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Wunderlich Syndrome in Peritoneal Dialysis: A Presentation of 5 Cases and Review of the Literature

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Objectives : This study investigated the clinical features, underlying causes, and management of patients with Wunderlich syndrome (WS) in peritoneal dialysis (PD) patients.
Methods : We retrospectively reviewed 5 cases of PD patients who developed WS between January 2024 and December 2025 at a single medical center. All patients were evaluated for non-traumatic perirenal hemorrhage identified on computed tomography (CT) in the emergency department. Clinical variables, including age, underlying diseases, symptoms, hemodynamic instability, and hospitalization course, were analyzed. Laboratory test results, as well as radiological were reviewed.
Results : The study included 5 patients (3 males, 2 females) with a median age of 58 years (range, 45–75 years). All patients presented with acute-onset flank or abdominal pain; three patients (60%) presented with hemodynamic systemic instability on triage. Notably, gross hematuria or bloody PD fluid was absent in all cases. CT imaging confirmed perirenal or subcapsular hematomas (median size 10.1 cm) in all patients, with 80% showing active contrast extravasation. Regarding management, transcatheter arterial embolization (TAE) was the primary intervention in 80% of cases on the first admission day. Surgical intervention (radical nephrectomy) was eventually required in 40% of patients due to persistent bleeding or infectious complications. The median length of hospitalization was 17 days (range, 6–40). Despite the acute hemorrhage, 80% of the cohort successfully continued or resumed PD. The overall survival rate was 80%, with one mortality (20%) occurring due to progressive sepsis.
Conclusions : WS is a potentially life-threatening condition, and is rare in PD patients. Early diagnosis with CT and prompt intervention with TAE are essential for managing SRH in PD patients. However, clinicians should remain vigilant for secondary infections of the hematoma, which may necessitate surgical intervention.

table 1.png

Baseline Characteristics	n (%)	Mean ± SD	Median (IQR)
Age (years)		58.6 ± 11.1	58.0 (53.0 – 62.0)
Gender			
Male	3 (60%)		
Female	2 (40%)		
PD vintage (years)		5.38 ± 2.74	6.0 (5.0 – 7.0)
Primary renal disease			
Hypertension	2 (40%)		
Glomerulonephritis (IgAN)	1(20%)		
Glomerulonephritis (CGN)	1(21%)		
Glomerulonephritis (FSGS)	1(22%)		
Comorbidities			
Hypertension	5(100%)		
Diabetes mellitus	1(20%)		
Cardiovascular disease	1(20%)		
Urinary tract stone disease	1(21%)		
Predisposing factors			
Acquired cystic kidney disease	5 (100%)		
Antithrombotic use (antiplatelet/anticoagulant)	2 (40%)		
Trauma history	0(0%)		

Table 1. Statistical Summary of Baseline Characteristics of Patients with Spontaneous Renal Hemorrhage. IgAN, Immunoglobulin A nephropathy; CGN, Chronic glomerulonephritis; FSGS, Focal segmental glomerulosclerosis.

table 1.png

	n (%)	Mean ± SD	Median (IQR)
Presenting symptoms			
Flank or abdominal pain	5(100%)		
Hemodynamic instability	3(60%)		
Radiographic findings			
Hemorrhage side (left/ right)	3(60%)/2(40%)		
Hemorrhage size		11.18 ± 3.65	10.1 (8.5 – 13.0)
Contrast extravasation	3(60%)		
Length of stay (days)		18.6 ± 13.1	17.0 (10.0 – 20.0)
Initial management			
TAE	4 (80%)		
Conservative treatment	1 (20%)		
Secondary interventions			
Radical nephrectomy	2 (40%)		
Percutaneous abscess drainage	2 (40%)		
Repeat TAE	1 (20%)		
Dialysis modality during hospitalization			
Maintained PD	4 (80%)		
Switched to CRRT	1 (20%)		
Clinical outcomes			
Discharged and resumed PD	4 (80%)		
Mortality (due to progressive sepsis)	1 (20%)		
Late complications (retroperitoneal abscess)	1 (20%)		

Table 2. Statistical Summary of Clinical, Interventions and outcomes. CRRT, Continuous renal replacement therapy.