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Insights of Modern Pathology Reports Originating from Prostate Biopsy and Radical Prostatectomy Specimens

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Prostate cancer remains the most commonly diagnosed cancer among men, with an estimated 242 000 new cases in 2012, accounting for 29% of all incident cancers in men [1]. New evidence has emerged from large randomized European studies suggesting that screening is associated with a reduction in mortality up to 44% [2]. Others have voiced their concerns on the potential costs of overdiagnosis and overtreatment [3]. Amid the controversy, there are men who undergo prostate-specific antigen testing for the early detection of prostate cancer. Such individuals desire accurate diagnostic information, and they may face the subsequent dilemma of choosing therapy.

In this setting, pathologists are able to convey important risk stratification characteristics through pathologic factors originating from both prostate needle biopsy and radical prostatectomy (RP) specimens. In the current issue, Fine and colleagues provide an extensive review of the handling and reporting of prostate cancer specimens, and they also describe some controversial views and clinical implications with respect to the reporting of the pathologic factors of prostate cancer. As documented in their current review [4] and according to a series of reports following the 2009 International Society of Urological Pathology meeting [5–9], the reporting of prostate biopsy and RP specimens has evolved greatly over time, and contemporary reports now include, or seek to incorporate, very accurate, detailed, and useful information to maximize clinical utility. For example, most pathologists now agree that substaging of pT2 holds limited clinical value and that the next TNM staging update should consider obviating the need to include this information. There is a general agreement as

well on the importance and prognostic potential of tumor volume. Thus most have agreed that prostate cancer volume information should be integrated in pathologic reports to some extent.

However, despite several pertinent modifications and updates, there is room for further improvement. For example, although the consensus is that tumor volume may hold prognostic value, experts have yet come to terms with a unified methodology for the measurement and reporting of tumor volume. Documentation of surgical margin status has also been poorly standardized with observer and institutional variability with respect to how reporting is articulated. Other areas of concern relate to extraprostatic extension (pT3a). Specifically, pathologists remain uncertain as to how stratification of the extent of extraprostatic extension (ie, focal/minimal vs established/extensive) should be quantified. In addition, most would recognize that despite the vast amount of literature supporting the identification of seminal vesicle invasion and lymph node metastasis as important prognostic determinants, there remains an overwhelming variation in the pathologic handling of the seminal vesicles on RP specimens as well as the associated lymph nodes.

In recent years, the prognosis of patients with localized prostate cancer has changed in such a way that most men will die *with* the disease as opposed to dying *from* the disease [10]. However, although most patients with organ-confined disease enjoy a favorable prognosis following the diagnosis of prostate cancer, men with high-risk features follow a heterogeneous course. As such, accurate and detailed prostate biopsy and RP pathologic reports have

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become imperative in the contemporary era. Given the number of therapeutic options available to patients, the role of the pathologist has evolved from reporting the diagnosis to providing guidance regarding individualized therapies.

In upcoming years, uro-oncologists and pathologists are encouraged to work closely together to better risk-stratify patients with more aggressive prostate cancer. For example, it is at the discretion of urologists to submit cores in separate containers and specify the location where the cores were obtained to allow the pathologists to ascertain the exact grade instead of assigning an averaged score for the entire biopsy session or only the most advanced grade. In some cases, a higher level of details is especially important for urologists to decide the course of treatment. Such may be the case where instead of subclassifying pT2 stages, the pathologist may opt to provide information on tumor volume. In other instances, the possibility to rely on magnetic resonance imaging findings complementary to pathologic reports may also prove fruitful. Finally, it should be recognized that an intraoperative frozen section, which may be time and resource consuming, has limited value to detect lymph node involvement but may become essential for nerve sparing.

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