

20세 이상 성인에서의 아데노이드 증식증에 대한 임상적, 병리학적 연구

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The Clinical and Pathological Study of the Adenoid Vegetation Above the Age of 20

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ABSTRACT

Background and Objectives : The adenoid increases progressively in size during early childhood, reaching a maximum at the age between 3 and 7. It begins to atrophy and involute after puberty and almost disappears before the age of 20. However, a few authors stated that persistence of the adenoid in adult life is not uncommon and the nasopharyngeal lymphoid tissue can undergo prominent or even marked hyperplasia in adults. We investigated clinical and pathological features of the patients who underwent adenoidectomy at ages beyond 20. **Subjects and Method** : A retrospective study was performed on 18 patients who underwent adenoidectomy due to adenoid vegetation from October 1997 to December 2002 at Pusan Paik Hospital and they compared the results with children of ages 3 to 10 years. To evaluate hypertrophy, adenoidal-nasopharyngeal ratios (A/N ratio) obtained using simple linear measurements from lateral skull radiographs were described. To investigate pathologic features, all excised adenoids were fixed in neutral 10 % formalin and serial sections of 5 μ m thick were prepared and stained by Haematoxylin and Eosin. **Results** : The A/N ratios of the studied patients were from 7.5 to 9.0. The main symptom of the patients was snoring. Others were nasal obstruction, postnasal drip and frequent upper respiratory infection. The prominent pathologic findings in the patients were increased squamous metaplasia of the surface epithelium and parenchymal fibrosis. **Conclusion** : Snoring and nasal obstruction were often caused by adenoid enlargements in adults. Because the examination of the nasopharynx was inadequate, many cases of enlarged adenoid in adults were misdiagnosed. Pathologic features of enlarged adenoid in adults were slightly different from those in children. (Korean J Otolaryngol 2004;47:437-43)

KEY WORDS : Adenoid · Hypertrophy · Aged, 20 and over.

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ociated lymphoid tissue(MALT)
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Adenoidal - nasopharyngeal ratio

X - ray
 (soft tissue technique)
 (posterior superior edge of the hard palate)
 (anteroinferior edge
 of the sphenobasioccipital synchondrosis)
 (N)

(A)
 adenoidal - nasopharyngeal ratio(A/N ratio)

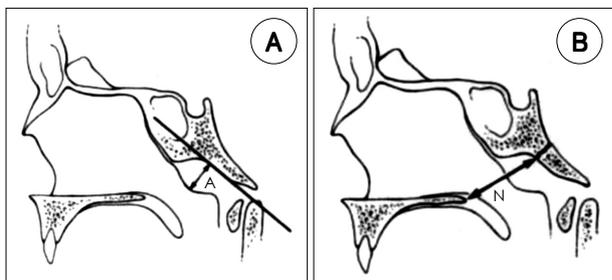


Fig. 1. The AN ratio may be helpful in determining adenoidal size on the lateral radiograph. A : Adenoidal measurement. The distance (A) between the maxium convexity of the adenoids and a line drawn along the basiocciput is measured. B : Nasopharyngeal measurement. The distance (N) between the posterior hard palate and the sphenooocipital synchondrosis is determined.

(Fig. 1).⁷⁾

5 μm 10%
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Adenoidal - nasopharyngeal ratio

A/N ratio 0.72 0.90
 0.75 0.90
 (Table 1 and 2).

Table 1. Clinical characteristics of adenoid vegetation in children

Patients	Sex	Age	Chief complaint	Duration (yr)	Associated disease	A/N ratio	Previous operation history
1	M	9	Snoring, mouth breath	4	CTH	0.80	-
2	M	10	Frequent URI, snoring, mouth breath	6	CTH	0.75	-
3	F	8	Frequent URI, nasal obstruction, PND	4	CTH, rhinosinusitis	0.75	-
4	M	6	Snoring, mouth breath, nasal obstruction	2	CTH, rhinosinusitis	0.87	-
5	M	3	Frequent URI, snoring, nasal obstruction	1	CTH, OME, rhinosinusitis	0.80	-
6	M	3	Nasal obstruction, snoring	0.5	OME, rhinosinusitis	0.85	-
7	M	6	Mouth breath, snoring	2	Rhinosinusitis	0.80	-
8	M	5	Frequent URI, snoring	1	CTH	0.90	-
9	F	5	Frequent URI, nasal obstruction	1	Rhinosinusitis	0.85	-
10	F	6	Nasal obstruction, PND	2	Rhinosinsitis	0.88	-
11	F	5	Snoring	2	Rhinosinusitis	0.80	-
12	M	6	Snoring, frequent URI	1	CTH	0.90	-
13	M	4	Snoring	1	CTH	0.72	-
14	F	8	Nasal obstruction, snoring	3	CTH	0.85	-
15	M	4	Nasal obstruction, snoring	2	CTH	0.85	-
16	M	5	Snoring, mouth breath	1	CTH	0.80	-
17	F	8	Frequent URI, snoring, mouth breath	4	CTH	0.75	-
18	M	6	Mouth breath, snoring	1	CTH	0.85	-

