Case Report

Recurrent peritonsillar abscess in an active smoker patient

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ABSTRACT

Background: Peritonsillar abscess is one of the most common conditions seen in healthcare settings. Serious complications such as airway obstruction may occur if peritonsillar abscess is not treated properly. There are several risk factors that contribute to the development of a peritonsillar abscess, one of which is smoking. **Purpose:** To analyze the association between the incidence of recurrent peritonsillar abscess in patients who were active smokers. **Clinical question:** How is recurrent peritonsillar abscess associated with active smoking? **Case report:** A case of a 43-year-old male patient with recurrent peritonsillar abscess and a history of active smoking, who was treated with drainage incision and was given antibiotics. **Method:** Evidence-based literature searches were conducted using PubMed, ScienceDirect, and ProQuest using ”peritonsillar abscess” AND ”smoker”. **Result:** Anatomical changes in the oral cavity and immunologic disorders in active smokers, both systemic and local, predisposed this population to higher risk factors for recurrent peritonsillar abscesses. **Conclusion:** Peritonsillar abscess could cause serious complications if not diagnosed and treated early. Smoking cessation might prevent recurrence of peritonsillar abscess.

Keywords: peritonsillar abscess, smoker, drainage incision

ABSTRAK

Latar belakang: *Abses peritonsil merupakan salah satu penyakit yang banyak ditemui di fasilitas kesehatan. Komplikasi berat dapat terjadi seperti obstruksi jalan nafas jika abses peritonsil tidak ditangani dengan baik. Beberapa faktor risiko menjadi penyebab terjadinya abses peritonsil, salah satunya merokok.* ***Tujuan:*** *Untuk menganalisis hubungan kejadian abses peritonsil berulang pada pasien perokok aktif.* ***Laporan kasus:*** *Satu kasus pasien laki-laki usia 43 tahun dengan abses peritonsil berulang dengan riwayat perokok aktif, yang dilakukan tindakan insisi drainase dan pemberian antibiotik.* ***Pertanyaan klinis:*** *Bagaimana hubungan kejadian abses peritonsil berulang pada pasien perokok aktif?* ***Metode:*** *Telaah literatur berbasis bukti melalui pencarian* PubMed, Sciencedirect *dan* Proquest *dengan kata kunci* “Peritonsillar abscess” *DAN* “smoker”. ***Hasil:*** *Perubahan anatomi pada rongga mulut serta adanya gangguan sistem imunologi pada perokok aktif, baik sistemik maupun lokal, menyebabkan populasi ini memiliki faktor risiko yang lebih tinggi untuk terjadinya abses peritonsil berulang.* ***Kesimpulan:*** *Abses peritonsil bisa menyebabkan komplikasi yang berat, jika terlambat didiagnosis dan dilakukan penanganan. Perubahan gaya hidup seperti berhenti merokok dapat mencegah berulangnya kejadian abses peritonsil pada pasien.*

Kata kunci: *abses peritonsil, perokok, insisi drainase*

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INTRODUCTION

Peritonsillar abscess is the most common head and neck disease, one of the complications of acute tonsillitis, especially in adults.[1] Peritonsillar abscess occurs when the abscess spreads to the parapharyngeal space and the vascular system or the inflammation spreads to the fascia from below the neck to the mediastinum and can be life-threatening.[2] The pathogenesis of this peritonsillar abscess is still unclear. Some sources suggest that it may result from the spread of infection from infected tonsillar crypts following perforation of the capsule, and involvement of the salivary glands as acute tonsillitis progresses to acute peritonsillitis.[3] Peritonsillar abscess can be diagnosed based on symptoms such as edema and bulging of the palate, which may cause the deviation of the uvula.[4] The presence of periodontal disease and smoking are other possible risk factors for peritonsillar abscess. Recent data had shown a positive correlation between those with a history of smoking and the incidence of peritonsillar abscess.[5] The increased risk of peritonsillar abscess in smokers is likely to be due to several processes: changes in the bacterial flora of the tonsils, local and systemic immunologic changes, and direct injury to the oropharyngeal mucosa.[6]

CASE PRESENTATION

A 43-year-old male patient came to the Emergency Department. He complained of dysphagia, since one day before admission. Other complaints were swelling of the left palate, fever, cough, and general weakness due to inability to eat and drink. He had similar symptoms three months previously, and recovered with conservative treatment. The patient was an active smoker, with a smoking habit of more than two packs of cigarettes per day. The patient was a construction worker.

Physical examination revealed hot-potato voice, mild trismus, no stridor, nor respiratory distress, enlarged peritonsillar space, and hyperemic uvula pushed contralaterally. Body temperature 38.5°C, heart rate 110 beats per minute, oxygen saturation 97% in room air. White blood cell count increased to 15,880.

The patient was diagnosed as peritonsillar abscess, and was treated by aspiration at the prominent abscess area, followed by an incision at the same location as the aspiration site. Approximately 4 ml of pus was obtained. The patient was given fluids, analgesics, steroids, and antibiotics intravenously. All symptoms improved after 3 days, and the patient was then discharged.

