Massive Pancreatic Pseudocyst and Metabolic Catastrophe

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INTRODUCTION

- Pancreatic pseudocysts most commonly occur in association with chronic pancreatitis but may also occur with acute pancreatitis and pancreatic trauma.
- Pathogenesis seems to stem from disruption of the pancreatic duct with extravasation of pancreatic enzymes.
- Pseudocysts larger than 10 cm are defined as “giant pseudocysts”; very seldom do they exceed 20 cm.
- In this case we describe the largest single-dimension pseudocyst at 31.4 cm; next largest identified was 30 cm[1].

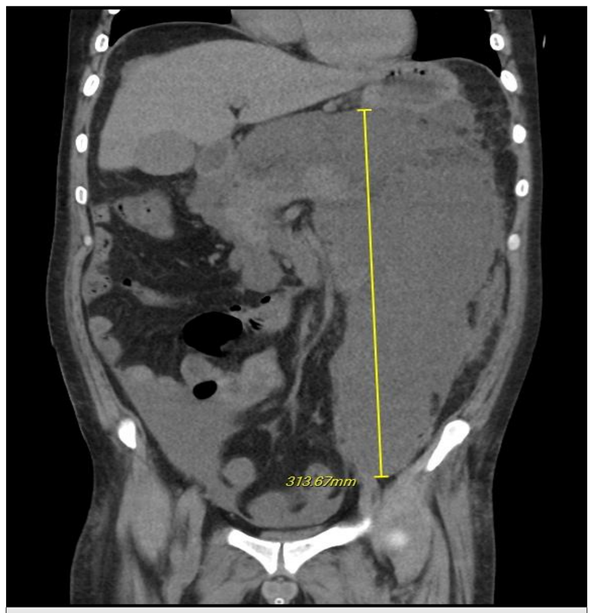
CASE SUMMARY

- 32-year-old male presents to ER with altered mental status after two days of shortness of breath, difficulty speaking in complete sentences, severe abdominal pain with distention.
- No history of drugs, alcohol, abdominal trauma, prior pancreatitis, or diabetes.

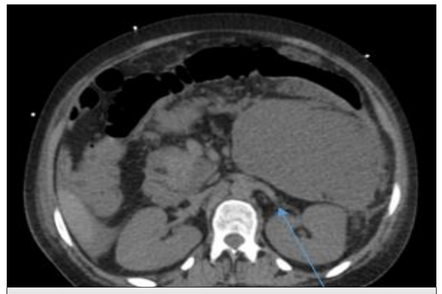
- HR 131 RR 35 T 103.5 BP 85/51 SPO2 96% on 15L NRBM
- Lung Exam: decreased breath sounds bilaterally, crackles.
- Abdominal Exam: massive distension, severe tenderness, without guarding or rebound.
- Labs: Glc 1897 Ca 11.1 WBC 11.6 Lip 1448 GFR 25
  BUN 38 Cr 2.92 ALP 134 AST 8 ALT 12
- ER CT: massive 10 x 20 x 29 cm (5800 mL) pancreatic pseudocyst, bilateral lower lobe atelectasis, pneumatosis intestinalis, renal vein occlusion and external iliac displacement.

- Admitted to ICU, intubated for respiratory failure due to mass effect from pseudocyst and pleural effusion from pancreatitis.
- Repeat CT after 7 days: pseudocyst measured 10 x 19.7 x 31.4 cm (6185 mL).
- In ICU for two weeks. Subsequently required decompressive endoscopic ultrasound-assisted cystogastrostomy.

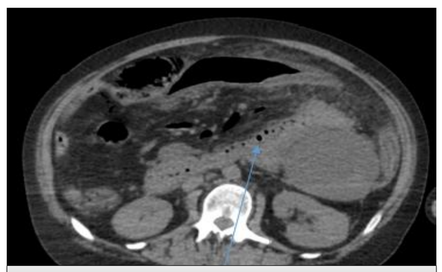
IMAGES



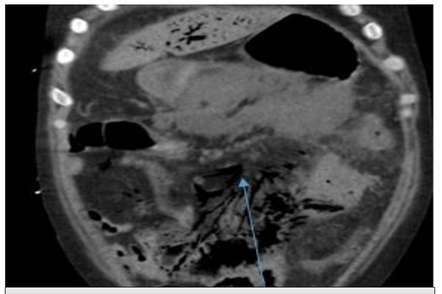
- Figure 1: Massive 31.4 cm pancreatic pseudocyst.



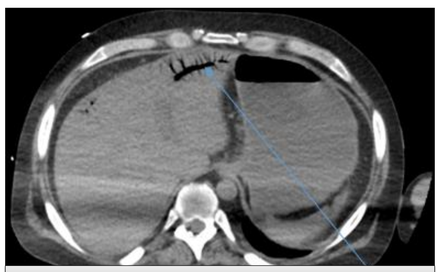
- Figure 2: Renal artery compression.



- Figure 3: Pneumatosis intestinalis.



- Figure 4: Portal venous gas.



- Figure 5: Intrahepatic venous gas.

DISCUSSION

- Clinical presentation ranges from asymptomatic to major catastrophe, as in this case.
- Acute complications include infection, rupture, bleeding, and uniquely, in this case, extensive mass effect.
- Chronic complications include gastric outlet obstruction, biliary obstruction, venous thrombosis, and pancreatic insufficiency.
- Diagnosis is confirmed via imaging using ultrasound, contrast CT, or MRI.
- While typically round or oval, this giant pseudocyst adopted atypical shape to accommodate its massive size.
- In this case, the mass effect was extensive enough to precipitate both respiratory and renal failure.

CONCLUSION

- Pancreatic pseudocysts can develop in the setting of acute or chronic pancreatitis.
- Diagnosis is confirmed via imaging using ultrasound, contrast CT, or MRI.
- Giant pseudocysts are rarely reported; they may grow to massive size before patients present for care.
- We report one of the largest pseudocysts in the literature, recorded on CT imaging.

REFERENCES

1. Udeshika WAE, Herath HMMTB, Dassanayake SUB, Pahalagamage SP, Kulatunga A. A case report of giant pancreatic pseudocyst following acute pancreatitis: experience with endoscopic internal drainage. BMC research notes. 2018;11(1):262. doi:10.1186/s13104-018-3375-9
2. Alhassan S, Umar S, Lega M. One of the Largest Pancreatic Pseudocysts in the Literature: A Case Report. *Cureus*. 2017;9(7):e1493. doi:10.7759/cureus.1493
3. Shah SA, Abdullah MT, Kakar AH, et al.: Giant pancreatic pseudocyst. J Coll Physicians Surg Pak. 2012, 22:325-327.