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EDITORIAL

Bridging the Gap: Understanding Histopathology Report

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Histopathology reports play a pivotal role in guiding clinical decisions and treatment. They are the final outcome of a meticulous process where a pathologist transforms a physical tissue specimen into a definitive diagnosis. However, histopathology report often carries phrases expressing diagnostic uncertainty — such as "compatible with," "suggestive of," or "in keeping with". As histopathology report serves as definitive diagnosis, such phrases can be misleading or hamper effective communication between clinicians, pathologists, and patients, leading to diagnostic errors, treatment delays, and patient anxiety.

Language of Uncertainty: A Source of Misinterpretation

Subjective phrases frequently appear in histopathology reports as several factors can limit diagnostic certainty. These factors include limited sample cellularity, preanalytical sample quality, patient clinical history and radiological findings, previous biopsy and pathologist experience and familiarity with the diagnosis [1]. Galloway et al found out that for all phrases like "indicative of," "raise the possibility of," "compatible with," "probably those of," "diagnostic of," "in keeping with," and "suggestive of" except "diagnostic of", there was a wide variation in how respondents interpreted the level of diagnostic certainty. For instance, consultant pathologists estimated certainty anywhere from 25% to 100%, when reading "in keeping with" while many clinicians interpreted phrases like "in keeping with" or "compatible with" as indicating a higher level of certainty than pathologists intended. Only "diagnostic of" showed consistency and was uniformly interpreted as indicating high certainty [2]. This inconsistency in understanding the histopathology report stems from two major factors. First the lack of standardization in the terminology, such as the use of phrases like "consistent with", "cannot rule out" has no universally accepted probabilistic thresholds [3]. Second, clinicians misinterpret pathology reports in about 30% of cases, often due to cognitive biases that lead them to interpret wording according to their clinical expectations, as well as pressure to act quickly [4].

Consequences of misinterpretation

The impact of these communication gaps extends directly to patient care. Misunderstandings can delay necessary treatments, lead to overtreatment, or cause patients to undergo unnecessary procedures. Moreover, patients may experience heightened anxiety if they perceive their diagnosis as uncertain, especially when the language used in reports is ambiguous. A scenario where a pathology report states that a lesion is "suggestive of malignancy." If the clinician interprets this as a definitive diagnosis, the

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malignancy." If the clinician interprets this as a definitive diagnosis, the patient might undergo aggressive treatment unnecessarily. Conversely, if the clinician views it as a mere possibility, the patient might not receive timely intervention, allowing the condition to progress. Another scenario where an operating surgeon can face an unclear comment on a margin in histopathology report. Poor specimen orientation or inadequate labelling at the time of sample submission as well as fragmented specimen, fixation artefact thermal damage can limit comment on margin evaluation. This can lead a surgeon to believe a second surgery is necessary to obtain clear margins when it may not be, or conversely, to assume a margin is clear when it is not. This directly results in either unnecessary repeat surgery or increased risk of local cancer recurrence [1].

Moreover, unclear communication exposes clinicians to legal vulnerability. Analyses of malpractice claims in pathology consistently show that errors in diagnosis and communication failures are primary drivers of litigation. Reports that fail to clearly convey the degree of uncertainty or the recommended next steps are a frequent contributing factor in these cases [5].

Bridging the Gap

Improving clarity and utility of histopathology reports can be achieved through several key strategies. Using standardized synoptic cancer pathology reports, as recommended by the College of American Pathologists (CAP) and the Royal College of Pathologists (RCPath), helps ensure that all essential information—like tumor size, grade, and surgical margins—is clearly and consistently documented. This not only makes reports easier to interpret but also supports better clinical decisions, more effective patient care, and improved cancer tracking at a broader population level [6]. Similarly, standardization of terminology mainly while expressing diagnostic uncertainty helps reduce misunderstandings, ensuring that clinicians interpret pathology reports more accurately and consistently [2]. In addition, enhanced communication between pathologists and clinicians particularly through Multidisciplinary Tumor Boards (TBs) play a key role in improving communication among healthcare teams, including pathologists and clinicians. These meetings provide a space for direct discussion and a regular flow of information, allowing team members to clarify any ambiguous pathology findings and stay aligned in their understanding. By fostering ongoing exchange and collaboration, teams can make more accurate diagnoses and develop better treatment plans, all while keeping patient-centered care at the heart of their decisions. Open dialogue in TBs helps close gaps in interpretation, leading to clearer, more coordinated, and confident clinical decision-making [7]. Moreover, clear and complete clinical details—such as the exact site of the lesion, the type of surgery performed, any orientation markers, relevant imaging, previous biopsy findings, and operative notes—should always accompany the specimen in situation where direct patient surgeon interaction is not possible.

Histopathology reports are essential for accurate diagnosis, but the way uncertainty is expressed can sometimes create confusion and miscommunication. We can bridge these gaps by using standardized terminology, implementing structured report formats, encouraging direct communication between pathologists and clinicians, and promoting multidisciplinary tumor boards. Clearer and more consistent reports not only help clinicians make better decisions but also reduce diagnostic errors, ease patient anxiety, and ultimately lead to improved health outcomes.

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