



CLINICAL AND DIAGNOSTIC ADVANCES IN OTOLARYNGOLOGY RELATED TO SALIVARY GLAND DISORDERS

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ANNOTATION

Salivary gland disorders represent a significant group of diseases encountered in clinical otolaryngology, affecting patients' oral health, digestion, and overall quality of life. These disorders include inflammatory conditions, obstructive diseases, autoimmune pathologies, and benign or malignant tumors of the salivary glands. Recent advances in diagnostic imaging, minimally invasive procedures, and molecular diagnostic techniques have greatly improved the early detection and management of salivary gland diseases. This article reviews current clinical and diagnostic innovations in otolaryngology related to salivary gland disorders and evaluates their impact on patient outcomes and treatment effectiveness.

Keywords: Salivary gland disorders, otolaryngology, diagnosis, salivary gland diseases, ultrasonography, sialendoscopy, salivary gland tumors, xerostomia, clinical advances, treatment methods.

INTRODUCTION

Salivary glands play an essential role in maintaining oral health by producing saliva, which supports digestion, lubrication, immune defense, and tissue repair. The major salivary glands include the parotid, submandibular, and sublingual glands, each of which can be affected by a variety of pathological conditions. Salivary gland disorders such as sialadenitis (Sialadenitis), sialolithiasis (Sialolithiasis), xerostomia (Xerostomia), and salivary gland neoplasms present considerable diagnostic and therapeutic challenges in modern medicine. Advances in otolaryngology have introduced innovative diagnostic tools and treatment methods that enable earlier diagnosis, more accurate disease classification, and less invasive management. This article aims to explore recent clinical and diagnostic developments in the evaluation and treatment of salivary gland disorders.

MATERIALS AND METHODS

This study was conducted using a systematic review and analytical evaluation of current scientific literature related to salivary gland disorders in clinical otolaryngology. Data were collected from peer-reviewed journals, clinical guidelines, and international medical databases focusing on diagnostic and therapeutic innovations in salivary gland pathology. The reviewed materials included studies on modern diagnostic techniques such as ultrasonography, computed tomography (Computed Tomography), magnetic resonance imaging (Magnetic Resonance Imaging), fine-needle aspiration biopsy, and sialendoscopy (Sialendoscopy). Therapeutic approaches analyzed included pharmacological management, minimally invasive surgical interventions, endoscopic procedures, and reconstructive techniques. Comparative and descriptive research methods were used to evaluate the effectiveness, diagnostic accuracy, and clinical benefits of these modern approaches. The gathered information was critically analyzed to identify current trends and future perspectives in the diagnosis and management of salivary gland disorders.

RESULTS

The study demonstrated that recent clinical and diagnostic advances in Otolaryngology have significantly improved the identification and treatment of salivary gland disorders. Modern imaging



modalities such as ultrasonography, computed tomography, and magnetic resonance imaging have increased diagnostic accuracy, allowing earlier detection of inflammatory, obstructive, and neoplastic salivary gland diseases. The findings showed that Sialendoscopy has emerged as an effective minimally invasive diagnostic and therapeutic tool, particularly in the treatment of Sialolithiasis and ductal stenosis. Fine-needle aspiration biopsy was also found to be highly valuable in differentiating benign and malignant salivary gland tumors. Additionally, pharmacological therapies combined with advanced surgical interventions have improved patient recovery rates, reduced complications, and enhanced long-term clinical outcomes.

DISCUSSION

The results indicate that technological advancements have transformed the clinical management of salivary gland disorders. Early and precise diagnosis remains essential for selecting the most effective treatment strategy and preventing disease progression. One of the most significant developments is the growing use of minimally invasive techniques, particularly sialendoscopy, which has reduced the need for traditional open surgery and minimized postoperative complications. This has led to shorter hospital stays and improved patient satisfaction. Despite these advances, challenges remain in diagnosing rare salivary gland tumors and chronic inflammatory diseases. In many developing healthcare systems, limited access to advanced imaging and endoscopic technologies may delay diagnosis and treatment. Therefore, expanding technological availability and professional training in otolaryngology is essential. Future developments in molecular diagnostics and personalized medicine may further improve disease detection and individualized treatment planning.

CONCLUSION

Clinical and diagnostic advances in otolaryngology have significantly improved the diagnosis, treatment, and overall management of salivary gland disorders. Modern imaging technologies, minimally invasive techniques, and innovative therapeutic approaches have enhanced diagnostic precision and treatment outcomes. Early diagnosis, multidisciplinary collaboration, and continued technological innovation are critical to reducing complications and improving patients' quality of life. Further research should focus on expanding minimally invasive methods and integrating molecular diagnostics into routine clinical practice.

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