Inflammatory Pseudotumor of the Nasal Cavity: Successful Management with Corticosteroids.

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INTRODUCTION

Inflammatory pseudotumor is a benign, idiopathic, inflammatory lesion rarely identified in the nasal cavity or paranasal sinuses. Most commonly found in the lung and orbit, these lesions have been identified in nearly all anatomic locations of the body. This entity is important to understand as its clinical and radiographic presentation mimics an aggressive neoplasm. Surgical resection may lead to significant complications. Although corticosteroids are an alternative therapeutic approach. We present a case of bilateral nasal cavity inflammatory pseudotumor successfully treated with corticosteroids.

CASE REPORT

A 48-year-old woman presented with a 2-year history of progressively worsening nasal obstruction and bilateral nasal cavity masses.

The patient's first symptoms were of anterior nasal pruritus initially attributed to a history of allergic rhinitis. Subsequently, she noted progressively enlarging bilateral nasal masses. An otolaryngologist – head and neck surgeon treated her with a course of nasal steroids and antibiotics after a CT sinus showed concern for polyp formation in the nose. No response was noted. A biopsy revealed plasma cell granuloma.

The patient presented to our institution for a second opinion with nasal obstruction, intermittent rhinorrhea and epistaxis, and frontal headaches. She denied constitutional symptoms or otorrhea. There was no history of nasal trauma or infection. She has a history of allergic rhinitis, but no rheumatologic disorders or prior radiation exposure.

Physical examination demonstrated firm, fleshy lesions in the bilateral anterior nasal cavities and extending to the supero-medial aspect of the upper left lip. A 2-centimeter mid-septal perforation was also seen. The remainder of the head and neck examination was unremarkable. Her cranial nerves were intact. There was no cervical lymphadenopathy. Laboratory data revealed normal CBC, ESR, C3 and C4 levels, and Erythrocyte sedimentation rate.

Axial T1 and T2 weighted MRI demonstrated abnormal nodular soft tissue at the anterior aspect of the nasal cavity which was more nodular on the right side at the nasal vestibule. There is destruction of the anterior interior nasal septum and specifically of the quadrangular cartilage. There is heterogeneous but overall marked enhancement with gadolinium.

DISCUSSION

Pathogenesis

Inflammatory pseudotumor, IPT, is a solid fibro-inflammatory tumor that clinically mimics a neoplastic lesion. IPT represents a class of pathologic lesions that share in common a heterogeneous background of inflammatory cells, histiocytes, and fibroblasts. These variable lesions carry numerous monikers: inflammatory pseudotumor, plasma cell granuloma, histiocytes, histiocytoma, postinflammatory pseudotumor, and inflammatory myofibroblastic proliferation.

Most commonly identified in the lung and orbit, IPT has been identified in virtually every anatomic region. Within the head and neck, extraorbital lesions have been reported in the nasal cavity, paranasal sinuses, nasopharynx, pterygopatine fossa, submandibular gland, jugulodigastric region, salivary glands, parapharyngeal space, larynx, oral cavity, tonsil, and thyroid. In contrast to non-head and neck lesions, sinonasal IPT affects a broad age range. Constitutional symptoms are often minimal or absent.

The underlying etiology of inflammatory pseudotumor is unknown. The leading, debated hypotheses are between infectious versus neoplastic causes. Infectious pseudotumors have been described as a result of mycobacteria, EBV, actinomycetes, nocardia, mycoplasma, and Pseudomonas. Some lesions are multiply recurrent and reports of sarcomatous transformation and metastasis exist. The majority of cases remain idiopathic as is the case described in this report.

Diagnosis

Pathologic diagnosis of IPT is made by exclusion. In a case series by Coffin, et al., 83 pathologic specimens of IPT were reviewed. Histologic characteristics demonstrate a mixture of spindle-cells and inflammatory cells. Fibroblasts and myofibroblasts, plasma cells, lymphocytes, and eosinophils are present in variable proportion. Three pathologic subtypes of IPT have been described: 1) a granulation tissue-like pattern (mixed inflammatory), 2) a spindle-cell storiform pattern (spindle cell/plasma cell predominant), and 3) a sparsely cellular, plate-like pattern (eosinophil predominant). The prognostic implications of pathologic characteristics are unclear. In a study of orbital pseudotumor, Swamy et al. found no relationship between clinicopathologic features and outcome.

Radiographically, extraorbital IPT of the head and neck tends to be poorly demarcated with aggressive features including bone erosion, sclerosis, and remodeling on CT. On MRI, the lesions are isointense on T1-weighted images and hypointense on T2-weighted images. T1 post-gadolinium enhancement is consistent. The low T2 signal demonstrated here generally favors a differential diagnosis of granulomatous process, lymphoma, or inflammatory pseudotumor. Most other pathologic processes are intermediate to high intensity on T2.

REFERENCES