

Article Summary

Name: Abd-Manaaf Bakere.

Rotation 7: Emergency Medicine

Diagnosis and Management of Barosinusitis: A Systematic Review

Chen T, Pathak S, Hong EM, Benson B, Johnson AP, Svider PF. Diagnosis and Management of Barosinusitis: A Systematic Review. *Ann Otol Rhinol Laryngol.* 2023 Jan;132(1):50-62. doi: 10.1177/00034894211072353. Epub 2022 Feb 8. PMID: 35130739.

The article provides a comprehensive overview of barosinusitis, a condition caused by changes in atmospheric pressure, which primarily affects individuals engaged in activities like flying, diving, or hyperbaric treatments. Barosinusitis results from pressure differentials between the nasal cavities and the paranasal sinuses, leading to inflammation and discomfort. It is most prevalent in airline pilots, flight attendants, and scuba divers, with the prevalence among divers reaching up to 40%.

Symptoms and Diagnosis:

Patients with barosinusitis often present with **nasal congestion, facial pain, and headaches**. In severe cases, **epistaxis**, or nosebleeds, can occur, and these symptoms frequently worsen with pressure changes during descent. Approximately 60% of affected individuals experience facial pain, making it the most commonly reported symptom. Diagnosis primarily relies on clinical history and physical examination, with nasal endoscopy being a valuable tool for visualizing sinus inflammation. Imaging studies, such as CT scans, are indicated when complications like sinus opacification or mucosal thickening are suspected.

Management and Treatment:

The treatment of barosinusitis focuses on symptom relief and preventing recurrence. Conservative measures include nasal decongestants, saline irrigation, steroid and pain management, which are effective for mild cases. Around 70% of patients respond well to these interventions. In cases where conservative treatment fails, more invasive options like sinus surgery may be considered. Oral and topical steroids should be first line therapies. If refractory, then functional endoscopic sinus surgery (FESS) is an effective treatment. The article emphasizes the importance of identifying predisposing factors, such as allergies or structural abnormalities, which can contribute to recurrent episodes, affecting approximately 30% of patients with barosinusitis.

Preventive Measures:

Preventive strategies are crucial, particularly for individuals in high-risk professions. These include using **decongestants before engaging in activities with pressure changes, avoiding activities during upper respiratory tract infections, and employing equalization techniques to balance pressure differences**. For professional divers and frequent flyers, these preventive measures significantly reduce the likelihood of barosinusitis, decreasing its incidence by up to 50%.

In conclusion, barosinusitis is a condition often encountered in professions involving rapid pressure changes, with clear diagnostic and management pathways. Early identification and treatment, combined with preventive strategies, can significantly reduce the impact of this condition on at-risk populations.