BRIEF CLINICAL OBSERVATIONS

IS DIGITAL RECTAL EXAMINATION IN MEN A CAUSE OF TRANSIENT PROTEINURIA?

To the Editor:

Proteinuria is a relatively common laboratory abnormality (prevalence 0.4 to 1.9 percent) [1,2] that can be a transient and clinically unimportant finding or an indication of underlying disease. Among the causes of transient proteinuria are high fever, exposure to cold, strenuous exercise, emotional stress, and congestive heart failure [3,4].

Prostatic secretions have a high protein content (mean 4,000 mg/dl) [5], and digital rectal with prostate examination has been suggested as a possible cause of transient proteinuria. A prospective blind study was conducted in healthy young male medical students to determine if a standard digital rectal examination could be a cause of transient proteinuria.

The subjects were 101 healthy male freshman medical students at the Medical College of Georgia. No student had a prior history of proteinuria. As part of an introductory course in physical diagnosis, students are instructed in performing a digital rectal and prostate examination, and perform this examination on each other. We requested urine specimens from each student before and after the examination. Sterile specimen containers were numbered consecutively 1 to 250. Each subject was randomly given two containers, each labeled with a number, the student's name, and "before" or "after." After the specimens were collected in the labeled containers, the names and "before" or "after" designations were removed. In addition, nine urine specimens with negative to 4+ protein were randomly included as an internal control. Dipstick and Exton's reagent testing of the control specimens was performed by the clinic technician.

The subject and control blind specimens were tested for specific gravity and protein content both by dipstick and by Exton's reagent. The Exton's reagent was prepared by dissolving sulfosalicyclic acid 50 g and sodium sulfate 10 g in 800 ml water. Results of dipstick and Exton's reagent testing were recorded on a scale of negative to 4+ according to the manufacturer's directions. Trace and negative by the dipstick were considered "negative," and change to at least "plus one" by both dipstick and Exton's reagent was required to be considered a change from negative to positive.

Protein content of seven of the nine control specimens was accurately determined. The remaining two specimens were recorded as 2+, whereas the control reading was 3+. Both "before" and "after" urine specimens were obtained from 82 of the 101 eligible students. The remaining 19 students were unable to provide both specimens and were excluded from the study.

The specimens from 75 of the 82 students were negative both before and after the digital examination. Five specimens were negative before and positive after (range "1 plus" to "4 plus") the examination. One specimen was positive before and negative after and one positive both before and after. This change from negative to positive protein was not statistically significant ($p = 0.109$ using McNemar's test for significance of change [6]. Calculations of statistical power showed that this study had a 0.99 probability of detecting a true difference if one exists at the 0.05 level of significance. The mean specific gravity of these "before" specimens was 1.024 (range, 1.018 to 1.032), and of the "after" specimens, 1.027 (range, 1.021 to 1.032).

Idiopathic transient proteinuria is common in children and young adults and is not associated with subsequent development of renal disease [3]. Because the presence of proteinuria in young men may be a transient benign condition or may indicate underlying systemic disease, accurate testing of urinary protein, uncontaminated by other fluids, is important. In this study, although five urine specimens were negative before and positive after rectal examination, this change was not statistically significant. We conclude that rectal with prostate examination in healthy young men does not appear to be a clinically important cause of proteinuria.

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SULFADIAZINE-INDUCED CRYSTALLURIA IN A PATIENT WITH THE ACQUIRED IMMUNODEFICIENCY SYNDROME: A REMINDER

To the Editor:

The treatment of choice for toxoplasmosis in patients with the acquired immunodeficiency syndrome (AIDS) is a combination of a sulfonamide and pyrimethamine [1]. We report herein a case of sulfadiazine-induced crystalluria and renal insufficiency in a patient with AIDS being treated for toxoplasmosis.