

***“Frequency of a dental source for acute maxillary sinusitis” by Bomeli SR, Branstetter BF IV, Ferguson BJ. Laryngoscope. 2009;119:580–584.***

In the past, 10–12% of maxillary sinusitis was thought to be of dental etiology and conditions such as periapical abscesses or periodontal disease. Placement of a dental implant was also thought to increase maxillary sinusitis onset. Abrahams et al reported that radiographic evaluations suggested a casual relationship between periodontal disease and ipsilateral maxillary sinusitis in 38% of cases. Although dental providers may elect to perform bitewing or panoramic radiography to assess if the Schneiderian membrane is compromised, CT imaging offers a more reliable tool for the diagnosis of sinusitis. This retrospective radiologic study aimed to describe radiographic characteristics of odontogenic acute maxillary sinusitis and to determine the frequency of these characteristics in patients with established maxillary sinus fluid.

Upon IRB approval, radiology reports of conventional CT scans from 2002 to 2008 were queried for the terms “acute maxillary sinusitis”; the search resulted in 186 patients but only 101 (202 maxillary sinuses) were eligible for this study. Images were reviewed by a board-certified radiologist who assessed each sinus for presence of prior maxillary sinus surgery, presence of teeth, and dental/periodontal disease close to the floor of the maxillary sinus. The severity of maxillary sinus fluid was assessed based on the linear percentage of the aerated sinus opacified by the fluid when viewed in the axial plane of imaging; portions of the sinus opacified by the mucosal thickening (graded as none, mild, or severe) were excluded. The amount of fluid was categorized as none, mild,

moderate, and near-complete, and dental diseases were identified as absent, treated, or untreated. In addition, presence of radiographically-identifiable, specific dental source of infection was assessed. Univariate chi-square analysis was performed to identify potential radiologic and demographic features predictive of sinus fluid ( $P < .05$ ). Multivariate logistic regression was used to identify odontogenic sources of infection ( $P < .05$ ). Of the 202 reviewed sinuses, 124 had maxillary sinus and 82% of sinuses had at least one adjacent tooth. Twenty-six percent of sinuses with teeth had active dental disease and 37% had in fact periodontal disease. Significant univariate associations were found with oroantral fistula (as independent predictor of sinus fluid), apical abscess, periodontal disease, and projecting tooth root (the latter 3 being not independent predictors). Two interaction effects were found: presence of periodontal disease along with either a projecting tooth root or abscess was predictive. The study also revealed that the likelihood of finding a dental source of infection increased drastically when the amount of maxillary sinus also increased.

Within the limitations of this study, the results demonstrate that maxillary sinus fluid can be attributed to odontogenic infections at a much higher rate (86%) than previously suspected. In fact, an increased amount of fluid and mucosal inflammation in the maxillary sinus observed on a CT scan increases the likelihood of finding an odontogenic source as etiology of the sinus disease. This information is of significant relevance to the clinicians because the treatment of sinusitis of dental origin differs from that of nonodontogenic sinusitis.

**“Unusual synchronous presentation of maxillary sinus fibrosarcoma and gemistocytic astrocytoma with a complication called leukocytoclastic vasculitis: a case report” by Cadir B, Karahan N, Nasir S, Aydin MA, Turkaslan SS. *Eur J Dent.* 2009; 3:233–239.**

Paranasal sinus sarcoma is a malignant tumor that constitutes only 7% of all head and neck sarcomas and only less than 1% of cancers in this region. Survival ranges from 60–70% (head and neck) to 30–50% for 5 years (maxillary sinus). Conversely, gemistocytic astrocytoma, which is a slow-growing tumor composed of astrocytes, behaves aggressively and has a high frequency of rapid tumor recurrence and malignant progression (survival is estimated at 16% for 5 years and 0% for 10 years). Both conditions are rare and local recurrence and distant metastases may occur with both of them. Because of their rare onset, the standard treatment regimen is not well documented in the literature and estimating prognosis of sarcomas in the oral and maxillofacial region may be challenging. It is therefore important to recognize the early symptoms as an early diagnosis is the most important factor for a favorable treatment outcome. This case report aims to describe the clinical course of the disease, the unusual development of leukocytoclastic vasculitis during radiotherapy, and management protocols for prospective cases.

