THE NEED FOR THE BEST PRACTICES RECOMMENDATIONS IN THE ORAL PATHOLOGY LABORATORY

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J Stoma 2023; 76, 1: 68-69
DOI: https://doi.org/10.5114/jos.2022.124318

Dear Editor,

Dentistry is one of the acknowledged fields of modern scientific medicine. Oral pathology is a specialization in dentistry dealing with diseases in the head and neck region, especially the oral cavity and its' associated structures. According to the Dental Council of India (DCI), oral pathology and microbiology are one of the recognized specialties of dentistry [1]. Our aim is to create guidelines, which can ensure prompt and accurate reporting, as well as digitization to minimize errors in the oral pathology laboratory [2]. Laboratory testing is one of the most widely utilized diagnostic procedures to support medical decisions, but there is scarce data demonstrating its' efficacy and impact on health outcomes [3].

The American Academy of Oral Pathology (AAOMP) was the first to be started as early as 1946 [4]. An informal club of oral pathologists evolved into the British Society of Oral Pathology (BSOMP) in 1967 [5]. The International Association of Oral and Maxillofacial Pathologists (IAOP) united oral pathologists across the world in 1976 [6]. The Indian Association of Oral and Maxillofacial Pathologists was established in 1993, whereas the Asian Society of Oral & Maxillofacial Pathology (ASOMP) was started in 2003 for educational purposes [7].

An international survey on 42 countries represented in IAOP showed that oral pathology is either a specialty, or recognized by a licensing body. Out of 195 countries in the world, only 42 had oral pathology, whereas other countries, such as Poland, Russia etc., did not have any recognized specialty or licensing body [8].

Oral pathology is also a recognized branch of pathology, even by the Royal College of Pathologists in the United Kingdom [9]. The Royal College of Pathologists of Australia, the Colleges of Medicine of South Africa, and the General Dental Council of UK are few recognized organizations in oral pathology. Therefore, oral pathology is both a field of dentistry and a branch of pathology related to medicine.

Oral pathologists are specialized dentists dealing with histopathological and immuno-histochemical diagnosis of biopsy specimens, fine needle aspiration cytology, exfoliative cytology, and analysis of biological samples referred for hematology, biochemistry, and microbiology. They correlate histopathological features with clinical and radiological findings, and either directly treat or indirectly guide treatment of patients [2].

Good Clinical Laboratory Practices included levels of laboratory, personnel training and development, preexamination, examination, safety, quality management by internal and external audits, and data management. However, it did not include any specific guidelines pertaining to oral pathology [10].

Suspected oral lesions requiring surgical biopsy from a representative site should be followed by prompt fixation in 10% neutral buffered formalin, routine tissue processing using reagents, paraffin wax impregnation and embedding, microtomy, and appropriate staining for reporting [11]. Quality assurance (QA) is based on multiple levels of evidence, which assess the effectiveness of quality indicators from pre-analytical, analytical, and post-analytical phases of laboratory testing. These

JOURNAL OF STOMATOLOGY
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Received: 09.09.2022 • Accepted: 14.12.2022 • Published: 17.01.2023

QA have a huge impact on the best practices to bring a high and clinically relevant performance.

Over the last decade, systematic reviews have evolved into transparent, evidence-based decision-making by the clinician to suggest a test of choice. Based on existing theories, expert opinion, consensus opinion, and evidence-based interpretation, they are all approaches for decision-making. According to evidence-based laboratory medicine, "a diagnostic test result should enable a choice to be made, which leads to an action being performed, resulting in a better outcome for the patient" [12].

Due to scarcity of published evidence and variability of laboratory practices, Laboratory Medicine Best Practices (LMBP) collects and systematically evaluates the published data on quality improvement efforts in laboratory medicine. Laboratory testing is vital in modern healthcare for screening, diagnosis, prognosis, disease risk classification, therapy selection, and monitoring of illness development or treatment responses. It also serves as a guide for hospital admissions and discharges. As the usage of tests grows, their appropriateness is being scrutinized more rigorously, e.g., in order to reduce the possibility of diagnostic error [13].

The LMBP systematic review methodologies are used to undertake effective reviews of pre-analytic, analytic, and post-analytic laboratory quality improvement practices, and to reduce errors within the total testing process. LMBP's review cycle consists of six steps, including ask, acquire, appraise, analyze, apply, and audit/assess. Ask the question focusing on the topic to be answered by literature evidence review [14]. Acquire sources and collect appropriate published items. Critically appraise the evidence by screening and evaluation of criteria from individual studies. Analyze and synthesize quality of evidence and risk of bias based on effect size and consistency. Apply the findings to local implementation. Audit the activities to measure and monitor targeted outcomes [15].

Establishing best practices in oral pathology could pave the way to increase interaction and collaboration among oral pathologists, thereby improving the quality of healthcare. Recent developments, such as digital software, laboratory information systems, whole-slide imaging, and techniques, including immunohistochemistry, in situ hybridization, etc., with computational biology needs standardization [16]. The first step is to create oral pathology-specific documentation and communication. The next step is to facilitate inter-operability by developing standardized and universal practices. Finally, efforts must be taken to integrate computational pathology, cytopathology, hematopathology, biochemical analysis, and molecular analysis into current oral pathology laboratories. Digital dentistry has several clinical applications, whereas their applications in laboratory management remains unexplored; hence, research in this area is warranted [17].

We hereby request the recognized associations in oral pathology worldwide, such as IAOP, IAOMP, AAOMP, BSOMP, ASOMP, etc., to establish the best practices and laboratory guidelines for pre-analytical, analytical, and post-analytical phases in oral pathology. These guidelines could ensure prompt and accurate reporting for the patient, optimize finances, ensure efficiency, and avoid laboratory errors. These guidelines would also help to establish oral pathology as a specialty, and determine a foundation for the growth of oral pathology in nations, in which oral pathology is not currently recognized.

CONFLICT OF INTEREST

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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