P280

P280 - Pericardial effusions in patients with renal disease: a single centre experience

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Introduction: Pericardial effusions are frequently encountered in patients with renal disease and commonly attributed to being uraemic in origin[1]. Alternative aetiologies do exist in this multi-morbid population, however the best approach to management remains unclear and variable.

Methods: This is a single centre experience of pericardial effusions in patients with renal disease at a tertiary renal unit. We collected data on all inpatients identified as having a pericardial effusion from 2010 to 2018. Case notes were reviewed and data collected on patient factors, investigation results (imaging and pathology), treatment and interventions, and outcomes. This data was then used to compare cases undergoing pericardiocentesis versus those that did not, to identify the causes of pericardial effusion in this population, and create diagnostic groups for further comparison.

Results: We identified 46 patients with pericardial effusions, aged 18 to 83, 63% male. Renal modalities in these patients included 72% on haemodialysis, 9% on peritoneal dialysis, 6% with CKD, 6% with transplants and 7% with AKI requiring renal replacement therapy. Twenty four of the patients underwent drainage with pericardiocentesis versus 22 that did not. The commonest reason for drainage was cardiovascular compromise, with 21/24 of the drained patients having an effusion defined as large (>2cm) by imaging criteria.

The causes of pericardial effusion are represented by figure 1. The commonest cause was uraemia related (15), followed by idiopathic/incidental (10), surgical (7), tuberculosis (Tb) related (6), autoimmune (4), pyogenic (3) and unknown (1). Pericardial fluid microbiology culture was only positive in 3 cases (pyogenic group), and no positive Tb culture was obtained in any of the drained patients. The diagnosis of Tb related effusion was made in the context of the wider clinical picture and treatment with anti-tuberculosis therapy. Fluid protein levels were obtained in 13/24 of the drained cases; in all 13 cases the fluid protein level was >35g/L. LDH analysis was available in 15 patients; in 11 cases the LDH level >2/3 the upper reference range.

Conclusions:
In our cohort of patients uraemic pericardial effusions remain the commonest cause for effusion in keeping with previous studies[2]. The uraemic group included patient's pre-RRT initiation, patients non-compliant with their RRT modality and patients switching modality, suggesting that poor dialysis was contributing to effusion development. Other aetiologies did exist in our cohort, highlighting the importance of maintaining a broad differential when investigating pericardial effusions in patients with renal disease.

We found that pericardiocentesis was only necessary for therapeutic relief to restore cardiovascular stability, and drainage of the effusion did not provide any added diagnostic value. This suggests that pericardial intervention should only be reserved for cases with clinical compromise. Although the fluid LDH and protein levels in our cohort suggested predominantly exudative effusions by Light's criteria, current literature advises that these parameters do not reliably distinguish between types of pericardial effusion and are of limited use in establishing aetiology[3]. Our findings have revealed diagnostic groups that we will further analyse to identify any differentiating factors between the diagnostic groups and the nature of their effusions.