Usefulness of Urinary Red-Cell Morphology Examination

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Dear Sir,

We read with interest the paper of Raman et al. [Nephron 44: 304–308, 1986]. It appears to us that their major difficulty was with ‘a number of specimens in which the observer found it difficult to correlate diagnosis with morphology’. For other specimens ‘the correlation with diagnosis was good and clinical decision made on the basis of microscopic findings proved to be correct...’ We therefore wish to focus our discussion mainly on this crucial point. From our experience we think that one of the main reasons for that difficulty could have been that they examined an insufficient number of urinary erythro-cytes from each specimen. We also have difficulty in interpreting erythrocyte morphology when there is mild microscopic hematuria. In our study [1] reported by Raman et al., patients with fewer than 100 red cells available for phase-contrast microscopy examination were excluded. To have good packing of the red cell pellet when there are few cells, only a small volume of urine should be added to resuspend the pellet. Unfortunately, Raman et al. did not say how severe the hematurias in their patients with reliable or nonreliable results were. They also said that a second observer has never been included in published studies, and that they found some disagreement between observers. However, we published our experience on this respect a few years ago [2] and obtained very comparable results in 60 of 61 samples as judged by 2 observers. It is also clear from our experience, which is

now based on approximately 600 specimens from more than 280 subjects, over a period of 4 years, that repeated examinations can be very useful for clarifying the interpretation of urinary sediment. Shichiri et al. [3], who used a more objective procedure than the human eye to evaluate differences in urinary red cell size, have confirmed the differences in size between glomerular and non glomeru-lar erythrocytes and the usefulness of examination of the urinary red cells for localizing the site of the bleeding.

References

- Rizzoni, G.; Braggion, F.; Zacchello, G.: Evaluation of glomerular and non glomerular hematuria by phase-contrast microscopy. *J. Pediat.* 705:370–374 (1983).
Rizzoni, G.; Braggion, F.; Grando, F.; Baraldi, E.: Detection of glomerular and non-glomerular bleeding. *J. Pediat.* 104: 161 (1984).

Shichiri, F.; Oowada, A.; Nishio, Y.: Use of autoanalyzer to examine urinary red cell morphology in the diagnosis of glomerular hematuria. *Lancet* 1986; 1: 781–783 (1986).