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內文：

Introduction

1. The origin of sinusitis :

- consider to be primarily rhinogenous
- infection is a major predisposing factor (in some case)

2. Sinusitis with an odontogenic source accounts for 10% of all cases of maxillary sinusitis.

3. Pathogenesis of odontogenic sinusitis

- not clearly understood

4. Incidence in previous studies :

- higher in women
- 3rd - 4th decade

5. Odontogenic sinusitis

- occurs when the Schneiderian membrane is perforated.

6. Cause of odontogenic sinusitis

- Maxillary teeth caries and maxillary dental trauma.
- Iatrogenic causes, such as :
 - the placement of dental implants and dental extractions

7. A retrospective study of 27 patients who had various causes of odontogenic sinusitis to determine the clinical features was taken ,such as

- sex, age, etiologic factors, presenting symptoms, therapeutic tools, and radiological findings.

Materials and methods

1. 30 patients who were given a diagnosis of odontogenic sinusitis in Department of Otorhino- laryngology-Head and Neck Surgery from February 2006 through August 2008.
2. In this study :
 - 23 patients were initially diagnosed in our department (85.2%).
 - 4 patients were referred from a dentist's office (14.8%).
 - 3 cases of pansinusitis with nasal polyps were excluded .
3. Diagnosis of odontogenic sinusitis based on a thorough dental and medical examination, included
 - evaluation of the patient's symptoms
(according to the American Academy of Otolaryngology-Head and Neck Surgery(AAO-HNS) criteria, a diagnosis of rhinosinusitis requires at least 2 major factors or at least 1 major and 2 minor factors from a series of clinical symptoms and signs),
 - A past dental history, and radiological findings,
 - including a paranasal sinus CT scan.
 - Consultation with the dentistry department consultation.
4. The patients were retrospectively analyzed according to
 - medical records, which includes :
 - sex, age, presenting symptom, etiologic factors, surgical and medical treatment, cultures, and radiological results which includes involved sinus and teeth.

Results

1. In this study ,
 - male to female ration was 15:12
 - higher incidence in male
 - age distribution was 4 to 75 years,

- average age of 42.9 years.
- highest in the 4th decade
- follow-up period was between 2 months and 6 months,
 - with an average of 4.5 months.
- All patients have no previous history of sinusitis.

(A) A displaced dental implant into the left maxillary sinus causing sinusitis

(B) Oro-antral fistula occurred after right 2nd molar tooth extraction

3. Etiology of odontogenic sinusitis:

4. The interval from the dental procedures to the first visit to the outpatient clinic with symptoms

1 month	1-3 months	3 months to 1 year	> 1 year
11	5	8	3
40.8%	18.5%	29.6%	11.1%

5. Pre-operative consultation should able to reduce the risk

- 23 patients was diagnosed directly after admission to otorhinolaryngology without dental treatment.
- 4 patients were diagnosed via a post dental treatment consultation.
- 25 did not have a preoperative consultation between a rhinologist and a dentist prior to the dental procedure.

6.Symptom of odontogenic sinusitis

- 1 patient (3.7%) without symptoms was diagnosed incidentally by radiography
- The most common presenting symptom was unilateral purulent rhinorrhea.
- No significant differences between the symptoms of odontogenic sinusitis and that of other types of sinusitis.

7. The distribution of involved teeth in the upper jaw was as follows

8. Intra-operative bacterial cultures were obtained in 14 patients

organisms	aerobic	anaerobes	mixed
case	3(21.4%)	1(7.1%)	3(21.4%)
predominant	S. aureus	Gram(-) bacilli & Peptostreptococcus spp.	

- No correlation was found between the predisposing odontogenic conditions and the

microbiological findings.

9.The therapeutic modalities of odontogenic sinusitis

- No recurrences were observed during the follow-up period for all patients.

10. Dental implant-related complications

- 10 cases
- 6 males and 4 females with an average age of 52.3 years (range: 35-62 years).
- The interval from the dental implant procedures to the first visit to the outpatient clinic with symptoms
 - 1 month in 6 (60%)
 - 1 to 3months in 2(20%)
 - 3 months to 1 year in 1 (10%)
 - over a year in 1 case (10%)

11. Dental extraction-related complications.

- 8 cases
- 4 males and 4 females with an average age of 39.3 years (range: 22-61 years)

DISCUSSION

1. In this study

- male to female ratio was 1.25 : 1.
- no significant difference in the incidence between sexes.
- the average age of the patients was 42.9 (4th decade)

2. The most common cause (10 cases) was dental implant-related complications.

3. Main symptom

- unilateral purulent rhinorrhea
- no significant differences between the symptoms of odontogenic sinusitis & that of other types of sinusitis (AAO-HNS criteria for rhinosinusitis)

4. Teeth related cause

- 2nd molar (40.8%) in the upper jaw
- The 2nd molar roots are the closest to the maxillary sinus floor
- History taking with the physical findings and radiological imaging (include CT) is very important in diagnosis

5. Concomitant management is important in prevent infection , recurrence and complications.

- A combination of medical and surgical approaches is generally required
 - Sources elimination in order to prevent a recurrence of sinusitis
 - The removal of a foreign tooth root from the sinus,
 - Infected tooth extraction or root canal therapy
 - Oral administration of antibiotics for 21 to 28 days
 - Less invasive transnasal endoscopic sinus surgery was suggested for the treatment of odontogenic sinusitis.
- After rhinologic surgical treatment, proper antibiotic therapy and dental treatments (removal of dental implants or dental caries, closure of oro-antral fistula) for the odontogenic origin have been performed by dentist on all of the patients.

6. Dental implant-related complications

- Foreign body and produces chronic infection
 - Infection caused by implants placed very close to the maxillary sinus
 - The migration of a dental implant into the maxillary sinus .
 - Preoperative evaluations
 - patients who suffer from previous symptoms of sinusitis or have predisposing factors
7. Most of the patients with odontogenic sinusitis had unilateral symptoms.
- The possibility of odontogenic sinusitis should always be considered when a patient has unilateral nasal symptoms.
8. The most common cause of odontogenic sinusitis is iatrogenic.
- consultation between a rhinologist and a dentist before a dental procedure takes place .

題號	題目
1	Which of the features about sinusitis is right? 1 Radiographically , the involved sinus has a cloudy , increased density. 2 Frequent complaints of chronic sinusitis include facial pressure , pain , or a sensation of obstruction 3 Maxillary sinusitis is associated with increased pain when the head is held upright and less comfort when the patient is supine . A:1+2 B : 2+3 C :1+3 D : 1+2 + 3
答案(D)	出處： Oral & maxillofacial pathology , second edition , p184-186
題號	題目
2	Which of the bacteria is associated with sinusitis? 1 Streptococcus species 2 Bacteroides species 3 Veillonella species A : 1+ 2 B : 2+ 3 C : 1 + 3 D : 1 + 2 + 3
答案(D)	出處： Oral & maxillofacial pathology , second edition , p184-186