



가 , CT , 가

가

I ( : 11 , : 5 ), II ( : 14 , : 6 ), III ( : 9 , : 5 )

2003 3 2008 2 5

18 CT 50 CT

가 34 (68%), 가 16 (32%)

2 - 18 12

16 , 20 가 14 CT

CT

CT GE prospeed single, GE light speed ultra (cellulitis)

8, GE light speed VCT 64 (GE Medical System, Milwaukee, U.S.A.) 가 120 kVp, CT 1.5 cm

180, 200, 400 mAs 가

3.75 mm 5 mm

1 - 1.5 cc/kg 가

3

가

CT

가

(6, 7). 가 SPSS version 14.0

**Table 1.** CT Findings and Glandular Involvements of Acute Sialadenitis in 50 Child-Adolescent

	I (n = 16)	II (n = 20)	III (n = 14)	p value
Abscess	8 (50.0%)	0	0	<0.05
Stone	0	9 (45.0%)	1 (7.1%)	<0.05
Bilaterality	1 (6.3%)	2 (10.0%)	5 (35.7%)	0.09
Cellulitis	7 (43.8%)	5 (25.0%)	14 (100%)	<0.05
Lymph node (LN)	3 (18.8%)	6 (30.0%)	6 (42.9%)	0.4

I : Involvement of parotid gland

II : Involvement of submandibular gland

III : Involvements of both salivary glands

**Table 2.** Clinical Features and Glandular Involvements

	I (n = 16)	II (n = 20)	III (n = 14)	p value
Age (year)	5.3 (1 - 17)	12.9 (7 - 17)	15.2 (8 - 18)	<0.05
Sex (M : F)	11 : 5	14 : 6	9 : 5	0.9
Palpable LN	10/15 (66.6%)	5/16 (31.3%)	0	0.07
Pain	12 (75.0%)	10 (50.0%)	12 (85.7%)	0.08
Swelling	6/15 (40.0%)	17 (85.0%)	13 (92.9%)	<0.05
Palpable mass	10 (62.5%)	5 (25.0%)	7 (50.0%)	<0.05
Tonsillitis	2 (12.5%)	6 (30.0%)	2 (14.3%)	0.446
Duration of therapy	8.9	6.4	6.8	<0.05
Operation	13 (81.3%)	13 (65.0%)	13 (92.9%)	0.165

( , ) (Fig. 6).  
 oneway ANOVA ( , , , I II III ,  
 , CT ,  
 , , ) Chi - I 8.9 II (6.4 ) , III (6.8 )  
 Square test Fisher's exact test , II III  
 . 1 , 5 , 12 ( $p=0.07$ ).  
 가 , III  
 ,  $p$  value가 0.05 (Fig. 2, 4, 6) ( $p=0.07$ ), CT  
 가  
 (Fig. 5, 6).

CT ,  
 가 (Table 1). 가 ,  
 ,  
 (Table 2).  
 (Fig. 1). I (Fig. 2, 3) 5.3 II  
 (12.9 ) (Fig. 4, 5) III (15.2 ) (Fig. 6)  
 II III 가 ( $p=0.07$ ). CT  
 I (Fig. 2), II  
 (Fig. 4). III

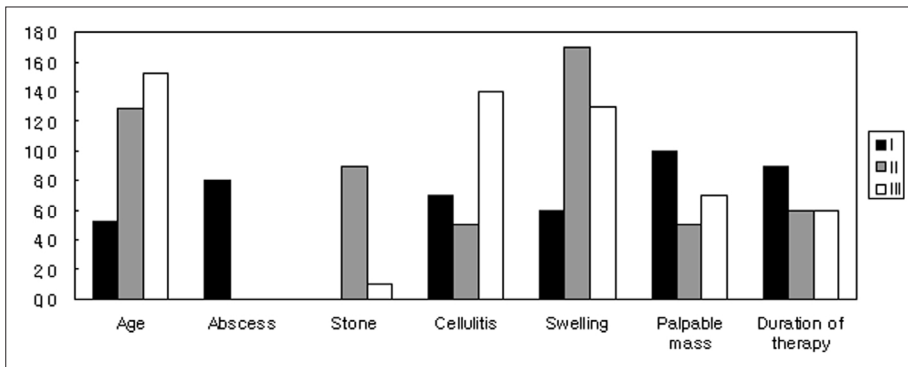


Fig. 1. Statistically significant difference between glandular involvements.

