

## Is there an IBD related nephropathy?

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### Introduction/ Case study

Extraintestinal manifestations are observed in 6 – 46% of patients with inflammatory bowel disease (IBD)<sup>1</sup>. Tubulointerstitial nephritis (TIN) is a known side effect of 5-aminosalicylic acid (5-ASA), the treatment widely used in IBD. However, there are some reports of IBD patients diagnosed with TIN in the absence of exposure to this medication. Most cases reported an association with Crohn's disease and only a few observed a connection with ulcerative colitis (UC). We report a case of a 25-year-old female patient who had biopsy-proven TIN with no significant precipitant identified apart from 6-months history of Oxytetracycline intake two years previously. During a routine testing she was found to have creatinine of 150 µmol/L and mild hypertension with a blood pressure of 149/88 mmHg. Urine analysis showed 2+ blood and no protein. Renal biopsy showed chronic parenchymal damage with probable "smouldering" active interstitial nephritis. Colonoscopy was performed due to rectal bleed and high daily frequency of bowel movement for some years, which showed chronic pancolitis in keeping with UC. Our patient did not respond to steroids alone, but mycophenolate mofetil (MMF) and increased dose of steroids improved her renal function as well as controlling the colitis. Her gastrointestinal symptoms remained unchanged following steroid wean. This case prompted us to look further into our cohorts to determine if there was evidence for an IBD-associated nephritis.

### Methods

A retrospective analysis was performed on 426 patients in our database diagnosed with inflammatory bowel disease. We investigated those patients who had undergone renal biopsy and reviewed their case records.

### Results

Renal biopsy was performed in 61 patients and the following diagnoses were found: acute interstitial nephritis/ tubulo-interstitial disease was the commonest in 18 patients (29.5%) of which 3 had granuloma, followed by IgA nephropathy in 11 patients (18%), while the rest were an assortment of other diagnoses, but included 5 (8%) with multicompartiment chronic damage (Figure 1). The distribution between Crohn's and UC was 52.5 % vs. 47.5% respectively, and 35/61 were female. Out of 18 patients with TIN, 13 (72%) were taking 5-ASA compounds at the time of biopsy. Of the remaining one had possible antibiotic related TIN and one was subsequently diagnosed with sarcoidosis. Three of the TIN had granuloma, one with renal tuberculosis following a positive AFB in the biopsy, one was the patient with sarcoid and the other of unknown aetiology. Therefore 3/18 (17%) patients were diagnosed with TIN prior to initiation of treatment with no other obvious precipitants.

### Discussion

Tubulointerstitial disease and IgA nephropathy were the commonest renal diseases in our IBD cohorts; occurring mostly in Crohn's patients, similar to other reports.<sup>2</sup> The TIN is often thought to be secondary to 5-ASA containing compounds, however, 17% of TIN cases had no clear drug association and 8% of biopsy cases had multicompartiment chronic damage of unknown aetiology, raising the possibility of an IBD associated renal pathology. In addition, this report is a further case association between UC and TIN which appears to be less common.<sup>3,4,5</sup>