

Peritonsillar/Parapharyngeal Abscess After Tonsillectomy: Case Report

Tonsillektomi Sonrası Görülen Peritonsiller/Parafarengial Apse

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ABSTRACT

Peritonsillar abscess (PTA) and parapharyngeal abscess (PFA) are the conditions that are rarely seen after the tonsillectomy. The aim of this case report is to present a PFA diagnosed in a patient who underwent tonsillectomy operation 1 month before. A 5-year-old boy with dysphagia, fever, and difficulty in the mouth opening was referred to our hospital. He had the history of tonsillectomy operation 1 month before. On physical examination and radiological imaging, a peritonsillar/parapharyngeal abscess extending from nasopharynx to piriform sinus was detected. Since the medical treatment was unsatisfactory, he was operated. A residual adenoid tissue and the pseudocapsule were excised. After the operation, the patients was given medical treatment for 21 days. He was totally cured at the end of the third week. When lateral pharyngeal space is opened due to muscle damage during the tonsillectomy operation, peritonsillar or parapharyngeal abscess can be seen in the postoperative period.

Keywords

*Tonsillectomy; peritonsillar abscess;
pharyngeal diseases; palatine tonsil*

ÖZET

Tonsillektomi olan hastalarda peritonsiller apse ve parafarengial apse görülmesi çok nadir bir durumdur. Bizim bu çalışmada amacımız 1 ay önce tonsillektomi operasyonu geçirmiş olan hastamızda gelişen parafarengial apse gelişimini tartışmak. Bir ay önce tonsillektomi operasyonu geirmiş olan 5 yaşındaki erkek çocuk yutma güçlüğü, yüksek ateş ve ağız açıklığında kısıtlılık nedeni ile hastanemize başvurmuştu. Fizik muayenesi ve radyolojik tetkikleri sonrası nazofarenksten başlayarak piriform sinüs seviyesine ulaşan PFA saptandı. Medikal tedaviler ile kliniği düzelmeyen hasta opere edildi. Operasyonda rezidü adenoid dokusu ve psödokapsül saptandı. Operasyondan sonra 21 gün medikal tedavi alan hasta 3. hafta sonunda taburcu edildi. Tonsillektomi sırasında lateral farengial duvar aşılıp kas dokularına zarar verilirse postoperatif dönemde peritonsiller veya parafarengial apse görülebilir.

Anahtar Sözcükler

*Tonsillektomi; peritonsiller apse;
farengial hastalıklar; palatin tonsil*

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INTRODUCTION

Peritonsillar abscess (PTA) is generally seen after acute tonsillitis, and parapharyngeal abscess (PFA) is usually seen as a complication of peritonsillar abscess. However, PTA and PFA are rarely seen after tonsillectomy.

It is difficult to explain the etiology of PTA and/or PFA in the patients who had tonsillectomy before. Various hypotheses have been reported for the etiology. In this study, we reported a case of PFA diagnosed in the patient who had tonsillectomy operation 1 month before. The literature was discussed to explain the etiology.

CASE REPORT

A 5-year-old male child was referred to our hospital for the presence of the dysphagia, hoarseness, fatigue, fever and the difficulty in the mouth opening. The history obtained from his family revealed that he had tonsillectomy operation 1 month before (the tonsils had been dissected and removed using scissors and dissectors, bleeding had been controlled with bipolar cauterization), and he had no problems in the recovery period. On the otorhinolaryngologic examination; mouth opening was limited, there were a minimal swelling on the left tonsillar space, deviation of the uvula to the right side, replacement of the left lateral pharyngeal band to the medial axis, and the drainage of purulent fluid from the posterior region. Left anterior tonsillar pillar and the left side of soft palate were hyperemic and swollen (Figure 1). On the laboratory examination of the patient, there was leukocytosis (white blood cell count: 30,000/ μ L), hemoglobin was 11.8 g/dL, and hematocrit was 36.4%. The erythrocyte sedimentation rate (ESR) was 53 mm/h, and the C-reactive protein was 154 mg/L. On the neck computerized tomography, there was an abscess in the parapharyngeal region, beginning from the nasopharynx and extending to the piriform sinus. In addition, multiple lymph nodes, the biggest of which being 3 cm were seen on both cervical regions (Figure 2). The lymphadenopathies on the left cervical region were conglomerated.

