

소아 만성 부비동염환자의 아데노이드에서 Mast Cell의 분포 및 탈과립

전경명 · 노환중 · 조규섭 · 문영일 · 이병주 · 고의경

The Role of the Mast Cell of Adenoid in Pediatric Chronic Sinusitis

Kyong-Myong Chon, MD, Hwan-Jung Roh, MD, Kyu-Sup Cho, MD,
Young-Il Moon, MD, Byung-Joo Lee, MD and Eui-Kyung Goh, MD

Department of Otolaryngology, College of Medicine, Pusan National University, Pusan, Korea

— ABSTRACT —

Background and Objectives : The purpose of this study is to evaluate the relationship between immunologic inflammatory reaction and rhinosinusitis by examine the adenoid mast cell count and its degranulation in pediatric rhinosinusitis patients. **Materials and Method** : The distribution of mast cells in the adenoidectomy specimens of 36 children with enlarged adenoid without allergy history was studied. Eighteen patients had rhinosinusitis and remaining 18 is control group without evidence of rhinosinusitis. Mast cell were identified on the basis of the metachromatic staining of their cytoplasmic granule with toluidine blue. Age distribution of rhinosinusitis group ranged from 3 years 10 months to 11years 6 months (mean : 6 years 10 months). And that of control group is 3years 11 months to 15 years (mean 6 years 10 months). **Results** : Patient with rhinosinusitis had 22.4 cells per a high power field ($\times 400$) and 10.2 cells in control group. Degranulation cell count is 10.5 compared to 2.88 in control group. Degranulation analysis confirmed the difference between the two group is significant ($p < 0.001$). **Conclusion** : In pediatric rhinosinusitis, adenoid mast cell and degranulated cell are much denser than control group. Degranulation of adenoid mast cell release histamine and other inflammatory mediators which might play some role in pathogenesis and chronicity of pediatric rhinosinusitis. (J Clinical Otolaryngol 2001;12:234-239)

KEY WORDS : Rhinosinusitis · Mast cell · Adenoid.

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: 2001 10 15
: 2001 11 5
: , 602 - 061 1가
10 : (051) 240 - 7330 · : (051) 248 - 1248 가,
E - mail : chonkm@hyowon.cc.pusan.ac.kr

Table 1. Adenoid index (%) in rhinosinusitis and control groups

Case Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Mean
Sinusitis	80	63	75	75	70	75	69	83	75	80	82	83	83	67	75	70	68	75	74.8 ± 6.1
Control	90	90	70	77	71	75	75	76	76	75	72	80	75	80	70	75	73	76	76.4 ± 5.7

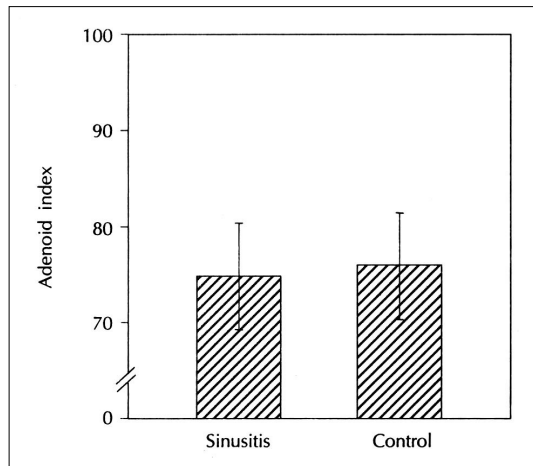


Fig. 1. Adenoid index in sinusitis and control groups.

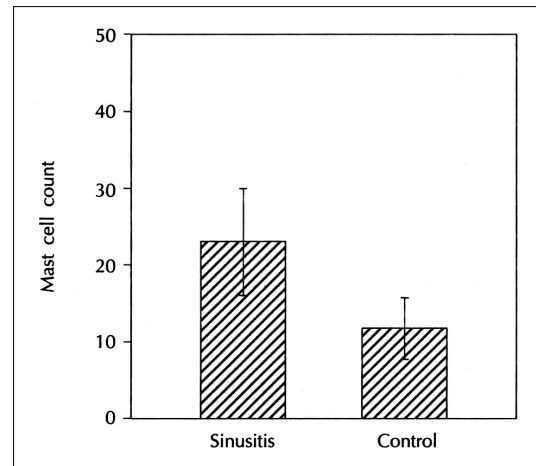


Fig. 2. Mast cell count in sinusitis and control groups.

