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# Oral Plasma Cell Mucositis Obstacles and Challenges: A Systematic Review

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## Introduction

Plasma cell mucositis is a rare idiopathic disorder characterised by dense plasma cell infiltrates in the submucosa. Oral plasma cell mucositis has a wide range of clinical phenotypes. A systematic review was conducted with the goal of synthesising the available evidence on o-PCM. PRISMA guidelines were followed for the literature search, study design, and data analysis. To structure the research question, the SPIDER and PICO tools were used. There were 79 case reports and 19 case series on 158 patients in total. Gingiva was the most frequently involved oral site. Erythema was the most common clinical phenotype. Pain was the most commonly reported symptom. Histological examination revealed a dense inflammatory infiltration with a predominance of plasma cells in all samples. Plasma cell mucositis (PCM) is an unusual idiopathic disorder characterised histologically by dense infiltrates of plasma cells in the submucosa. Zoon described PCM as affecting the glans penis in 1952, and it was dubbed Zoon's balanitis. Similar pathologic changes have been observed at various mucosal sites since then, including the vulva, oral cavity, epiglottis, larynx, pharynx, lower respiratory tract, conjunctivae, and skin. Several terms have been used to describe these clinicopathologic features in the past, including plasma cell orificial mucositis, idiopathic plasmacytosis, oral papillary plasmacytosis, and mucous membrane plasmacytosis. Because cases reported in the literature were clinically and histopathologically indistinguishable from one another, the term oral plasma cell mucositis was proposed to aid in the documentation of such disorders involving the mouth [1].

## Description

Patients with o-PMC frequently have a history of autoimmune or immunologically mediated diseases, such as Sjögren syndrome, autoimmune hepatitis, polymyositis, or diabetes mellitus. However, these conditions are not present in all cases, and no single disease has been consistently linked. O-PCM is commonly thought to be idiopathic, though hypersensitivity reactions to specific antigens have been proposed as possible etiologic factors. The clinical phenotypes of o-PCM vary, but patients typically have florid erythematous oral mucosa with cobblestone, nodular, papillomatous, granular, or velvety surface changes. They can be asymptomatic or present with symptoms such as oral pain/burning sensation, gingivitis, sore throat, dry cough, and persistent hoarseness [2,3].

As a result of the healing of subepithelial damage, secondary complications such as subglottic stricture, stenosis, and respiratory obstructions have been reported. O-PCM clinical features can be mistaken for autoimmune mucocutaneous bullous diseases, lichen planus, candidiasis, contact mucositis, chronic glaucomatous sarcoidosis, systemic lupus erythematosus, Wegener's granulomatosis, and squamous cell carcinoma, the majority of which can be ruled out with histological examination.Plasma cell proliferation has also been linked to certain infectious diseases, including syphilis, Castleman's disease, a primary infectious disease of the lymph node, and, more recently, COVID-19 [4,5].

## Conclusion

Although three etiological hypotheses for o-PMC have been identified, the pathophysiological mechanism remains unknown, and there is no international agreement on drug classes or therapeutic regimens used to treat this disease. Furthermore, o-PCM is rarely reported in the dental literature, but it is critical to raise awareness of this disease among dentists, oral surgeons, and oral medicine specialists in order to obtain an accurate diagnosis and begin appropriate treatment. This is the first systematic review to synthesise the findings of o-PCM studies. The lack of universally shared data on etiological factors, combined with the morphological non-specificity of oral lesions and the lack of international consensus on pharmacological protocols, make o-PCM a diagnostic and therapeutic challenge.

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