CTH : chronic tonsillar hypertrophy, PND : postnasal drip, URI : upper respiratory infection, OME : otitis media with effusion

Table 2. Clinical characteristics of adenoid vegetation patients above the age of 20

Patients	Sex	Age	Chief complaint	Duration (yr)	Associated disease	A/N ratio	Previous operation history
1	M	21	Snoring	10	CHR, NSD	0.79	Septoplasty
2	M	20	Nasal obstruction, PND, snoring	13	CTH	0.80	-
3	F	32	Rhinorrhea, nasal obstruction, PND, snoring	25	Chronic sinusitis c nasal polyp	0.74	ESS
4	M	43	Snoring	25	Gastric ulcer	0.85	UPPP
5	M	26	Frequent URI, nasal obstruction, snoring	13	CTH	0.85	Turbinoplasty
6	M	25	Nasal obstruction, PND	10	NSD, CHR	0.75	Septoturbinoplasty
7	F	23	Nasal obstruction, PND	11	CHR	0.75	Turbinoplasty
8	M	32	Rhinorrhea, PND, chronic cough	20	CTH	0.84	-
9	F	20	Frequent URI, nasal obstruction,	10	CTH	0.70	-
10	M	29	Nasal obstruction, PND	10	CHR	0.81	Turbinoplasty
11	M	20	Snoring	12	OSAS	0.80	UPPP
12	F	23	Snoring, frequent URI	11	CTH	0.78	-
13	M	35	Snoring	25	OSAS	0.90	UPPP
14	M	20	Nasal obstruction, snoring	15	CHR	0.82	Septoplasty
15	M	47	Nasal obstruction, earfullness	10	Both OME	0.75	-
16	M	23	Snoring, mouth breath	5	OSAS	0.70	UPPP, septoplasty
17	F	24	Nasal obstruction	20	CTH	0.80	-
18	F	27	Mouth breath, snoring, frequent URI	15	CTH	0.90	-

CHR : chronic hypertrophic rhinitis, NSD : nasal septal deviation, CTH : chronic tonsillar hypertrophy, PND : postnasal drip, ESS : endoscopic sinus surgery, UPPP : uvulopharyngopalatoplasty, URI : upper respiratory infection, OSAS : obstructive sleep apnea syndrome, OME : otitis media with effusion

가 (Fig. 2) (follicle) 40 (Fig. 3) (metaplasia) 3 and 4) 7.56 6 (Table) . 가 .

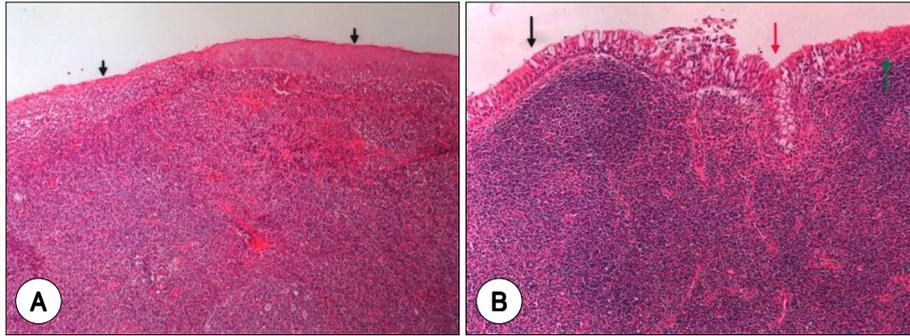


Fig. 2. This figures show increased squamous metaplasia (black arrows) in adults (A), but relatively well preserved ciliated columnar epithelium (black arrow), transitional zone (green arrow) and shallow crypt (red arrow) in children (B) (H & E, x 100).

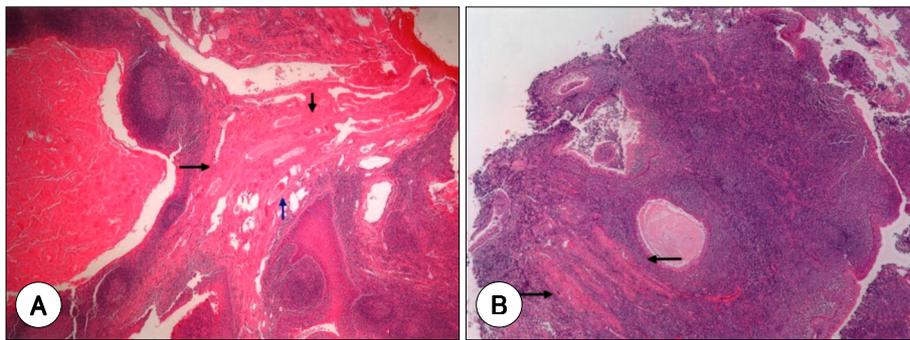


Fig. 3. This figures show increased fibrosis (black arrow) and vascularization (blue arrow) in adults (A) compared in children (B) (H & E, x 100).

