An elderly patient with massive intrarenal haemorrhage and ESRD: Successful management with CAPD

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Abstract: We report an 83 year old patient with LVF and left intrarenal bleed with stage V CKD who was managed initially with supine low volume peritoneal dialysis and subsequently on CAPD.

Keywords: Intrarenal Haemorrhage, LVF, CAPD

Introduction

Bleeding is a common and potentially serious complication of uraemic CKD patients, mainly due to platelet dysfunction(1). Hemodialysis can contribute to the bleeding through the continuous platelet activation induced by the interaction between blood and artificial surfaces, and the use of anticoagulants(1). PD patients do not require regular anticoagulation, and IP heparin when used has no effect on blood coagulation(2).

Case

An 83 year old gentleman with HTN, CKD stage V, CAD, presented with left loin pain radiating to the back and acute LVF. Patient was in atrial fibrillation with fast ventricular rate, BP 100/70mmHg, and was initially on IV amiodarone for 24 hours switched over to oral. He gives a past history of treatment for pulmonary tuberculosis for unknown duration, 40 years back. His evaluation revealed Hb- 9.7g/dl, total protein 5.8g/dl, serum albumin 2.9g/dl, corrected calcium 10 mg/dl, phosphorous 3.6mg/dl, 25(OH)vitamin D 26ng/ml, iPTH 638pg/ml, PSA 117ng/ml. He had progressively worsening CKD with blood urea 66mg/dl increasing to 140 mg/dl, and serum creatinine from 4.36 mg/dl to 6.67mg/dl over 3 days, with k+ 5.7meq/L, Hco3- 22 meq/L. Anaemia workup revealed transferring saturation 3.5%, stool occult blood x 3 negative, vitamin B12- 454pg/ml, LDH 716mg/dl, with no evidence of haemolytic anaemia on Coombs testing. USG abdomen revealed an enlarged left kidney with large exophytic solid mass lesion. He had worsening pain in the left flank with declining haemoglobin to 7.3g/dl and decreased urine output. PET CT of the abdomen showed moderate size diffuse hyperdense perirenal lesion, of 51-61 HU, encasing the left kidney with loculated extension into anterior and posterior pararenal space along with multiple cortical cysts in both kidneys with largest right renal cyst in inferior pole measure 48 x 43 mm and the left renal cyst in inferior pole measure 36 x 31 mm(Figure 1). CT chest revealed a lobulated nodule measuring 28 x 26 mm in the superior lingular segment of left upper lobe with dense popcorn calcification(Figure 1). A permanent swan neck Tenckhoff PD catheter was implanted. As he had worsening of CCF, he was initiated on low volume supine PD using dianeal solution of 6L/day, with...
dwell volume of 1L, 1 hour dwell with different glucose concentrations to enhance ultrafiltration. Patient was ambulated inbetween, emptying the peritoneal cavity to prevent pericatheter leak. He was transfused 2 units of PCV with infusion of 4.25% fluid. The effluent was haemorrhagic for the initial 2 days due to leakage of blood from the haemorrhagic left kidney into the peritoneal cavity. This was treated with IP heparin 500IU/L, and rapid exchanges and the effluent gradually cleared in 3 days. Patient had no haematuria and his UF was 1-1.5L/day with urine output 600-700ml/day. He tolerated the PD well with no further intraperitoneal haemorrhage and was converted to CAPD after 12 days, with 2 bags of 1.5L icodextrin, 8 hours each and 2 bags of 1.5L of 1.5%, 4 hours each. He was a vegetarian, who was prescribed high protein commercial nutritional supplement to meet his protein and calorie needs. After 6 weeks, he is doing well on CAPD with no further LVF and loin pain, investigations showing Hb-12.7g/dl, blood urea 51mg/dl, serum creatinine 4.93mg/dl, k+-4.5meq/L, Hco3-29meq/L, total protein 7.4g/dl, serum albumin 4g/dl and PSA 4.58ng/ml.

Discussion:

Heparin, either unfractionated or fractionated, is administered during HD to prevent clotting events in the extracorporeal circuit, but is contraindicated in patients at high risk of bleeding, as in our patient who had profound intrarenal haemorrhage leading to retroperitoneal haematoma (3,4). This patient also had poor cardiac function with intermittent AF making anticoagulant therapy hazardous. Although he had haemoperitoneum with PD therapy, systemic anticoagulation was hazardous for haemodialysis and hence PD therapy was the treatment of choice for patients who are actively bleeding into the kidney. ESRD patients with CHF, benefit from PD, than from HD, through smooth volume control, thus avoiding rapid fluctuations in blood volume with HD (5). Elderly patients on HD in AF are at high risk for stroke (5). The prevalence of AF in HD patients is 10- to 20-fold higher than in the general population, whereas patients on CAPD are less frequently affected (5,6). HD was not considered as a modality of renal replacement therapy in our elderly patient, as he was in CHF, with AF and hypotension and intrarenal bleeding. He is doing well for 8 months on CAPD with good quality of life and functionally active and improved nutritional status.

In conclusion, we present an elderly patient with CKD stage V, cardiac failure, AF with left intrarenal bleed and anaemia, who is successfully managed with CAPD.

Figure 1: PET CT of the abdomen showed moderate size diffuse hyperdense perirenal lesion, of 51-61 HU, encasing the left kidney with loculated extension into anterior and posterior pararenal space, as shown by the black arrow and CT chest revealed a lobulated nodule measuring 28 x 26 mm in the superior lingular segment of left upper lobe with dense popcorn calcification, as shown by the white arrow.
References:


