RENAL INVOLVEMENT IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: There is no doubt that renal lesion is one of the most unfavorable forms of visceral involvement in patients with rheumatoid arthritis (RA). There are several types of renal damage in RA: secondary amyloidosis, glomerulonephritis (mesangial proliferative or membranous), acute or chronic interstitial nephritis or vasculitis of renal vessels. Besides, "concomitant" renal lesion, such as nephrosclerosis or pyelonephritis, may develop in RA patient. There is still no agreement on the prevalence of renal disorders in RA. The frequency of each variant of nephropathy can be defined only by morphologic verification [1-2].

Objectives: In present study we investigated frequency and type of renal involvement in patients with rheumatoid arthritis in Belarus (according to autopsy data).

Methods: We analyzed autopsy protocols in Minsk department of morbid anatomy (Belarus) from1999 to 2009 (21 814 autopsy protocols). During this period 110 RA patients were autopsied (91 female and 19 male; mean age 67.6±11.1 years). So we analyzed renal histopathological findings in all of them. Patients were divided into three groups: 1st group consisted of patients without renal pathology (n=35), 2nd group was represented by 44 patients with secondary amyloidosis complicating RA and in 3rd group 31 RA patients with renal involvement other than amyloidosis were included. Patients in all groups had no significant differences in age and sex.

Results: Renal involvement was revealed in 68.2% (75 cases) of the autopsied patients, in 40% (44 cases) of them secondary amyloidosis was diagnosed. This complication was undiagnosed at the moment of patient's death in 58.1% (n=18) and was hyperdiagnosed in 9.7% (n=5) cases. In 28.2% (31 cases) other type of renal pathology was detected: glomerulonephritis (mesangial proliferative) - 2.7% (n=3), chronic interstitial nephritis - 1.8% (n=2), vasculitis of renal vessels - 1.8% (n=2), nephrosclerosis - 12.8% (n=14) or pyelonephritis – 9.1% (n=10). In 31.8% (35 cases) there were no sign of renal lesion at all.

We also analyzed cause of dearth in RA patients. End-stage renal disease played the main role in thanatogenesis in RA complicated by secondary amyloidosis – 43.2% (n=19) ($P<0.01$). Second place took gastro-intestinal bleedings – 17% (n=8). In case of renal involvement other than amyloidosis as well as in case of no sign of renal lesion cardiovascular events appeared to be the main cause of dearth (51.5% and 42.9%, respectively), followed by infectious complications (21.2% and 33.3%, respectively) ($P>0.05$). In case of secondary amyloidosis development amyloid deposits in kidney were revealed in 100%. In 36.4% cases amyloid masses were detected in suprarenal glands and in 34.1% - in spleen. Amyloid deposits in other organs had been seen less commonly: heart, liver, pancreas and rectal mucous were involved in 11.4%.

Conclusions: According to obtained data 68.2% RA patients have renal involvement. Postmortem incidence of secondary amyloidosis complicating adult RA in Belarus is 40%. In 28.2% one can observe other type of renal involvement.

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