



FIGURE 4. Loose bodies with nodular proliferation of chondrocytes indicating SC (hematoxylin-eosin, original magnification $\times 100$).

can be ruled out when the synovial fluid is in extremely large amounts and/or the disk position is normal in closed- and open-mouth magnetic resonance images without severe changes of the disk shape and bony structures despite that hypointense loose bodies are not demonstrated on MRI.⁹ Magnetic resonance images of our case revealed that there was a right preauricular soft tissue mass arising from the TMJ accompanying low signal intensity on T1-weighted images and high signal intensity on T2-weighted images. Right TMJ space was asymmetrically enlarged with expanded articular capsule. On T2-weighted images, many small calcifications encircling the soft tissue mass exhibited low signal intensity. There was no fluid accumulation in the joint space.

Although the radiologic and clinical findings of SC closely resemble those of osteoarthritis involving the TMJ, the presence of calcified loose bodies supports the diagnosis of SC.¹ In addition to SC, osteochondritis dissecans, intracapsular fracture, avascular necrosis, osteoarthritis, tuberculous or pyogenic arthritis, rheumatoid arthritis, and neurotrophic arthritis are the other causes of the loose bodies within the joint.^{10,11}

According to Milgram,¹² SC is histopathologically classified into 3 developmental stages: (1) the lesion without detached bodies, (2) the lesion with synovial metaplasia and presence of loose bodies, and (3) the lesion with loose bodies and intact synovium. Yu et al⁷ showed that although the histopathologic finding of the lesion might not correlate with CT findings, it provides useful information determining Milgram's classification. In our case, there was a soft tissue mass expanding the joint space surrounded by loose calcified bodies. There was no bony destruction of the condyle, glenoid fossa, and temporal bone. Both histologic and CT findings of our case are classified as type 2 according to Milgram's classification.

Surgical removal of the mass, which allows rapid resolution of SC, may constitute the proper management strategy.

CONCLUSIONS

Synovial chondromatosis of the TMJ is a very rare disorder. The presence of loose calcified bodies and soft tissue mass enlarging the articular capsule should alert the radiologist to the suspicion of SC. Computed tomography imaging containing soft tissue density in both axial and coronal slices and MRI are helpful diagnostic tools that can give us very useful information.

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Posterior Plica Synechia: Rare Complication of Adenotonsillectomy

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Abstract: Tonsillectomy is one of the most common operations performed by otolaryngologists. Fever, otalgia, dehydration, sore throat, and hemorrhage are common complications. In this clinical report, a 7-year-old boy was presented with a synechia between the posterior plicae together with recurrence of adenoid hypertrophy after adenotonsillectomy 1 year previously. The synechia and adenoid were resected, and the patient was discharged from the hospital after 2 days. The complication in this case was most likely caused by traumatic injury of the posterior plicae during the previous tonsillectomy. This complication is, however, very rare.

Key Words: Airway obstruction, posterior plica synechia, adenotonsillectomy, oropharyngeal stenosis

Adenotonsillectomy is one of the most common operations performed by otolaryngologists. Complications may occur within

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the first 24 hours after surgery or weeks to months after surgery. Common complications after adenotonsillectomy are sore throat, otalgia, fever, dehydration, and hemorrhage. Less frequent complications are infection, velopharyngeal insufficiency, pulmonary edema, nasopharyngeal stenosis, and pseudoaneurysm of the lingual artery.¹⁻³ We report a case of adenotonsillectomy that was complicated by posterior plica synechia.

CLINICAL REPORT

A 7-year-old boy was referred to our hospital because of snoring and sleeping with open mouth. One year before, the patient had undergone adenotonsillectomy in another hospital because of the same complaints. Examination of the patient revealed a synechia between the posterior plicae (Fig. 1) and recurrence of adenoid hypertrophy. Flexible nasopharyngeal endoscopy was performed, showing 60% to 70% obstruction of the nasopharynx because of adenoid hypertrophy. We decided to perform adenoidectomy and excise the synechia. Preoperative evaluation included medical history, laboratory tests, and a chest x-ray; no abnormalities were found. Laboratory tests included a complete blood cell count, bleeding time, prothrombin time, and activated partial thromboplastin time. At the moment of presentation, the patient was not taking any medication.

The operation was performed under general anesthesia. For intraoperative retraction of the tongue, a mouth gag with tongue blade was used. First, adenoidectomy was performed with control of bleeding. Second, a bipolar electrocautery was used to make a bilateral incision in the synechia, exposing the underlying pharyngeal musculature. Resection of the fibrotic tissue from the submucosal plane was performed while avoiding injury of the mucosa. The overlying mucosa was then sutured to the underlying muscle to minimize exposed raw tissue. The operation was successfully finished without any complications. The patient recovered well from surgery without the need for antibiotics and was discharged from the hospital 2 days after surgery. The patient was seen 3 months after surgery. Examination did not show any kind of stenosis of the oropharynx.

DISCUSSION

A search in the literature made clear that this is a rare complication of tonsillectomy. Most of the cases are reported in the context of oropharyngeal stenosis (OPS). This pathology most commonly occurs after a multilevel upper airway surgery in children. Oropharyngeal stenosis is a delayed complication occurring 2 to 8 months



FIGURE 1. Oropharynx of the patient showing a synechia between the posterior plicae.

after surgery, which can vary from a thin, flexible, soft, bandlike diaphragm to a thick, firm, obliterative mass of the cicatrix. In these cases, surgery of the nasal airway, nasopharynx, soft palate, palatine tonsils, and their pillars, lingual tonsils and tongue base, was performed.⁴ Excessive cautery, postoperative bleeding, oropharyngeal infection, and deep dissection in the region of the inferior tonsillar poles with removal of adjacent lingual tonsil tissue were identified as risk factors.⁵⁻⁷ Most of the cases were reported in children. It is likely that a young age and correspondingly small upper airway elevate the risk of OPS.⁴ Although the majority of OPS cases were identified in multilevel upper airway surgery, some authors claim that OPS does not occur after routine adenotonsillectomy.⁴ Other authors disagree and have presented similar cases after adenotonsillectomy or tonsillectomy.⁶ However, this complication remains very rare.

Because OPS is a possible, although rare, complication after adenotonsillectomy and tonsillectomy, surgeons should be aware of the problem. Deep dissection of the lower pole of the tonsil is correlated with OPS.^{5,6} Possibly, a proper technique including careful dissection, preservation of the pillar anatomy, and judicious trimming of the lower portion of the adenoid lateral bands can prevent this complication.⁶ The synechia in this case was most likely caused by traumatic injury of the posterior plicae during tonsillectomy 1 year before.

Because there was only a synechia between the posterior plicae, surgery was restricted to scar division only, which corresponds to the treatment of other similar reports.⁴ For more complex cases, like in OPS, different kinds of pharyngoplasty alone or in combination with triamcinolone injection have been proposed.^{5,6} Because OPS occurs when raw denuded surfaces heal near each other, the coverage of these wounds with healthy mucosa is essential.^{4,6}

CONCLUSIONS

Posterior plica synechia is a rare, delayed complication after tonsillectomy and is most likely correlated to traumatic injury of the posterior pillars during tonsillectomy. Although in this case the synechia was an isolated complication, it can be part of a more extended OPS. Preoperative evaluation is imperative for proper assessment of the pathologic abnormality. Essential for the treatment is the complete resection of fibrotic tissue followed by adequate coverage of the underlying muscles by healthy mucosa. Close follow-up of the patient is necessary.

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