count- Neutrophilic Leucocytosis

Serum appearance: markedly milky (lipaemic).

### Imaging

Ultrasound abdomen: Bulky hypoechoic Pancreas with peripancreatic fluid, No gallstones Suggestive of Acute Pancreatitis

Contrast-enhanced CT (Day 2): Acute interstitial pancreatitis(Modified CT severity score- 6/10), Minimal Peripancreatic collection, Balthazar Grade C, no necrosis, Mild dilatation of jejunal bowel loops.

### Diagnosis

The patient was diagnosed with:

1. Hypertriglyceridemia-induced acute pancreatitis (HTG-AP)
2. Newly diagnosed Type 2 Diabetes Mellitus
3. Mild hyponatremia

HTG was considered idiopathic vs undiagnosed familial Type V dyslipidemia.

### Management

#### Initial Treatment

- Aggressive IV fluids (Normal Saline)
- IV insulin infusion (0.1 U/kg/hr) targeting TG lowering
- Analgesics and antiemetics
- Bowel rest with gradual refeeding
- Strict glucose monitoring
- Anticoagulation prophylaxis

#### Triglyceride-lowering approach

Due to unavailability of emergent plasmapheresis, an insulin infusion protocol was adopted.

TG trend:

- Day 1: 6200 mg/dL
- Day 2: 3800 mg/dL
- Day 3: 1700 mg/dL
- Day 5: 620 mg/dL

Oral therapy started on Day 3:

- Fenofibrate 200 mg daily
- Omega-3 fatty acids 2 g/day

- Rosuvastatin 20mg/Ezetimibe 10mg nightly

### Outcome and follow-up

The patient improved clinically and was discharged on Day 6.

At 1-month follow-up:

- TG 160 mg/dL
- HbA1c 6.8%
- No recurrent abdominal pain

Lifestyle modification and diabetic education were reinforced.

### DISCUSSION

Hypertriglyceridemia is increasingly recognized in South Asian populations due to changing lifestyle, regular alcohol intake and rising diabetes prevalence.<sup>3</sup> Extremely high levels (>5000 mg/dL), as seen in this case, are uncommon and usually associated with:<sup>4,5</sup>

- Uncontrolled diabetes
- Alcohol abuse
- Genetic lipid disorders
- Certain medications (none used here)

Pathophysiology: Free fatty acid generation from triglyceride breakdown causes cytotoxic injury, pancreatic ischemia, and inflammation.

Management considerations in Nepal and abroad:<sup>6,7,8,9</sup>

- Limited access to plasmapheresis makes insulin infusion the most practical rapid-lowering method.
- Early diagnosis via serum appearance and lipid profile is essential.
- Long-term prevention includes glycemic control, weight management, and fibrates.

This appears to be the first case from Nepal reporting triglycerides as high as 6200 mg/dL leading to acute pancreatitis with successful non-plasmapheresis management.

### CONCLUSION

Massive hypertriglyceridemia is a rare but important cause of acute pancreatitis. Prompt recognition, aggressive triglyceride-lowering therapy with insulin, and supportive management can lead

to favorable outcomes even in resource-limited settings. This case represents the first documented Nepalese report of TG  $\geq 6200$  mg/dL presenting with acute pancreatitis.

**Patient consent:** Informed consent was obtained.

**Conflict of interest:** None

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