Common digital camera and urinary sediment analysis: a tool to be explored

Sir,

The common digital camera is a useful tool that assists urinary sediment analysis. Three years ago, in our laboratory, we started taking pictures of urinary sediment. With the database, we were able to organize a Urinalysis Atlas that is constantly updated with new pictures. This atlas has been used to teach our trainees. The photos, taken with a basic Kodak digital camera, have been useful to exchange information on a large number of structures of urinary sediment within a European Centre, particularly concerning the correct identification of the decoy cells on the urinary sediment. According to the article of Fogazzi [1], we have learned about the possibility of identifying this kind of cell without the use of any special stain. The urinary sediment analysis can provide in a few minutes an important clue about a possible reactivation of the polyomavirus infection in the population of kidney transplant patients. To our knowledge, we are the first laboratory in Brazil to report this important finding without any special staining, and the photos made with the digital camera (Figure 1) were an important tool in the process of identifying the decoy

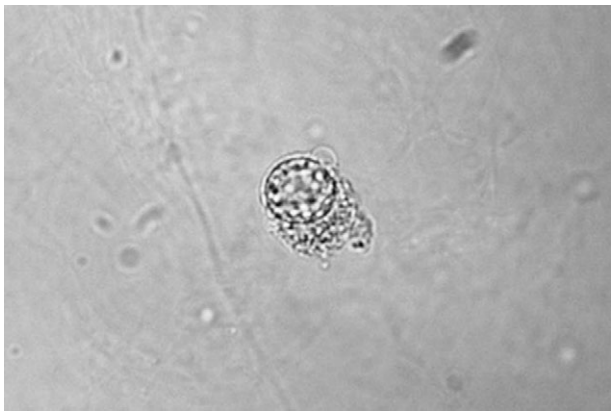

Fig. 1. Decoy cell observed on the urinary sediment of a renal allograft recipient. (Obtained with a Kodak Easy Share C813 digital camera with an optical zoom—Bright field microscopy, original magnification ×400). Enlarged nucleus showing a typical ground glass appearance. The result of the immunohistochemistry by antibody against SV40 (polyomavirus) performed on the day after the urinary sediment analysis showed a positive result with rare tubular epithelial nuclei stained.

cells. The use of this cheap method can help people in different countries to obtain quality images and allow the professionals to exchange information and improve the diagnosis.

Our experience follows the report of Mutter and Brown [2] showing that even with limited technology, it is possible to obtain images of urinary sediment and improve the knowledge of the laboratory personnel.

Acknowledgments. Authors' contribution: J.A.T.P.: conception, design, drafted the article, provided intellectual content of critical importance to the work and revision of the article; R.M.B.: provided intellectual content of critical importance to the work and revision of the article; C.F.V.: revision of the article.

Conflict of interest statement. None declared.

José Antonio Tesser Poloni[1], Rosana Mussoi Bruno[2] and Carlos Franco Voegeli[1]

[1]Central Laboratory of Clinical Analysis, Irmandade da Santa Casa de Misericórdia de Porto Alegre, Porto Alegre, Brazil and [2]Department of Nephrology, Irmandade da Santa Casa de Misericórdia de Porto Alegre, Porto Alegre, Brazil
E-mail: jatpoloni@yahoo.com.br

References

1. Fogazzi GB, Cantú M, Saglimbeni L. 'Decoy cells' in the urine due to polyomavirus BK infection: easily seen by phase-contrast microscopy. *Nephrol Dial Transplant* 2001; 16: 1496–1498
2. Mutter WP, Brown RS. Point-of-care photomicroscopy of urine. *N Engl J Med* 2011; 364: 1880–1881

doi: 10.1093/ndtplus/sfr155