

# Hypertriglyceridemia-Induced Pancreatitis in the Setting of Acute COVID-19 Infection

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## Introduction

A major risk factor for acute pancreatitis is severe hypertriglyceridemia (triglyceride concentration of > 10 mmol/L). There have been reported cases of acute and prior COVID-19 infections leading to severe acquired hypertriglyceridemia. Common therapy for these patients is to start insulin drips as a method to lower the extracellular triglyceride levels. We present a case of acute pancreatitis secondary to profound, refractory hypertriglyceridemia in the setting of acute COVID-19 infection.

## Case Description

The patient is a 49-year-old male with a history of recent COVID-19 infection who initially presented to the emergency department with symptoms of epigastric pain with intractable nausea and vomiting. He was found to have acute pancreatitis on imaging and lab work. Incidentally, he was found to be COVID-19 positive. He had no respiratory or infectious symptoms from this infection. The patient was initially admitted to ICU for his triglyceride level reading greater than 5680. He was managed with an insulin drip for resolution of his hypertriglyceridemia. The patient required an extended ICU stay as his triglyceride level remained difficult to decrease while on the insulin drip. Eventually, he was able to be downgraded to the hospital floor after a five-day ICU stay requiring an insulin drip to decrease his profound hypertriglyceridemia.

## Case Description (labs/imaging, etc.)

Figure 1 - Triglyceride Trend Graph

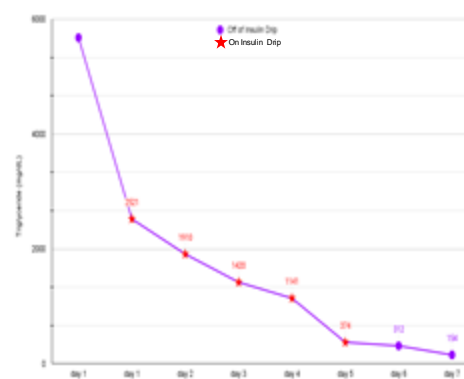


Figure 2  
Triglyceride  
Trend Chart

Triglyceride  
(mg/dL)

|       |       |
|-------|-------|
| day 1 | >5680 |
| day 1 | 2521  |
| day 2 | 1910  |
| day 3 | 1420  |
| day 4 | 1141  |
| day 5 | 374   |
| day 6 | 312   |
| day 7 | 154   |

## Conclusion

Interestingly, this patient's refractory hypertriglyceridemia remained difficult to treat while he was actively infected with COVID-19. Acute COVID-19 infections can manifest in many variable presentations and with a myriad of complications. While rare, acute pancreatitis can be present as one of these manifestations. The treatment course of acute pancreatitis in this setting can be refractory and complicated. This has the propensity to lengthen both ICU and total hospital stay lengths. Physicians should be aware of these potential manifestations and complications. Further study is warranted in the connection between COVID-19 and hypertriglyceridemia-induced acute pancreatitis.

## References

- Fijen LM, Grefhorst A, Levels JHM, *et al* Severe acquired hypertriglyceridemia following COVID-19 *BMJ Case Reports CP2021;14:e246698*.
- Marina Torres Torres, MD, et al, Hyperglycemia, Hypertriglyceridemia and Acute Pancreatitis in COVID-19 Infection, *Journal of the Endocrine Society*, Volume 5, Issue Supplement\_1, April-May 2021, Pages A386–A387, <https://doi.org/10.1210/endo/bvab048.788>
- Thomas CM, Vicent M, Moore S, Ali F, Wooten L, Louzon PR. Treatment of Severe Hypertriglyceridemia With Insulin Infusions in Severe COVID-19: A Case Series. *Journal of Pharmacy Practice*. 2021;0(0). doi:10.1177/08971900211010473