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Pattern of microscopic urine examination: A single Nigerian centre experience

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Abstract: Urine microscopy remains a very relevant investigation, as it is affordable and non-invasive, this study aims to determine the pattern of urinary abnormalities, the frequency of urinary tract infections, the pattern of microorganisms causing UTI, and the antibiotic sensitivities.

Methodology and Theoretical Orientation: A retrospective study carried out in DELSUTH, using the urine microscopy results of all patients tested over a 3month period from January 1st 2017 to march 31st 2017. Available demographic data and urine exam reports were collected using Microsoft Excel. Data analysis was performed using SPSS version 22.

Findings: Majority of patients were females (54.9%). The mean age was 49 ± 17 year, while age range was between 10-99yr. The highest proportions of patients were between 60-69 (25.5%) and patients between ages 90-99 made up only 0.7%. The prevalence of hematuria and pyuria were 19% and 52.3% respectively; casts were seen in only 2.7% and crystals in 6.5% of the sample. The commonest crystals found were ca oxalate (3.9%). Of the 152 patients, 72 patients (47.1%) had significant cultures and the most common organisms grown were E. coli (40%), Klebsiella (19.4%), and candida (9.7%). UTI was more prevalent in males compared to females (53.6% vs. 41.7%, $p=0.188$). Overall, antibiotic sensitivity to Amoxicillin/clavulanic acid was 24.1%, Ofloxacin 12.5%, and Gentamicin 9.7%.

Conclusion and Significance: Urine abnormalities are common in the sample studied; the frequency of haematuria and pyuria were higher compared to casts and crystalluria. Hematuria was significantly commoner in males and more males had UTI. E.coli was the commonest organism implicated. Although urine microscopic examination is an indispensable tool in nephrology care, to benefit from its wealth of information, it has to be properly executed by trained personnel, with the right protocols and equipments.

Biography

Roy Aghwana obtained his bachelor's degree in medicine and surgery from the university of Benin teaching hospital in 2004. In 2017 he also obtained membership with the west African college of physicians, Dr Aghwana is currently undergoing subspecialty training in nephrology in Delta State University Teaching Hospital. He is also in the process of attaining the ISN clinical nephropathology certificate.

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