

## Renal Abnormalities in Patients with Psoriatic Arthritis

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### Introduction

Psoriasis is a common chronic inflammatory disease affecting mainly the skin and joints. Its clinical signs and severity vary among individuals and over time. Four distinct pathological alterations characterize this disorder: inflammation, hyperproliferation of the epidermis, altered maturation of the epidermis and vascular alterations (3). Renal abnormalities have previously been reported in patients with psoriasis (1, 2, 4, 5). The aim of this study was to investigate the spread of renal damages in patients with psoriatic arthritis (PsA).

### Patients and Methods

One hundred and eighty patients (69 females/ 111 males) with PsA were consecutively examined by laboratory analyses and clinically for joint manifestations. One hundred and fifty – six patients (86,67%) had peripheral arthritis defined by tender and swollen joints on more than six weeks duration. Axial involvement was diagnosed in twenty – four patients (13,33%) with radiological sacroiliitis and/or ligament ossification, syndesmophytes, vertebral squaring and shining corners of the spine. Twelve patients had both peripheral and axial involvement. Twenty-nine of the 180 patients (13,89%) had hypertension, five - diabetes mellitus, one - colitis ulcerosa chronica. Thirty – eighth patients (21,11%) had received disease-modifying antirheumatic drug treatment for at least six months (sulphasalazine n=23, methotrexate n=15) at the start of the study. Ninety - seven patients (53,89%) were receiving daily nonsteroidal anti-inflammatory drug treating during this study period and five (2,78%) were on daily oral corticosteroids.

Each patient had a complete history, physical examination, review of systems, routine chemical analysis, analysis of C-reactive protein (CRP), urinalysis, renal function examination including creatinine clearance and additional tests, where necessary, measurement of immunoglobulin (Ig) G, IgA, IgM in serum. Twenty-four hour urine collection was used for calculation of endogenous creatinine clearance and measurement albumin. Renal abnormalities were defined as endogenous creatinine clearance decreased bellow 1,33 ml/sec and/or increased urinary albumin > 25 mg/24 h. Biopsy renal specimens, obtained by percutaneous biopsy in 21 patients (11,67%) was studied by optic microscopy, immunofluorescence, ultrathin sections and by electron microscopy together with the pathologists. The average num-

ber of glomeruli was 16, range 8-29. Histologic diagnosis was made by standard criteria (6).

### Results

The mean age of the patients at inclusion into the study was  $44,6 \pm 13,3$  years and the duration of psoriasis was  $21,3 \pm 14,2$  years, while that for joint disease was  $14,2 \pm 8,3$  years. There were no gender differences. The skin disease was mild with few, small skin lesions in more than half of the patients (68,89 %).

Twenty – six patients (14,44%) had renal abnormalities according to the applied definition with decreased creatinine clearance in 18 patients (mean  $62, 5$  ml/min/1/73 m<sup>2</sup>, range 46-75) and/or albuminuria - in 21 patients (mean  $0,356$  g/24 h, range 0,030-3,4 g/24 h). Those patients with renal damages were compared with those without, significantly older at inclusion into the study ( $58,3$  v  $43,5$ ), older at onset of joint disease ( $36,7$  v  $31,2$ ), had longer skin disease duration ( $27,3$  v  $19,5$ ) and increased serum levels of  $\beta_2$ -microglobulin ( $1,96$  v  $1,54$  mg/L). The serum level of IgA was increased ( $3,86$  v  $2,65$  g/L), but did not reach significance ( $p=0,097$ ). There were no significant differences in levels of IgG or IgM in serum. More frequently they had complicating conditions such as hypertension. And joint inflammation with laboratory-measured inflammatory activity defined as erythrocyte sedimentation rate (ESR) > 24 mm/h and/or CRP > 15 mg/l.

According to the results of renal biopsy the patients were distributed as follows: 2 patients – amyloidosis, 2 patients - membranous glomerulonephritis (MGN), 3 patients - immunoglobulin A glomerulonephritis (IgA GN), 5 patients – nephropathia diabetica, 5 patients – tubulointerstitial nephritis (two of these patients had received methotrexate), 4 patients - nephroangiosclerosis.

### Conclusions

From this study we can conclude that renal impairment is not a uncommon finding in patients with psoriatic arthritis, however mild. Predictive factors for progression to more severe affection was inflammatory activity, measured by laboratory variables and longer skin disease duration. There were no significant predisposing effects of nonsteroidal anti-inflammatory drug or disease modifying antirheumatic drug therapy.

## References

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