

Retroperitoneal Compartment Syndrome:

A Case of Reversible Renal Insufficiency

Samuel Akidiva, M.D., Dennis L. Ross M.D., Michael W. Lievens M.D.

Introduction

Abdominal compartment syndrome is intra-abdominal hypertension induced organ dysfunction without a strict intra-abdominal pressure threshold. When the pressure causing organ dysfunction is retroperitoneal in location its referred to as retroperitoneal compartment syndrome. We highlight a case of reversible dialysis dependent renal failure in a patient with necrotizing pancreatitis with pancreatic pseudocysts causing retroperitoneal compartment syndrome.

History

A 60-year-old patient with necrotizing pancreatitis diagnosed and treated at an outside hospital presented a month later with intractable nausea and vomiting, early satiety, weight loss, and renal failure on scheduled dialysis.

Physical Exam

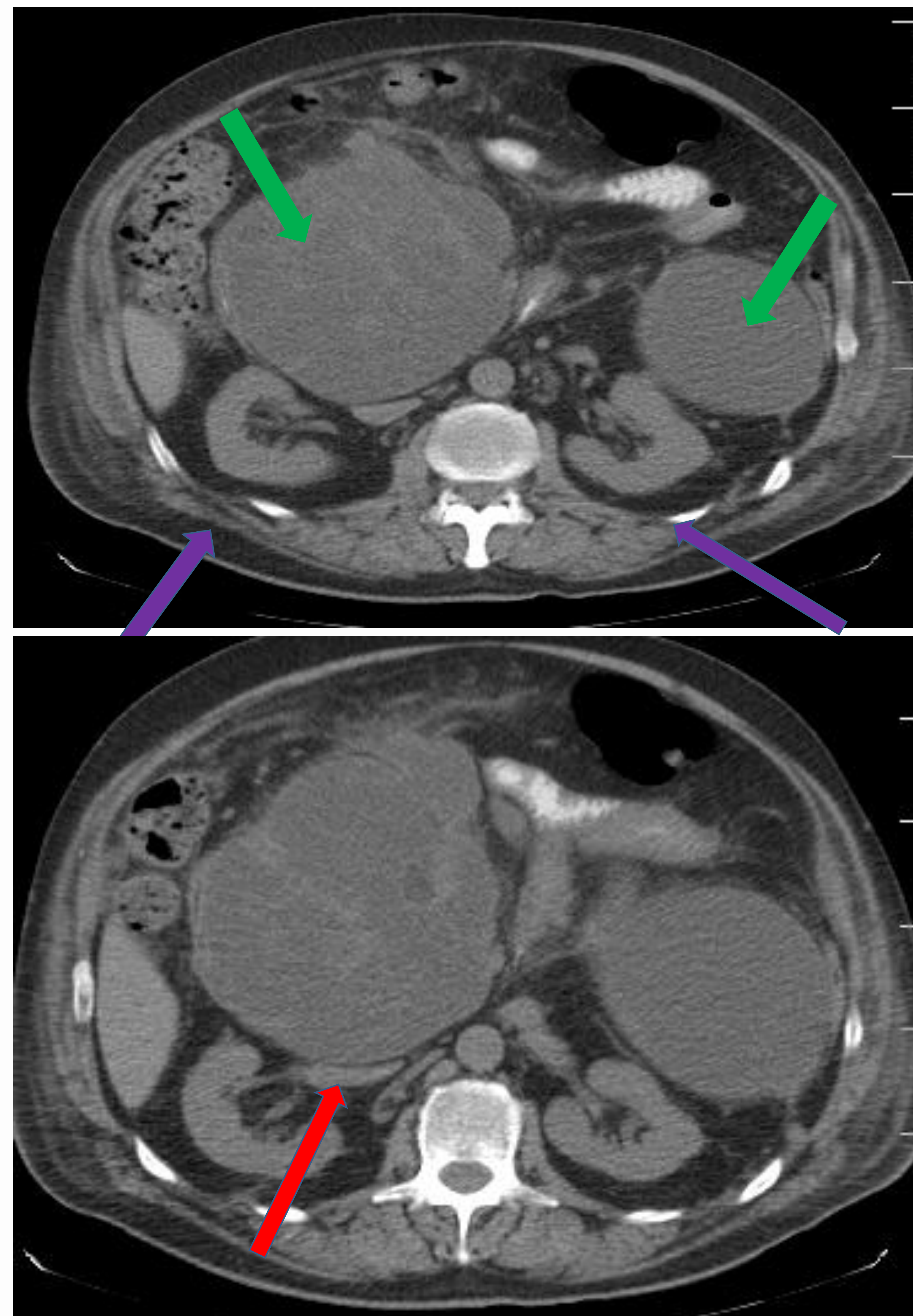
His exam revealed jaundice, cachexia, massive ascites, and edema.

Selected Labs

Creatinine 5.97 mg/dL; BUN 40 mg/dL; Bilirubin 1.6 mg/dL; Alkaline Phosphatase 164 U/L; Glucose 214 mg/dL. Bilirubin and Alkaline Phosphatase rose to 6.2 mg/dL and 1467 U/L respectively just before surgery.

Surgery

Pseudocyst contents were under intense pressure. Good urine output was obtained within minutes of drainage. Creatinine stabilized at 1.5 mg/dL when off dialysis.



CT SCAN ABDOMEN;

Green arrows: pancreatic pseudocysts.

Purple arrows: retroperitoneal compression of kidneys.

Red arrow: renal vascular compression.

Discussion

Pancreatitis is a relatively common disease with many different underlying causes. When there is severe necrosis, pseudocysts develop to wall off the inflammation and limit the extent of the tissue damage. Surgery to remove these pseudocysts usually is delayed to allow for maturation of the cysts and typically requires at least six weeks. These cysts can cause pressure symptoms based on their size and location. Early intervention has been advocated in certain cases of pancreatic pseudocysts.

Conclusion

When acute renal failure that occurs in the setting of pancreatitis with pancreatic pseudocysts does not resolve, it is important to consider retroperitoneal compartment syndrome. **Timely diagnosis and treatment may prevent progression of renal injury to end stage renal disease requiring lifelong dialysis.**

References

- Bradley EL, Clements JL Jr, Gonzalez AC. The natural history of pancreatic pseudocysts: A unified concept of management. *Am J Surg* 1979; 137:135.
- Vitas GJ, Sarr MG. Selected management of pancreatic pseudocysts: Operative versus expectant management. *Surgery* 1992; 111:123.
- Sugrue M. Abominal compartment syndrome. *Curr Opin Crit Care* 2005; 11:333.