LETTER TO THE EDITOR

INTRATONSILLAR ABSCESS: DIAGNOSIS AND TREATMENT OF A RARE DISEASE

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Intratonsillar abscess is a condition that has rarely been described. Herein we summarize our experience diagnosing and treating four patients with intratonsillar abscess. In all cases, the diagnosis was confirmed by computer tomography (CT) scanning, which revealed enlargement of the right palatine tonsil with an area of central hypodensity and rim enhancement. Successful treatment in each case involved aspiration of the abscess using an 18G needle and post-procedural antibiotics. Our cases highlight the usefulness of CT for diagnosis and needle aspiration for treatment of intratonsillar abscess.

Intratonsillar abscess is a condition rarely seen/diagnosed in clinical practice. Indeed, to our knowledge, only 11 cases have been reported in the English literature (1-4). Several years ago, we reported the first case of intratonsillar abscess indentified at our institution (1). Since then, we have diagnosed four subsequent cases. Herein we share our experiences of the diagnosis and treatment of those patients.

Case Reports

Diagnosis

Patient 1. A 22-year-old man presented with painful swallowing and tenderness on the right side of his neck. Prior to presentation, the patient had been taking oral amoxicillin for seven days without any improvement of symptoms. Physical examination and intraoral ultrasonography revealed an enlargement of the right palatine tonsil with anterior medial displacement, deviation of the left side of the uvula, and a tender right cervical lymphadenopathy (level II/III) (Fig. 1). The diagnosis of intratonsillar abscess was confirmed by computer topographic (CT) scanning, which revealed enlargement of the right palatine tonsil with an area of central hypodensity and rim enhancement (Fig. 2).

Patient 2. A 54-year-old man presented to our clinic with painful swallowing, trismus, and a four-day history of a sore throat. The patient had been treated with high-dose oral amoxicillin for four days without success. Physical examination and intraoral ultrasonography revealed trismus and an obvious enlargement of the left palatine tonsil that obscured the oropharynx. The diagnosis of intratonsillar abscess was confirmed by CT scanning, which revealed enlargement of the left palatine tonsil with an area of central hypodensity and rim enhancement.

Patient 3. A 38-year-old woman presented following five days of progressively worsening

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DISCLOSURE: ALL AUTHORS REPORT NO CONFLICTS OF INTEREST RELEVANT TO THIS ARTICLE.

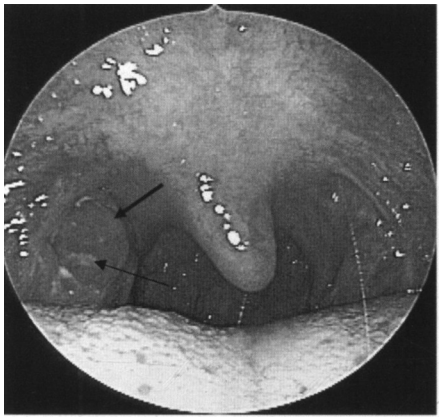

Fig. 1. *Intratonsillar abscess. Enlargement of the tonsillar parenchyma without obvious exudate coating and swelling of the peritonsillar tissues can be seen. Bulging tonsil is indicated with short bold arrow. The abscess was aspirated by inserting an 18G needle directly into the tonsillar parenchyma (long thin arrow).*

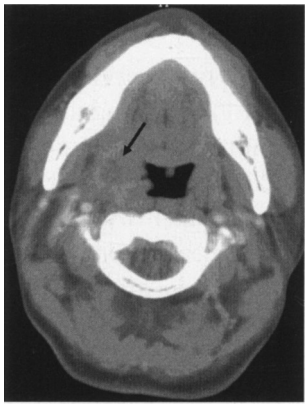

Fig. 2. *Axial computer tomography scan of the neck with contrast media demonstrating the presence of an intratonsillar abscess (arrow).*

symptoms including fever, sore throat, and right neck tenderness. Prior to presentation, the patient had been on oral amoxicillin/clavulanic acid for four days without any improvement of symptoms. Physical examination and intraoral ultrasonography revealed a right bulging tonsillar fossa that seemed to enclose an enlargement of the tonsil. The diagnosis of intratonsillar abscess was confirmed by CT scanning, which revealed enlargement of the right palatine tonsil with an area of central hypodensity and rim enhancement.

Patient 4. An 11-year-old girl with acute tonsillitis was treated by our Pediatric Department with intravenous ampicillin. Due to progressively worsening symptoms, the patient was referred to our department for further evaluation. Physical examination and intraoral ultrasonography revealed a swollen tonsillar fossa and a palpable enlargement of the palatine tonsil. The diagnosis of the intratonsillar abscess was confirmed by CT scanning, which revealed enlargement of the right palatine tonsil with an area of central hypodensity and rim enhancement.

