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P399 -Sarcoidosis-associated renal impairment – a single centre experience

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Introduction

Sarcoidosis is a multi-organ chronic granulomatous inflammatory disease of unclear aetiology. Renal impairment can occur in association with sarcoidosis however there is limited data regarding the clinical course of kidney disease in this context. We endeavoured to review our Centre's experience of sarcoidosis-associated renal impairment.

Methods

To identify potential cases, trust electronic systems were scrutinized to identify all patients with at least one serum angiotensin converting enzyme (ACE) level result between 1st March 2008 and 1st March 2018. Case notes were then reviewed to identify those with renal disease considered to be due to sarcoidosis and to ascertain responses to treatment. Biochemical data were collected for presentation, 6 week, 6 month and 2 year time-points. Estimated glomerular filtration rate (eGFR) was calculated using the CKD-EPI formula. Data are presented as mean \pm SD.

Results

Twenty-six patients with sarcoid-associated renal involvement were identified. Mean age at presentation was 55 years (range 19 – 79). Eighteen patients (69%) were male. All patients were white British. Nineteen patients had a histological diagnosis of sarcoidosis – 17 had a kidney biopsy and 2 a trans-bronchial biopsy. Seven patients had a presumptive diagnosis based on a strong clinical suspicion (in all cases the absence of an alternative diagnosis plus at least 2 of: a raised serum ACE, hypercalcaemia, radiological evidence of typical pulmonary disease). Kidney histology showed interstitial inflammation in all cases with typical non-necrotising granulomas present in 9 biopsy samples.

Twenty-three patients presented with acute kidney injury (AKI) and 3 with chronic kidney disease (CKD). For those with AKI the associated clinical features described at presentation are shown in Table 1. Serum ACE was elevated in 61% of patients at presentation. Hypercalcaemia was present in 83% (mean serum concentration 2.97 ± 0.44). All patients with AKI were initially treated with prednisolone 0.5 - 1 mg/kg followed by a tapering dose.

Seventeen patients with AKI had biochemistry data available at all 4 time-points. Mean presentation creatinine was 316 ± 145 μ mol/l. After 6 weeks of treatment, creatinine had improved in all patients (mean 147 ± 38 μ mol/l). Mean eGFR at 6 weeks was 49 ± 18 ml/min. The mean eGFR at 6 months and 2 years was 53 ± 19 and 53 ± 22 ml/min respectively. At 2 years, 24% of patients had dropped down, and 29% had moved up, by at least one CKD category compared with the eGFR at 6 weeks. Seven patients (30%) had at least one documented relapse. Steroid sparing therapy (azathioprine or mycophenolate) was employed in 5 cases.

Discussion

In our cohort the vast majority of patients with sarcoidosis-associated renal impairment presented with AKI, usually with hypercalcaemia. An elevated serum ACE was seen in about two thirds of cases. Prednisolone treatment led to a prompt improvement in renal function ubiquitously. Over the next 2 years only minimal subsequent improvement was seen in eGFR from the level reached at 6 weeks. Relapses were relatively common highlighting the importance of long-term follow-up for patients with this condition.