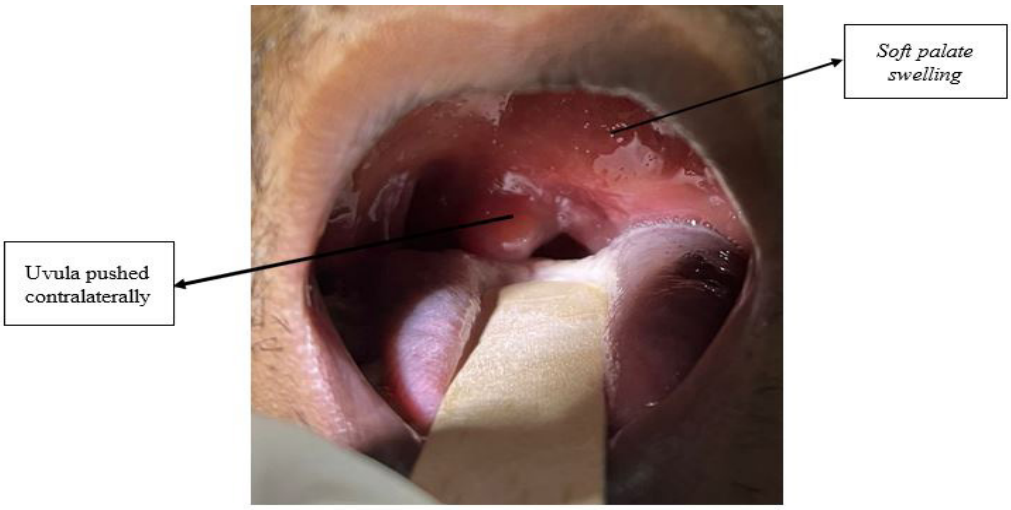

Figure 1. Swelling of the soft palate and displacement of the uvula to the contralateral side.

CLINICAL QUESTION

How is recurrent peritonsillar abscess associated with active smoking?

REVIEW METHOD

Literature search was conducted on April 2024 with the keywords "peritonsillar abscess" AND "smoker". We obtained 3 articles in PubMed, 2 articles in ScienceDirect, and 12 articles in ProQuest. There were 4 articles included in the study which were relevant to the topic.

RESULT

There were 4 studies included that were relevant to the topic. The study by Schwarz et al.[7] showed that there was a significant difference in the incidence of peritonsillar abscess between smokers and non-smokers (p=0.025). This study also showed that smokers had a higher incidence of peritonsillar abscess the more cigarettes they smoked (p=0.037). Boon et al.[8] presented a case of peritonsillar abscess in active smokers. This was similar with the case report in the present study. Little et al.[9] and Tachibana et al.[10] showed that patients with a history of smoking had a higher incidence of complications such as laryngeal edema, in cases of peritonsillar abscess.

DISCUSSION

Peritonsillar abscess is the accumulation of pus in the peritonsillar space between the superior constrictor muscle and the tonsillar capsule. Peritonsillar abscess is considered a polymicrobial disease. Aerobic microbiological organisms involved in causing peritonsillar abscess include *Streptococcus pyognes* and *Streptococcus viridans*, while the anaerobic ones are *Fusobacterium* and *Bacteroides*. Bacterial culture is usually not required to determine therapy.[11]

Patients with peritonsillar abscess were usually present with complaints of throat pain, accompanied by pain in swallowing both solid and liquid food (odynophagia and dysphagia), otalgia, trismus, high fever, and drooling. This can lead to airway obstruction if not properly managed. Early surgical intervention is recommended to speed up recovery and to improve the condition, especially if an abscess has formed, to prevent airway obstruction or to spread to other areas of the neck, mediastinum, or base of skull.[12]

Smoking seems to have a strong correlation with recurrent peritonsillar abscess through the process of gingival mucosal atrophy, changes in oral flora and decreased oral immunity. Smokers have higher levels of C-reactive protein (CRP) than nonsmokers.[6] The pathophysiology of the increased risk of peritonsillar abscess in smokers remains unclear. However, several studies of oral and nasopharyngeal infections have suggested possible mechanisms. Smoking affects patients' inflammatory and immune systems systemically and locally.[13,14]

Treatment of peritonsillar abscess is controversial, and there is no consensus on optimal management. Early detection and treatment may prevent more serious complications.[15] Treatment may include needle aspiration, incision and drainage, and tonsillectomy if necessary, combined with antibiotics and steroids. Steroids are used to reduce the patient's pain. Incisional drainage is the most common procedure. Tonsillectomy may be considered if there are additional symptoms of airway obstruction. Penicillin is an antibiotic that is still recommended for the treatment of this peritonsillar abscess. Several studies had shown no significant difference between penicillin only, and penicillin combined with metronidazole or other broad-spectrum antibiotics.[12]

In conclusion, peritonsillar abscess can be serious if it obstructs the airway. Early signs may include trismus and painful swallowing.

Smoking increases the risk, and recurrence rate. A complete history and physical examination can establish the diagnosis of peritonsillar abscess. Administration of antibiotics and drainage incision should be done early to prevent complications due to peritonsillar abscess.

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