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# Bloody Dialysate in A Polycystic Kidney Disease Patient Under Peritoneal Dialysis

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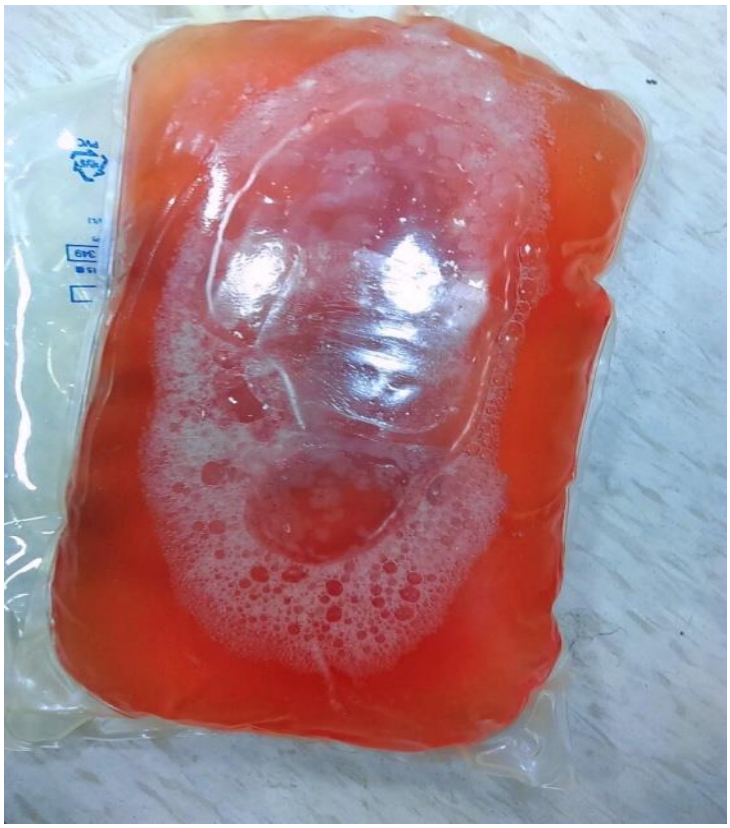

**Figure 1:** Bloody peritoneal dialysate, characterized with sanguineous color with cloudy and fibrin content, totally 2000 ml drained from the autosomal dominant polycystic kidney disease patient with cyst rupture.

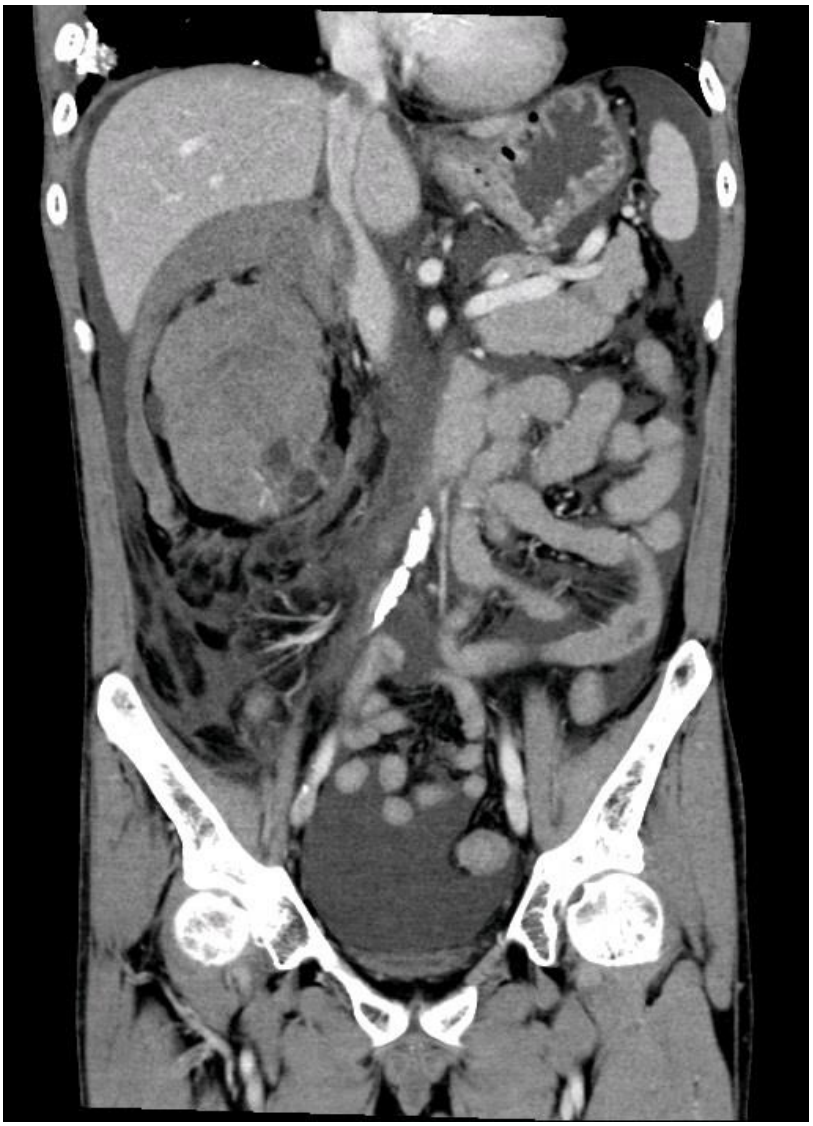

**Figure 2:** Abdominal computed tomography revealed right renal cyst rupture, perirenal and subcapsular hematoma in this autosomal dominant polycystic kidney disease patient under peritoneal dialysis. There was no evidence of communication between retroperitoneal compartment and peritoneal cavity.

**Keywords:** Bloody dialysate; Polycystic kidney disease; Peritoneal dialysis; Cyst rupture; Retroperitoneal hematoma

## Clinical Image

A 50-year-old man with uremia due to autosomal dominant polycystic kidney disease (PKD) had received peritoneal dialysis (PD) for 8 years. There was one PD peritonitis episode about 4 years ago. This time, sudden onset of right flank dull pain and subsequent bloody-cloudy peritoneal dialysate (Figure 1) was noted, which revealed RBC count (5768/μL), WBC count (5/μL) in the dialysate analysis.

The serum CRP was elevated (281 mg/L) and the hemoglobin dropped to 7.0 g/dL (baseline around 10 g/dL). The abdominal computed tomography showed hematoma at right renal subcapsular and perirenal spaces (Figure 2), which was recognized due to cyst rupture. Besides, there was no direct communication between the retroperitoneal compartment and the peritoneal cavity. Blood transfusion was applied for the anemia. No antibiotic therapy was administered because of no evidence of infection. The dialysate cultured was negative. The dialysate turned to be clear 3 days later.

Bloody dialysate in peritoneal dialysis patients is a known but infrequent complication, which is more frequently found in women because of a variety of gynecologic problems such as follicular cysts bleeding, menstruation reflux, ovulation, and endometriosis. Other intraperitoneal causes include hepatic or splenic cysts, catheter or abdominal trauma and vascular anomalies. However, bloody dialysate from retroperitoneal source is rare, especially cyst rupture in ADPKD patients. To our knowledge, only 2 cases of renal cyst rupture were reported in literature. In our case, the bloody dialysate may result from peritoneal membrane irritation and bleeding because of the retroperitoneal hematoma. Our case raises the suspicion that increased intra-abdominal pressure by PD is possible predisposing factor of cyst rupture. In addition, retroperitoneal hematoma caused by cystic rupture should be considered in the differential diagnosis of bloody dialysate.