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Incidence of unexpected pathology in routine adenoidectomy specimens

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Summary

Objective: The aim of this study was to determine the incidence of unexpected pathologies in adenoidectomy specimens and necessity for histopathologic evaluation of adenoid tissue.
Materials and methods: All patients younger than 16 years who underwent routine adenoidectomy were reviewed. Patients were excluded if the primary surgery was other than routine adenoidectomy such as nasopharyngeal biopsy for suspicion of malignancy or other pathology.
Results: One thousand one hundred eighty-four patients (683 males, 501 females) were involved in this study. The mean age was 7.53 ± 3.24 years, ranging between 2 and 16 years. There was no patient with unexpected pathology among 1184 routine and primary adenoidectomy procedures. However, one patient had unexpected pathology among 33 revision adenoidectomy procedures (3%).
Conclusions: There was no occult pathology in routine primary adenoidectomy. The incidence of unexpected pathology in revision adenoidectomy was 3%. Microscopic evaluation of adenoid tissue gives some knowledge about histological properties and rarely some unexpected pathologies. Searching for malignancy is unnecessary in routine primary adenoidectomy cases without any other clinical, radiological and laboratory findings.

1. Introduction

The adenoid or pharyngeal tonsils form the central part of the ring of lymphoid tissue surrounding the oropharyngeal isthmus. Surgical indications for adenoidectomy may include; nasal obstruction, obstructive sleep disorders, purulent adenoiditis, adenoid hyperplasia associated with otitis media of several forms, cor pulmonale, failure to thrive, dysphagia and sinusitis. Suspected neoplasia is another indication for adenoidectomy [1,2]. The purpose of this study was to evaluate the necessity for histopathologic investigation as a routine practice in every case of adenoid hyperplasia, and to find the incidence of unexpected pathologies of adenoid tissue.

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Table 1 Demographics of patients

Mean age (years)	7.53 ± 3.24
Age range (years)	2–16
Total number of patients (males, females)	1184 (683, 501)
Total number of adenoidectomy procedure	1217
The number of patients with revision adenoidectomy	32
The number of revision adenoidectomy procedures	33
The number of patients with only adenoidectomy	319
The number of patients with adenoidectomy and other surgery	865
The number of interventions concomitant to adenoidectomy	1235[a]

[a] Some patients were operated on for more than one concomitant surgical indication.

2. Materials and methods

The routine practice in our clinic is to send all adenotonsillectomy specimens to histopathologic investigation. We have reviewed the medical records of all children (n = 1.184) who underwent a total of 1217 adenoidectomies at our institution from February 1995 to December 2004 (Table 1). Patients operated on primarily for suspicion of malignancy, unknown primary pathology and who underwent tonsillectomy without adenoidectomy were excluded from the study. The histopathologic diagnosis along with clinical findings all was retrieved. Diagnosis of adenoid hyperplasia was based on complaints, conventional radiography, and if possible, nasal endoscopic findings with 2.7 mm straight 0° and oblique 30° endoscopes (Storz Hopkins rigid telescope, Germany). All the patients were operated under general anesthesia. All resected adenoids were fixed in formalin, embedded in paraffin and finally prepared serial microscopic slides were stained with hematoxylin–eosin. Then, these stained histopathologic specimens of adenoid tissue were evaluated under light microscopy (Nikon Optiphod-B).

3. Results

A total of 1184 patients, 683 males, 501 females (1217 adenoidectomies) were included in this study. All patients aged less than 16 years who underwent routine adenoidectomy (with or without tonsillectomy) were reviewed. Thirty-one patients were operated two times, and one patient was operated three times due to adenoid hyperplasia. The mean age of patients was 7.53 ± 3.24 (range between 2 and 16 years) years. The surgical intervention of 319 patients (352 adenoidectomies) was only adenoidectomy. The other surgical interventions concomitant to adenoidectomy were (Table 2): tonsillectomy (546), ventilation tube insertion (473), myringotomy without ventilation tube placement or dry tap (196), septoplasty (9), endoscopic sinus surgery (6) and partial turbinectomy (5). There has been no unexpected histopathologic result among patients underwent to primary adenoidectomy. However, one patient underwent to revision adenoidectomy (3%) was diagnosed other than adenoid hyperplasia. A female patient had been undergone to adenotonsillectomy 2 years previously, but she had complaint of nasal obstruction for 3 months. There was a soft tissue filling the nasopharyngeal cavity. A revision adenoidectomy operation was planed under general anaesthesia. However, the mass was very firm and it had some brownish color. Then, only biopsy was taken although routine adenoidectomy has been planed. Histopathologic investigation of the specimen was solitary plasmocytoma.

Table 2 The number of surgical interventions concomitant to adenoidectomy

Surgical interventions	Patients	Interventions
Tonsillectomy	546	546
Ventilation tube insertion	277	473
Myringotomy without ventilation tube placement (dry tap)	181	196
Septoplasty	9	9
Endoscopic sinus surgery	5	6
Partial turbinectomy	5	5

Some patients were operated on for more than one concomitant surgical indication.

4. Discussion

As a part of the so-called Waldeyer's ring, the adenoid plays an important role in upper respiratory tract immunological defense mechanisms. It is currently accepted that adenoid hyperplasia is caused by the antigen-stimulated increased activity of lymphocyte B. The adenoidectomy is one of the most frequently performed procedures in childhood [3]. There are several surgical methods of removing the adenoid tissue. Some of them are: electrocautery ablation, curettage, power-assisted via microdebrider shaver and electronic molecular resonance adenoidectomy [4–7]. The incidence of unexpected clinically relevant disease of the tonsil in pediatric patients is low, albeit not extremely rare [8]. However, there is no