SCANDINAVIAN JOURNAL OF UROLOGY
2021, VOL. 55, NO. 2, 98–99
https://doi.org/10.1080/21681805.2020.1866660

LETTER TO THE EDITOR

The new classification of urinary cytology – is it an improvement?

The use of urinary cytology to detect cancer cells was first described by Lamb 1856 but it was not until Papanicolau and Marshall 1945 described the criteria for a malignant diagnosis it came into general use [1]. Its value in routine use has been reported extensively and in this journal by one of the world experts in the field Hans Wijkström [2]. The sensitivity of cytology has been reported to be very good especially in high grade disease but more recent reports have found that a significant number of high-risk disease was missed [3]. A new classification for criteria of malignant diagnosis was constructed with the objective to have more stringent criteria for the diagnosis [4]. It is now recommended in all major guidelines but the efficiency in the real world is yet not well described. The aim of this report is to present the results of this classification based on data from a Swedish multicentre trial.

There is a need for an easy and accurate non-invasive diagnostic method for measuring easy assessable body fluids. It is of general acceptance that urine might be a good source for bladder cancer specific tumor markers. UBC Rapid is an immunochromatographic point-of-care (POC) test that detects soluble fragments of cytokeratin 8/18 in urine, which play an active role in tumor invasion. Various studies have demonstrated that UBC Rapid could be a useful adjunctive tool in the evaluation of patients at risk of bladder cancer. The sensitivity reported for UBC Rapid in the studies was 48–65% compared to 32–52% for cytology [5,6]. The higher sensitivity came at cost of lower specificity, 71–82% compared to 78–100% for cytology. One of these studies found that the combination of UBC Rapid and cytology resulted in detection of additional bladder cancer tumors.

In a Swedish multicentre study of UBC Rapid, published in this journal, a sensitivity of 71% and a specificity of 61% was found [7]. A limitation of that study was the lack of cytology as a comparator to the biomarker. Consequently, a new study compared UBC Rapid to cytology and looked at patients in the follow-up schedule where cytology is mainly used as an adjunct to cystoscopy. Due to the declining recurrence rate as recently pointed out in this journal and the pandemic the study was prematurely stopped before the power of the study was sufficient for drawing solid conclusions [8]. Still we think this study contains valuable information on the accuracy of cytology in the follow-up scenario especially with the advent of new promising urinary biomarkers.

Our trial included 182 patients from two hospitals with cytology evaluable and of these 28 patients had pathology verified cancers. All specimens were analysed in one pathology department. The accuracy of urinary cytology for the diagnosis of bladder cancer was sensitivity 32%, specificity 96%, positive predictive value (PPV) 60% and negative predictive value (NPV) 87%. These data do not indicate that the introduction of the new classification has had a major impact on improving the quality of urinary cytology in the follow-up of patients with bladder cancer.

Acknowledgement

Authors thank Manuel de la Torre, Consultant Cytopathologist, Department of Pathology, Akademiska Sjukhuset for implementing the new Paris classification into the clinic.

Disclosure statement

Roland Einarsson and Per-Uno Malmström are scientific advisors to IDL Biotech AB.

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Received 18 November 2020; Accepted 16 December 2020