The diagnosis was suppurative parapharyngeal lymphadenitis, and antibiotics were administered. After 24 hours, the patient could not open his mouth

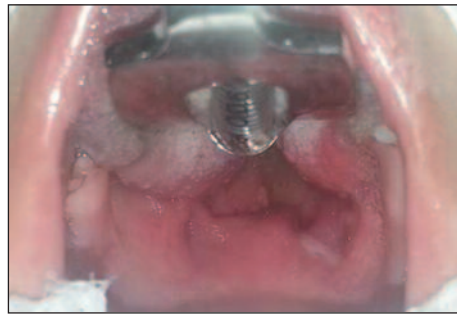


Figure 1. Picture of oropharynx (during operation).

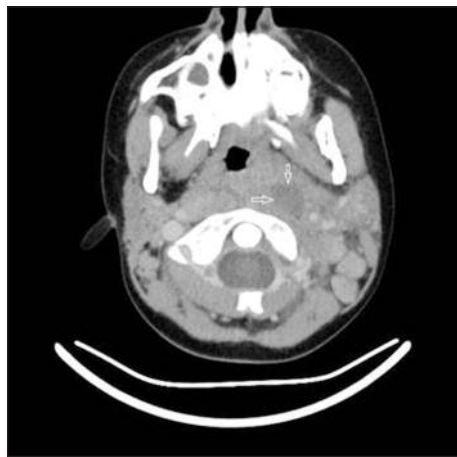


Figure 2. Abscess located in the parapharyngeal region.

at all, and his general condition was poor, therefore drainage of the abscess under the general anesthesia was planned. No purulent material could be drained from the peritonsillar region. The lateral pharyngeal band and the peritonsillar region were fibrotic and stiff. There was no residual tonsillar tissue. However a pseudocapsule originating from the nasopharynx proximally and extending to the piriform sinus distally was detected. On palpation, the lateral pharyngeal region was stiff, resembling a submucosal mass. Endoscopy of the nasopharynx revealed a minimal residual adenoid tissue, and the left Rosenmüller fossa was obliterated. The residual adenoid tissue was excised, the pseudocapsule at the tonsillar region was opened, and the superior pharyngeal muscle was penetrated. The pseudocapsule was tightly adhered to the muscle, but no purulent material was drained from there. The cultures were obtained from the peritonsillar region, and the operation was ended. After the operation, medical treatment was initiated again, and on the second day, to exclude the malignancy, magnetic resonance imaging

(MRI) was ordered. On neck MRI, there were inflammatory changes in the parapharyngeal and the retropharyngeal regions, but parapharyngeal suppurated lymphadenopathy and conglomerated lymphadenopathies seemed to be regressed (Figure 3).

The cultures of the patient revealed the normal oropharyngeal flora. On postoperative day 4, the patients could easily open his mouth. After ten days of intravenous antibiotic administration, the patient was discharged, and oral antibiotics were continued up to 21 days. On control examination in the outpatient clinic, he was fully recovered.

DISCUSSION

Peritonsillar abscess is generally seen after acute tonsillitis, and rarely seen after tonsillectomy. Although the tonsils, which are the sources of the infection are removed and the peritonsillar region is left open after tonsillectomy, the etiology of peritonsillar abscess after tonsillectomy is not clearly explained.¹⁻³ Several hypotheses have been suggested for this complication, although the etiology has not been explained well yet.

