AUCKLAND DISTRICT HEALTH BOARD
Te Toka Tumai
Anatomic Pathology Service

29 January 2020

Dear Colleagues

Re: Changes to Urine Cytology Reporting

From 3 February 2020, Anatomic Pathology Service, Mount Wellington will be using The Paris System for Reporting Urinary Cytology.

Accurate cytological assessment of urine and subsequent communication of results allow for optimal management pathways for patients. A perceived lack of clinical application of urine cytology reports led to the concept of an improved reporting system at the International Academy of Cytology Congress in Paris May 2013. An international working group followed, led by Drs D.L. Rosenthal and E.M. Wojcik.

Their proposed diagnostic categories are as follows:

- Non-diagnostic/Unsatisfactory
- Negative for High-Grade Urothelial Carcinoma (NHGUC)
- Atypical Urothelial Cells (AUC)
- Suspicious for High-Grade Urothelial Carcinoma (SHGUC)
- High-Grade Urothelial Carcinoma (HGUC)
- Low-Grade Urothelial Neoplasia (LGUN)
- Other Malignancies Primary and Metastatic and Miscellaneous Lesions

The main objective of this system is the detection of the clinically important HGUC. It acknowledges the limitations of cytological diagnosis of LGUN and therefore strict criteria are required. Indiscriminate use of equivocal categories has also been an issue in urine cytology. Standardised morphological criteria are therefore provided in the atypical and suspicious categories. The negative category will include benign urothelial, glandular or squamous cells as well as changes associated with stones, viral cytopathic effect and post-therapy effect.

Going forward, it is anticipated that the frequency of AUC should decrease (a subset will now fall into NHGUC and some will be shifted into SHGUC). This will result in a more clinically meaningful category. As urine cytology is a screening test, workup following an AUC result should be based on the risk assessment of the patient. The Paris System acknowledges that the role of additional molecular testing is yet to be determined and there are no current international consensus recommendations on ancillary testing. If there is any clinical indication of significant pathology such as haematuria or persistent irritative voiding symptoms, then further investigation (rather than additional urine samples) including upper tract imaging or cystoscopy may be prudent.

A reminder of specimen requirements:

Three mid-morning samples collected on **three** different days. A **minimum of 50 mL** is required. Refrigerate the samples if a delay in delivery is anticipated.

Catheterised specimens may be submitted if clinically indicated. Because of cellular changes present in catheterised specimens it is essential that the clinician indicate the nature of the sample.

Bladder washings: If clinically indicated this method of collection may be superior to voided urine. Disadvantages are the same as for catheterised specimens. Again the laboratory must be informed of the method of specimen collection for accurate interpretation.

Finally, a reminder that **clinical information** is essential as instrumentation and the presence of urinary tract stones may result in cytologic changes that mimic malignancy.

References:

DL Rosenthal, EM Wojcik, DFI Kurtycz, eds. The Paris System for Reporting Urinary Cytology. 1st ed. Cham, Switzerland: Springer International Publishing AG; 2016.

https://www.rcpa.edu.au/Library/Practising-Pathology/Structured-Pathology-Reporting-of-Cancer/International-Cytology-Guidelines

Kind regards

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