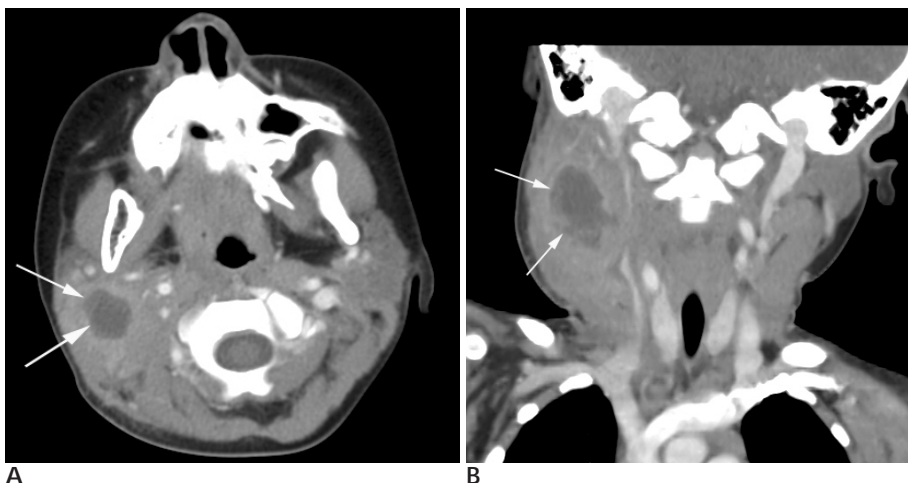


Fig. 2. Parotid abscess in a 3 year-old girl.

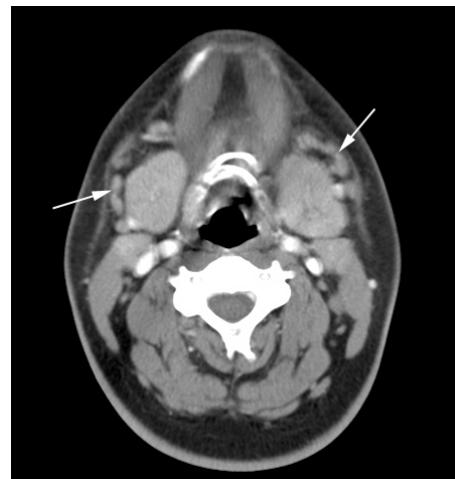
A. Postcontrast axial CT scan shows well enhancing thick walled abscess in the right parotid gland(arrows).

B. Postcontrast coronal CT scan shows large abscess in the globular enlarged right parotid gland(arrows).

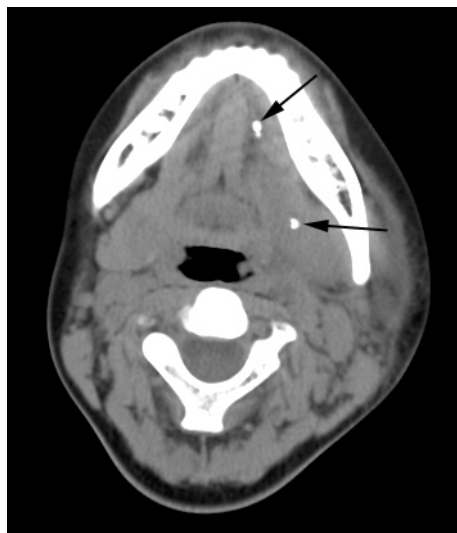
(14, 15).  
(5). 45  
Laskawi (13)  
8 (50%)  
10  
8 12 14 가  
I 5.3 II 12.9 III (submandibular space)  
15.2 가  
1% (16, 17).  
가 13.8%가 3- (9, 18, 19).  
(14). (80 - 92%), (6 -



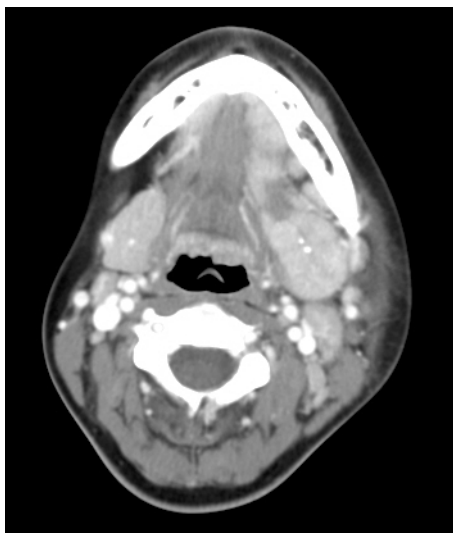
**Fig. 3.** Bilateral parotid sialadenitis in a 3 year-old boy. Postcontrast CT scan shows homogenous enhancement in bilateral parotid glands. It also shows no abscess associated.



**Fig. 5.** Bilateral submandibular sialadenitis in a 17 year-old boy. Postcontrast CT scan demonstrates globular enlarged bilateral submandibular glands with homogeneous enhancement and associated lymph nodes enlargement (arrows).