Lamyman and Silva reported that suspected peritonsillar abscess might be a parapharyngeal abscess if no residual tonsillar tissue was present in the patient, and they detected the abscess not in the peritonsillar region, but in the deep layers of the superior constrictor muscle.⁴ Likewise, in our case the abscess was detected in the parapharyngeal region and extended to the retropharyngeal region.

Farmer et al. reported that the mean interval for the

development of the PTA after tonsillectomy operation was 16 years and the shortest time period was 2 months.⁵

In our case, PFA developed only one month after the tonsillectomy. Whether this was a complication of the previous operation or a completely isolated situation from the surgical operation might be discussed.

During tonsillectomy, peritonsillar region is left open. According to Farmer et al., peritonsillar region is not completely opened on the tongue root during tonsillectomy, and a pseudocapsule develops on the peritonsillar tissue and a dead space occurs between this pseudocapsule and the pharyngeal muscle.⁵ If a residual tonsillar tissue is left, capsule is also left. In those two situations, there will be a peritonsillar space and PTA can develop in the tonsillectomised patients. In the literature, patients who developed PTA after tonsillectomy operation benefited from the oropharyngeal abscess drainage.²⁻⁵ However, in our case no abscess was drained from the peritonsillar region, and no residual tonsillar tissue was seen. Instead of tonsillar region, the lateral pharyngeal band was medialised. Therefore, our clinical examination and the CT revealed that this case was PPA.

PPA generally occurs after development of peritonsillar abscess.⁶ On the other hand, isolated PPAs were also reported in the literature. Culture revealed that etiologic agent was the same as the oropharyngeal culture in isolated PPA. Namely, the etiology for development of PPA was tonsillitis, pharyngeal pharyngitis, second branchial fissure fistulas, dental infections or salivary gland infections.⁷ Only six cases of PPA were reported in the tonsillectomised patients. Up to 14th day of tonsillectomy, PPA complication was detected in the studies.^{8,9} However, in our case the time passed after tonsillectomy was 1 month.

In some studies, the destruction of the tonsillar fossa structure after tonsillectomy or injection of the local anesthetics to the peritonsillar region for the relief of the postoperative pain were suspected in the etiology of the development of PPA after tonsillectomy.^{8,10} The common point in all these hypotheses is that there is an injury to the lateral pharyngeal region during tonsillectomy. Our case had tonsillectomy due to the pediatric OSAS, and had no problems for 1 month. In his tonsillectomy operation cauterization or suturation were not used, and no local anesthetics were used for postoperative pain.

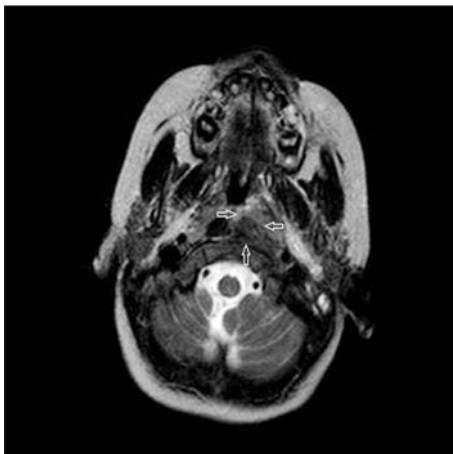


Figure 3. Inflammatory changes in the parapharyngeal region.

CONCLUSION

In our opinion, if the superior pharyngeal muscle is damaged in the tonsillectomy operation, newly formed pseudocapsule can adhere to the muscle, and peritonsillar region may become a fibrous tissue instead of being a dead space. In addition, bacterial colonization can pass through the pseudocapsule, and enter into the muscle. After operation, the colonized

bacteria may persist in the muscle during the healing process. Therefore, in our case the situation might be a complication. In our opinion, if the lateral pharyngeal space is opened causing muscle damage, antibiotic treatment should be continued to prevent postoperative infections. However, we need more studies on this subject because in the literature no statistical difference was found between the antibiotic use and non-use in terms of the recurrent infections after the tonsillectomy.¹¹

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