A 48-year-old male complained of slight pain, sense of swelling, and discomfort in the left cheek and pressure to the left eye for about 2 months. Patient had excision of gemistocytic astrocytoma brain tumor (6 cm left-temporoparietal lobe) and radiotherapy a year prior. An intraoral exam revealed localized decrease in the left-maxillary vestibular depth from the canine to the 2nd premolar with slight pain on palpation. Orthopantomography also showed an enlarged left maxillary sinus with poorly defined margins; CT-scan showed a mass (36 × 53 × 57 mm) extending anterolateral,

inferior, medial wall of the maxillary sinus, orbital cavity, and pterygopalatal fossa. A biopsy was performed which revealed a well differentiated (Grade I) fibrosarcoma; partial maxillectomy was performed, and a palate reconstruction was performed about 3 months later. Patient also received adjuvant radiotherapy 3 months after the operation during which skin lesions presented on the whole body; biopsy of the skin lesions revealed leukocytoclastic vasculitis which was determined to be an unusual event. No local recurrences occurred at the primary sites; however, distant metastases to lung, femoral and spinal bones occurred 2 years after the operation. Patient died after further worsening of his medical condition.

This case report describes the clinical course and treatment approach of a rare condition identified as maxillary sinus fibrosarcoma and gemistocytic astrocytoma. The development of adjunct complication (leukocytoclastic vasculitis) makes this case report one of the few available in the literature. Its importance relays in describing the early diagnosis, intervention, and long-term outcome of rare malignant tumors of the head and neck region.

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**“Toothache as a presenting symptom of metastatic renal cell cancer” by Hallock A, Rodrigues G. *Can Urol Assoc J.* 2009;3:E42–E44.**

This article describes the case of a patient that was initially diagnosed with Renal Cell Carcinoma (RCC) in 1994 at age of 39 years. Patient was treated with left radical nephrectomy. In 1997 he was diagnosed with a solitary metastatic lesion to the cerebellum after he complained of ataxia and headache. Total resection and postoperative cranial radiation therapy followed. The patient went asymptomatic for approximately 10 years, when he complained of pain in the maxilla.

Upon dental examination, extensive bone loss was detected around tooth #2, with erosion of the buccal and palatal bone extending into tooth #3. The pain was considered to be related to extensive periodontal disease, and tooth 2 was extracted. A mass in the gingival tissue was also noted, and sent for histological evaluation; a renal cancer cell was diagnosed. Upon further examination, a CT scan of the maxilla revealed a large mass extending into the right sinus; the patient's staging workup also revealed a large subcranial node and multiple small pulmonary nodules. Further bone scan analyses demonstrated asymptomatic lesions of the right maxilla and T9 vertebra. The patient underwent radiation treatment of the maxilla and also began an oral vascular endothelial growth factor receptor kinase blocker (sunitinib). Five months after completing intervention, imaging was repeated and the disease in the maxilla was stable together with regression of the lung nodules. However, death ensued after 2.5 years after embolization. RCC of the

head and neck region has been reviewed in several reports; this disease mostly affects males and dissemination can be widespread to lung, regional lymph nodes, bone, and liver. Most bony metastases are found in structures with large red bone marrow which makes the mandible one of the susceptible sites; however, 10% of the lesions also present in the maxilla. Although the median survival of patients with jaw metastases is poor at 6 months, the treatment remains quite aggressive. Intervention includes radiotherapy and/or surgery for local control of disease, pain relief, and prevention of loss of function.

Even though there are only a few reports available in the literature discussing renal metastases to the maxilla/mandible, it is important that clinicians remember that in a patient presenting with history of RCC dental symptoms can be the first sign of relapse even after prolonged disease-free intervals.

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