

# IgA nephropathy in spondyloarthritis

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## ABSTRACT

Spondyloarthritis patients can be more frequently affected by IgA nephropathy than the general population, and a common etiopathogenic mechanism can be involved. We report four cases that may exemplify that association.

**Keywords:** IgA glomerulonephritis, glomerulonephritis, spondyloarthritis, ankylosing spondylitis.

[Rev Bras Reumatol 2011;51(1):104-8] ©Elsevier Editora Ltda.

## INTRODUCTION

IgA nephropathy is known to be the most common cause of glomerulonephritis.<sup>1-3</sup> Its estimated prevalence in the general population is 25 to 50 cases per 100,000 individuals.<sup>4,5</sup>

The most common clinical finding (40%-50%) is gross hematuria, which can be related to an upper airway infection.<sup>6</sup> Another common presentation (30%-40%) is microscopic hematuria in an asymptomatic patient.<sup>3,6</sup> Definitive diagnosis is made by use of renal biopsy, in which IgA deposits (associated with IgG and C3) are seen on the mesangium and, to a lesser extent, on glomerular capillary walls.<sup>2</sup> Recent studies have shown that 15% to 40% of affected patients progress to chronic renal failure (CRF).<sup>7</sup>

In the mid-70s, clinical cases of concomitant spondyloarthritis (SpA) and IgA nephropathy began to be published. Since then, patients with SpA are believed to be more affected by IgA nephropathy than the general population, and these two conditions are believed to share a common etiopathogenic mechanism. This mechanism would involve the decreased expression of the receptor responsible for the clearance of IgA 1 and its immune complexes on the surface of monocytes and neutrophils.<sup>8-12</sup>

We report four cases exemplifying the concomitance between IgA nephropathy and SpA.

## CASE REPORTS

### Case 1

ALN, male patient referred to the Rheumatology Service of *Hospital das Clínicas* of UFMG (HC-UFMG) in 1994, diagnosed with reactive arthritis progressing similarly to ankylosing spondylitis (AS): grade IV right sacroiliitis and grade II-III left sacroiliitis,<sup>13</sup> positive *Chlamydia trachomatis* test in urine, positive HLAB-27, and severe osteoarthritis of the right hip joint. Intermittent microscopic hematuria was reported. The hematuria was of glomerular origin (more than 80% of dysmorphic red blood cells), the renal function was preserved, and no proteinuria was observed. The renal biopsy in 1999 showed "mesangial proliferative glomerulonephritis with IgA glomerular immune deposits." One year after the diagnosis of IgA nephropathy, a decrease in creatinine clearance in 24-hour urine (from 130 mL/min to 68 mL/min) was observed, and the use of a nonsteroidal anti-inflammatory drug (NSAID), which had been continuously used until then, was suspended. Creatinine clearance improved. The patient remained without medication for one year, returned with severe hip pain, and the NSAID was restarted with regular monitoring of renal function. The patient remained with stable renal function, no proteinuria, and no arterial hypertension.

Submitted on 06/10/2010. Approved on 11/15/2010. We declare no conflict of interest.

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### Case 2

UPR, male patient followed up regularly at the HC-UFG since August 1983. Six years ago, he initially presented polyarthralgia, warm and swollen knees, ankles, and feet small joints, in addition to sternalgia, intercostal pain in the iliac crests and lumbar spine. The pain was accompanied by 30-minute morning stiffness. The patient also had calcaneodynia and lumbar lordosis, a Schöber index of 3.5 cm, and chest expansion of 5 cm. The sacroiliac radiography showed grade III bilateral sacroiliitis,<sup>13</sup> and HLA-B27 was positive. He was diagnosed with AS, and NSAIDs and prednisone were started with only partial improvement. The patient developed intermittent microscopic hematuria, possibly of renal origin (blood casts), and proteinuria. A renal biopsy performed in 1986 revealed "IgA nephropathy". He remained with intermittent hematuria, altered inflammatory tests, and active joint disease. The patient began to show high blood pressure levels, a gradual increase in serum creatinine with a decrease in its urine clearance, and proteinuria that reached 3 g/24h. The patient evolved with CRF not requiring dialysis. The NSAID was suspended and infliximab prescribed.

### Case 3

IPS, male patient diagnosed with AS and followed up at HC-UFG since 1999. He reported that four years before he began experiencing pain in his hip joints, and cervical, thoracic, and lumbar spine, which was worse in the morning, but improved throughout the day. Physical examination revealed loss of lumbar lordosis with Schöber index of 3.5 cm. The sacroiliac joint radiography showed grade III bilateral sacroiliitis,<sup>13</sup> and the hip radiography showed advanced osteoarthritis. The search for HLA-B27 was positive. NSAIDs were started with improvement of the joint symptoms. Intermittent microscopic hematuria was observed, with no proteinuria and no impaired renal function. In 2001, the patient underwent renal biopsy, which showed "mesangial proliferative glomerulonephritis with predominance of IgA immune deposits." The patient remains normotensive, with normal renal function, and no proteinuria.

### Case 4

LRP, male patient diagnosed with AS (grade IV bilateral sacroiliitis,<sup>13</sup> inflammatory back pain, severe structural right hip injury) and IgA nephropathy (intermittent microscopic hematuria and renal biopsy showing mesangial proliferative glomerulonephritis with IgA immune deposits) during his follow-up at the HC-UFG in the 90s. The patient discontinued follow-up a few months after diagnosis. He returned in 2009 with proteinuria greater than 3 g/24h, and developed acute renal failure (ARF), which required hemodialysis. He underwent pulse therapy with methylprednisolone and reversed renal failure, but remains with intermittent hematuria and proteinuria.

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## DISCUSSION

The investigation of renal manifestations in patients affected by SpA has not been a routine recommendation.<sup>14</sup> However, this possibility cannot be ignored, as exemplified by the above four cases and the available literature.

Those patients had severe SpA (case 1, 3 and 4 with hip osteoarthritis, case 2 with sustained disease activity) with a predominant axial involvement and HLA-B27 positivity. The condition leading to the IgA nephropathy diagnosis was the same in all four patients, intermittent microscopic hematuria. The first patient developed slow and progressive chronic renal failure; the renal function of the second patient oscillated according to the NSAID use; the third has maintained his renal function stable; and the fourth developed ARF and nephrotic proteinuria.

Those patients had IgA nephropathy and SpA simultaneously. Unfortunately, epidemiological studies assessing the prevalence of IgA nephropathy in patients with SpA still lack. However, the possibility of renal involvement should be considered. The presence of IgA glomerulonephritis may alter the SpA treatment, which is centered on the use of a NSAID, a medication that may adversely affect renal function in those patients.<sup>15</sup>

The question remains whether in fact a higher prevalence of IgA nephropathy exists in patients with SpA. Further studies on the subject should be carried out.

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