Table 2. The number of adenoid mast cell and degranulated cell and its ratio in rhinosinusitis and control group

Case	Group	Rhinosinusitis			Control		
		Mast cell (M)	Degranulation (D)	D/M ratio	Mast cell (M)	Degranulation (D)	D/M ratio
1		26.3	12.4	0.47	17.9	5.7	0.32
2		17.8	10.5	0.59	6.9	1.7	0.25
3		40.7	10.9	0.27	3.5	1.1	0.31
4		19.6	10.6	0.54	19.4	4.6	0.24
5		20.4	5.9	0.29	7	0.9	0.13
6		17.6	10	0.57	6.7	0.9	0.13
7		20.1	11.1	0.55	8.3	4.2	0.51
8		28.3	16.7	0.59	6.5	3.1	0.48
9		38.2	10.1	0.26	6.1	1	0.16
10		27.8	16.5	0.59	2.7	1	0.37
11		18.6	8	0.43	16.4	2.5	0.15
12		17.3	6.4	0.37	11.6	2.2	0.19
13		16.1	7.6	0.47	14.4	3.2	0.22
14		10.7	6.5	0.61	4.3	1.8	0.42
15		19.8	10.5	0.53	16.5	5.9	0.36
16		21.4	6.8	0.32	3.9	1.8	0.46
17		23.7	14.1	0.59	22.4	5.8	0.26
18		20.4	14.5	0.71	8.4	4.5	0.54
Mean		22.4	10.5	0.48	10.2	2.8	0.30

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Mast Cell

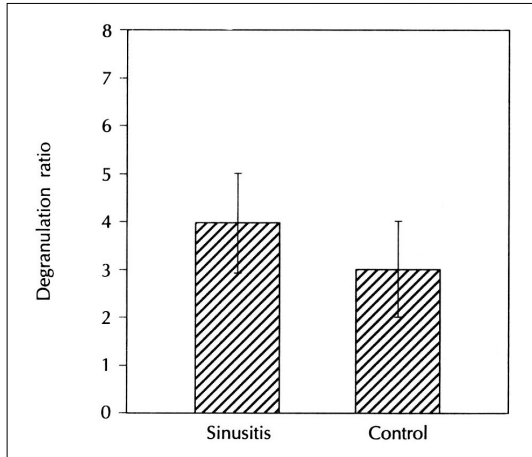


Fig. 3. Degranulation ratio in sinusitis and control groups.

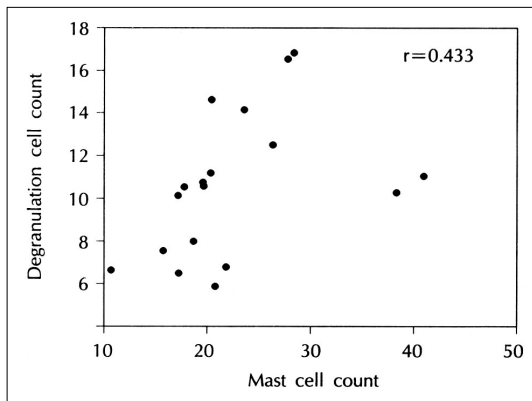


Fig. 4. Distribution of degranulation and granulation mast cells (r = 0.433).

(Table 2, Fig. 3)(p<0.001).

0.48 ± 0.13, 0.30 ± 0.13

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가 (p<0.001).

(Fig. 4)(r =

0.433).

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re - servoir)가 (bacterial
. Cauwenberge ⁷⁾
3
가 5 20%,
17 35%, 가 57%
가

. Fugita ⁸⁾ 56%

6 , 24%

. Vandenberg ⁹⁾

79%

Fukuda ¹⁰⁾

가

histamine (me - sentery) 가 가 15)

histamine lectin peptidoglycan 가 16)17)

가 가 histamine 가,

Streptococcus pneumoniae, Haemophilus influenzae, Moraxella catarrhalis 가 가

11) 가 가 결론

가 가 가 hi - 가 stamine 가 12)13)

가 중심 단어 :

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histamine 14)

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Mast Cell

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