# FROM PANCREATITIS TO PERIUMBILICAL: A CASE EXPLORING SAPONIFIED FAT IN AN UMBILICAL HERNIA REPAIR

Calista Kee, BS[1,2]; Tara Ranjbar, MD[2]; Katerina Jou, MD[2]; Sourodip Mukharjee, MD[2]; Audrey Heldreth, MD[2]; Indraneil Mukherjee, MD[2]
CUNY School of Medicine[1], Staten Island University Hospital Northwell Health[2]

## INTRODUCTION

- Umbilical hernias occur in 2% of adults; risk factors include ascites, liver disease, diabetes, and obesity.
- Usually benign but may require emergency intervention; recurrence is 2.7% (mesh) to 27% (non-mesh).
- Saponification converts lipids into soap and alcohol, essential for fat metabolism but also seen post-pancreatitis.

## METHODS

- 55-year-old male with hypertension, diabetes, stroke, and a history of life-threatening necrotizing pancreatitis 8 years ago, presented for umbilical hernia repair.
- Prior imaging showed a periumbilical fat-containing hernia with a tubular soft tissue density that progressed to calcified fat.

## RESULTS

- A 3 cm × 5 cm hernia defect with a hard consistency confirmed umbilical hernia with calcified fat necrosis.
- The patient underwent open hernia repair with mesh.



Figure 1: Axial saponified hernia



Figure 2a: Pinching of hernia contents



Figure 2b: Gross Hernia Depiction

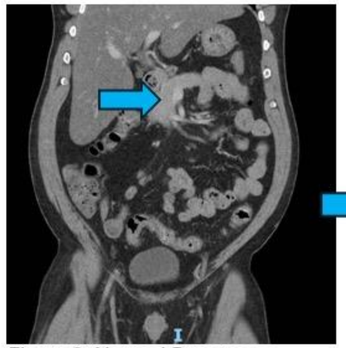


Figure 3: Normal Pancreas



Figure 4: Sagittal saponified hernia

## CONCLUSION

- In pancreatitis, the damaged pancreatic tissue can release fat-digesting enzymes such as lipase and phospholipase A2 that can cause the autodigestion of the organ, damaging the parenchyma and surrounding fat.
- This can activate many mediators of inflammation such as macrophages that greatly exaggerate the inflammatory response to lyse fat cells.
- Cell lysis releases fatty acids that can precipitate with calcium and undergo saponification, depositing in other tissues to cause potentially fatal complications such as organ failure.