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BEDSIDE URINE SEDIMENT EXAMINATION IN IMMUNOGLOBULIN A NEPHROPATHY PATIENTS PERFORMED BY NEPHROLOGISTS

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BACKGROUND AND AIMS: Urine sediment microscopy is mostly abandoned by nephrologists nowadays, however it is an important diagnostic tool in kidney and urinary tract diseases. The aim of this study is to emphasize the benefits of urine microscopy performed by a nephrologist.

METHOD: A prospective cohort study at Pauls Stradins Clinical University Hospital Nephrology center included patients with histologically confirmed diagnosis of IgA nephropathy from 1st January 2020 till December 2020. Appropriately collected urine samples were examined using manual microscopy within an hour after sample collection and by automated urinalysis. Samples were centrifuged at 4000 rpm for 4 minutes, the supernatant urine was carefully decanted, 1 - 1,5 ml of the left urine was mixed by gentle agitation and placed on a standard glass slide with a cover slip. Sample examination was performed using low (magnification x10) and high power (magnification x40) using brightfield microscopy with a minimum of 10 fields.

RESULTS: A total of 37 patients (24 men, mean age 42.7 ± 10.9 years) were included in the study. 59.5 % of patients (n = 22) had hematuria based on automated urine sediment analysis and 62.2 % (n = 23) of patients had hematuria based on manual urine microscopy. 45.9 % of patients (n=17) had dysmorphic erythrocytes, 13.5 % of patients (n = 5) had isomorphic red blood cells (RBC) and 40.5 % of patients (n = 15) did not have RBC in urine samples by manual urine microscopy. 54.2 % (13/24) of men and 30.8 % (4/13) of women had dysmorphic RBC in urine.

CONCLUSION: Manual urine sediment examination was more sensitive than automated analysis. Majority of IgA nephropathy patients have active urine sediment with hematuria and dysmorphic RBC. Manual microscopy remains an effective and reliable method that can be easily and quickly performed by nephrologists.