Treatment

In all cases, intratonsillar aspiration was performed using an 18G needle after intravenous ampicillin/sulbactam was given for 2 to 3 days. For aspiration of pus within the tonsillar fossa, the needle (attached to a 10 mL syringe) was inserted outside of tonsil and directly into the tonsillar parenchyma about 2 cm deep (Fig. 1). Suction over the tonsillar crypts was also performed in patient 4. All patients were subsequently discharged with a prescription for oral Augmentin for 7 days and recovered uneventfully.

DISCUSSON

The palatine tonsils are located between the palatoglossal muscle anteriorly, the palatopharyngeal muscle posteriorly, and the superior pharyngeal constrictor muscle laterally. The palatine tonsils are covered by a fibrous sheath of connective tissue laterally and non-keratinized squamous epithelium medially. Activation of the superior pharyngeal constrictors provides the stimuli for contraction of the tonsillopharyngeus to facilitate the expelling of crypt contents. Michaels and Hellquist (5) suggested that when a suppurative focus arises in a setting of acute tonsillitis, and outward drainage is prevented by blockage of tonsillar crypts, then pus will tend to penetrate inward, potentially leading to the formation of an intratonsillar abscess.

Intratonsillar abscess is a rarely diagnosed condition. In 2008, we reported the first case of an intratonsillar abscess in our department (1). Only 11 such cases have been reported in English literature to date (1-4). We suggest that the prevalence of this condition may be higher than that reported due to

the fact that the clinical features are similar to those of peritonsillar abscess and peritonsillar cellulitis. In our experience, patients with intratonsillar abscess exhibit palpable tonsillar enlargement, whereas patients with peritonsillar abscess and peritonsillar cellulitis exhibit swollen surrounding tissue, deviation of the uvula, and have muffled voices. Further, we have found that tonsils with exudate are uncommon in patients with intratonsillar abscess. In each of the cases presented in this report, the diagnosis of intratonsillar abscess was confirmed by CT scanning. Hence, we suggest that CT (or intraoral ultrasonography) should be performed in cases where intratonsillar abscess is suspected i.e., when antibiotic therapy has failed and tonsillar swelling on one side is apparent.

Peritonsillar abscesses are readily detected by oral examination; hence diagnostic CT is rarely performed for this condition. Nevertheless, CT will reveal the presence of an abscess in the peritonsillar space, as opposed to an abscess within the tonsillar capsule (low density, ring enhancement) for intratonsillar abscess. Differentiating tonsillitis and intratonsillar abscess by oral examination alone is difficult because tonsillar swelling is apparent with both. Intratonsillar abscess can be clearly differentiated from tonsillitis, including acute purulent tonsillitis, by CT. In cases of tonsillitis, CT will reveal clearly swollen tonsils, but no evidence of an abscess.

Misdiagnosis of intratonsillar abscess may lead to under or overtreatment, for instance, if it is misdiagnosed as tonsilitis, the associated prescription of antibiotics is unlikely to be effective, as was clearly the case in several of our patients. In contrast, if intratonsillar abscess is misdiagnosed as peritonsillar abscess, the associated incision (in combination with drainage and antibiotic treatment) is excessive and may not facilitate drainage of the intratonsillar abscess. Only a few reports have described the surgical management of intratonsillar abscess, including tonsillectomy and needle aspiration (1-4). In all of our cases, needle aspiration of the abscess using an 18G needle, in combination with antibiotic treatment, was an effective primary treatment. The residual bore may further aid pus drainage. This approach, as opposed to surgical incision, is associated with decreased pain and post-procedural bleeding. Nevertheless, one potential complication of needle aspiration includes post-procedural bleeding. In all of the cases described in this report, post-procedural bleeding was mild and ceased without intervention. Certainly, care should be taken when inserting the needle. If the needle is inserted too deeply, the risk of puncturing a large vessel increases. Another potential complication of this procedure is continuing infection. We suggest that both pre- and post-procedural antibiotic therapy is essential to ameliorate the likelihood of continued infection.

In conclusion, we suggest that intratonsillar abscess is a rare, but perhaps often misdiagnosed condition. Physicians should be aware of this condition and consider further imaging studies in suspicious cases. Aspiration of the intratonsillar abscess using an 18G needle (inserted in the tonsillar parenchyma) is an effective primary treatment modality. If this primary treatment fails, subsequent abscess tonsillectomy may be necessary.

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