

# *Length matters in prostate cancer*

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It is not uncommon that during histopathological examination of prostate biopsies the pathologist is confronted with biopsy cores of short length, fragmented cores or even cores lacking any prostatic glandular tissue. One does not need to be a rocket scientist to understand that poor prostate biopsy quality may impact their diagnostic value. A number of studies have clearly demonstrated that the frequency of prostate cancer diagnosis correlates with biopsy length.<sup>1,2</sup> It is also easy to understand that the diagnostic accuracy, that is the concordance of biopsy and prostatectomy findings related to the prostate cancer aggressiveness, will be negatively influenced by poor biopsy quality. Most pathologists feel, however, uncertain on how to report biopsy cores they deem of poor quality. Although some guidelines on the reporting of prostate core biopsies have addressed this issue, the lack of objective studies on the optimal length of a core biopsy have hindered its standard reporting. Some guidelines suggested to report biopsy cores lacking any prostate glandular tissue or biopsies with an arbitrary length less than 10 mm as inadequate.<sup>3,4</sup> Given the large number of prostate biopsies taken, the increasing awareness that this procedure may cause harm and the considerable impact of prostate biopsy diagnostics on patient management, it is obvious that quality parameters are needed. Such quality parameters would trigger a standard pathology reporting and allow retrospective assessment for quality assurance purpose. The merit of the study by Fiset et al<sup>5</sup> is that they tried to provide an objective scientific basis for a cut off prostate biopsy core length, using a receiver operating characteristic curve method. Using this approach, with overall biopsy diagnosis in each patient as ground truth, they found an optimal prostate core length of 13 mm, resulting in a sensitivity

of 76% to find a cancer. They concluded that the previously recommended cut off value of 10 mm<sup>3,4</sup> would lead to a very limited sensitivity of only 6.2% when their own dataset was used.

A potential drawback of their approach is that they used the overall prostate biopsy diagnosis as gold standard to determine sensitivity and specificity. The best study design would have been to correlate biopsy findings with corresponding site-specific prostatectomy findings, since a negative biopsy at a given biopsy site may be truly negative, if on this site no cancer was present. A next best and more practical study design would have been to perform the analysis using the outcome of the 2196 individual cores with the question whether that specific core showed cancer or not. When – upon our request - the latter analysis was performed on the same dataset a cut off value of 12.5 mm was noted using the method of maximizing sensitivity and specificity. This value is quite close to the 13 mm value obtained in the accompanying paper. Based on these findings we would suggest that pathologists could report biopsies with a core length of less than 13 mm as suboptimal, while biopsies lacking any prostate glands should be reported as inadequate. We expect that routine quality assurance assessments incorporating these biopsy parameters would promote quality and an optimal diagnostic yield of this burdening prostate biopsy procedure. □

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