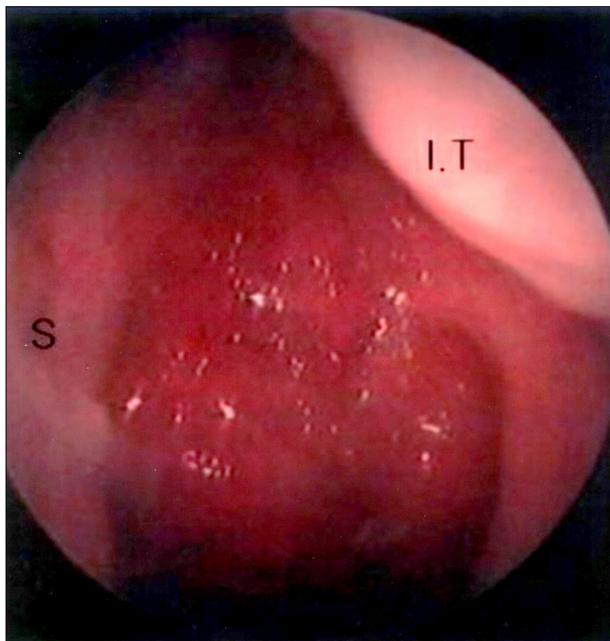


Fig. 4. Endoscopic finding of left nasal cavity shows adenoidal hypertrophy which obstructs nearly entire choana in 29-year-old man with persistent nasal obstruction and earfullness. I.T : inferior turbinate, S : septum.

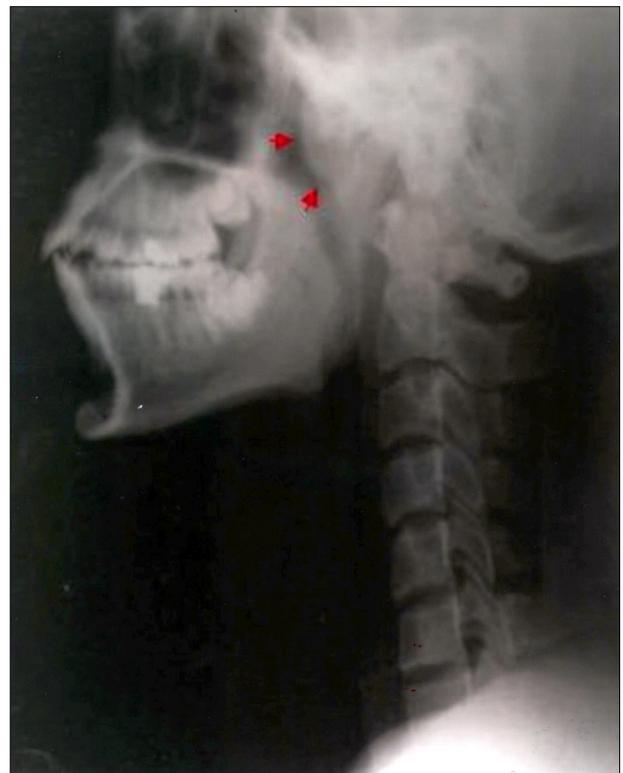


Fig. 5. Adenoidal hypertrophy in a 20-year-old man with frequent nasal obstruction and snoring. Lateral film shows prominent adenoidal tissue (arrow), filling the posterior nasopharynx and narrowing the airway.

Table 3. Histopathologic findings of the adenoid in children

Patients	Sex	Age (yr)	Squamous metaplasia (%)	Follicle (number)	Vessel proliferation	Fibrosis
1	M	9	30	6	Low	Low
2	M	10	20	6	Low	Low
3	F	8	90	6	Low	Low
4	M	6	30	12	High	High
5	M	3	70	7	High	Low
6	M	3	10	6	High	Low
7	M	6	10	3	Low	Low
8	M	5	10	7	Low	Low
9	F	5	10	5	Low	High
10	F	6	30	3	Low	Low
11	F	5	10	5	Low	High
12	M	6	10	2	High	Low
13	M	4	30	2	Low	Low
14	F	8	10	4	Low	Low
15	M	4	80	15	High	Low
16	M	5	10	6	High	Low
17	F	8	10	5	High	Low
18	M	6	20	8	Low	Low

Table 4. Histopathologic findings of the adenoid above the age of 20

Patients	Sex	Age (yr)	Squamous metaplasia (%)	Follicle (number)	Vessel proliferation	Fibrosis
1	M	21	100	15	High	Moderate
2	M	20	10	6	Low	Low
3	F	32	50	14	High	Low
4	M	43	90	5	High	Moderate
5	M	26	20	1	Low	Low
6	M	25	10	7	High	Low
7	F	23	10	3	Low	Low
8	M	32	50	7	Low	Low
9	F	20	30	6	Low	Low
10	M	29	10	6	High	Moderate
11	M	20	10	17	High	Moderate
12	F	23	100	8	High	High
13	M	35	90	11	High	High
14	M	20	30	8	High	High
15	M	47	20	2	Low	Moderate
16	M	23	10	7	High	Moderate
17	F	24	10	5	High	Moderate
18	F	27	70	8	High	Low

mucin, lysozyme, lactoferrin

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