A

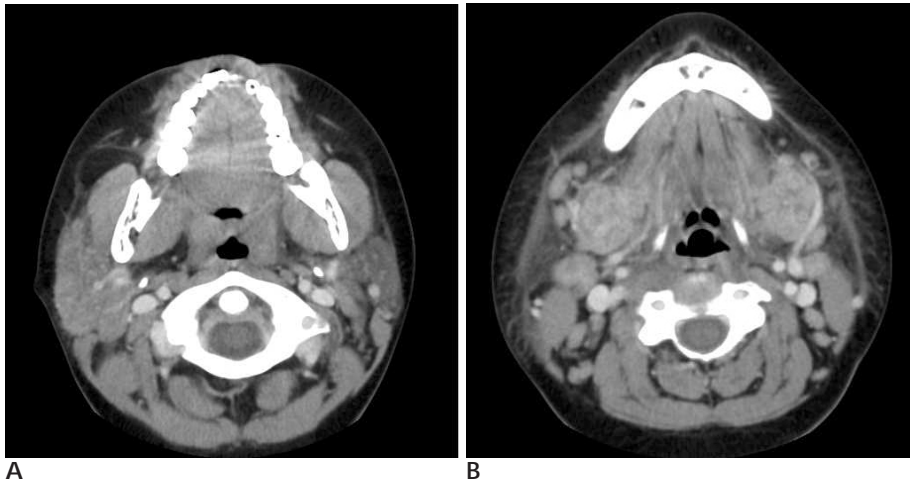


B

**Fig. 4.** Left submandibular sialadenitis with multiple sialolithiasis in a 18 year-old boy.

**A.** Precontrast CT scan shows tiny stones along the left Wharton's duct (arrows).

**B.** Postcontrast CT scan shows globular enlarged left submandibular gland.



**Fig. 6.** Sialadenitis in the right parotid and bilateral submandibular glands in a 9 year-old boy.

**A.** Postcontrast CT scan shows a globular enlarged right parotid gland with homogenous enhancement, compared to normal left side.

**B.** Postcontrast CT shows bilateral globular enlarged submandibular glands with homogeneous enhancement. Multiple lymph nodes, linear, ill-defined infiltration in the subcutaneous fat layer and thickened fascia are around submandibular glands.

20%) (1 - 2%) (20). 가 ,  
 Nahlieli (16) 15 가 ,  
 12 (80%) , 3 (20%) ,  
 , Laskawi (13) 45 (11, 21). 10  
 가 1 2% 7  
 , II 9 (45%) (swelling) ,  
 , I , 가  
 III 가 7 15 (pleomorphic adenoma),  
 (13) 가 CT  
 가 ,  
 가 (22 - 24).  
 (20). (14), 가 ,  
 I 1 15 (93.8%) CT 가 ,  
 가  
 (p=0.07). III 가 ,  
 , III 가 (35.7%), 가 ,  
 II III 45%  
 I 가 ,  
 III 가 , II  
 (Fig. 1).

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## Acute Sialadenitis in Children and Adolescents: CT Findings and Clinical Manifestations according to Glandular Involvement<sup>1</sup>

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**Purpose:** This study was designed to compare the CT findings and clinical manifestations in children and adolescents with acute sialadenitis according to the involved salivary glands.

**Materials and Methods:** The study included fifty children and adolescents (34 boys, 16 girls) with acute sialadenitis that was diagnosed during the past five years. All of the subjects were divided into three groups: group I (parotid gland involvement,  $n = 16$ ), group II (submandibular gland involvement,  $n = 20$ ) and group III (involvement of both glands,  $n = 14$ ). We analyzed the presence of an abscess, sialolith, bilaterality, cellulitis and lymphadenopathy on CT scans. The analyzed clinical data were age, sex, lymphadenopathy, pain, swelling, presence of a mass, tonsillitis, treatment period and surgical treatment if it was performed.

**Results:** The presence of an abscess, sialolith, cellulitis, swelling, age, presence of a palpable mass and treatment period were statistically significant factors for the patients in the three groups. An abscess was combined only in group I patients. There was a high rate of sialolith in group II patients and cellulitis in group III patients as seen on CT scans. Swelling in group II patients and group III patients and the presence of a palpable mass in group I patients were identified as clinical manifestations. Age was younger in group I patients (mean age, 5.3 years) than in group II patients (mean age, 12.9 years) and group III patients (mean age, 15.2 years). The treatment period was longer for group I patients.

**Conclusion:** For acute sialadenitis in children and adolescents, age, presence of an abscess, sialolith, cellulitis, swelling, presence of a palpable mass and treatment period were different according to the involved salivary glands.

**Index words :** Tomography

Salivary glands diseases

Child

Adolescent

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