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Nörolojik Belirtilerle Prezente Olan Retrofaringeal Apse: İşitme Engelli Bir Hastada Tanı Zorluğu
Retropharyngeal Abscess with Neurological Presentation: Diagnostic Challenge in a Hearing-Impaired Patient

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ÖZET

Amaç: Bu çalışmanın amacı, konjenital işitme kaybı ve kontrol altında olmayan diabetes mellitus komorbiditeleri bulunan yaşlı bir erkek hastada görülen retrofaringeal apse olgusunun sunulması ve bu enfeksiyonun sıradışı nörolojik semptomatoloji ile prezente olmasının klinik açıdan değerlendirilmesidir. Çalışmamızda, derin boyun enfeksiyonlarının tanısal yaklaşımında karşılaşılan zorluklar ve özellikle sensöriyel defisiti bulunan hasta popülasyonunda multidisipliner değerlendirmenin gerekliliği üzerinde durulmuştur.

Olgu: Olgumuz, altmış yaşına yaklaşan erkek hasta olup, yaklaşık otuz günlük süreçte gelişen sefalji ve son beş günde progresif karakterde artan ağrı sendromu ile kliniğimize müracaat etmiştir. Anamnezinde sağ ekstremitelerinde parestezi şikayeti öne çıkmaktadır. Hastanın geçmiş tıbbi öyküsünde doğumsal işitme defisiti ve yirmi yıllık süreçte tip 2 diabetes mellitus tanıları mevcuttur. Klinik muayenede vital parametreler normal sınırlarda saptanmış, biyokimyasal analizlerde enflamatuvar belirteçlerin yüksekliği (CRP: 21,6 mg/L, WBC: 12.700/µL) dikkat çekmiştir. Nörovasküler patolojileri ekarte etmek amacıyla gerçekleştirilen ileri görüntüleme yöntemlerinde, sağ retrofaringeal alanda 10×15×16 mm boyutlarında abse formasyonu tespit edilmiştir. Kulak Burun Boğaz Hastalıkları ile yapılan konsültasyonda supraglottik yapılarda ödem ve ipsilateral vokal kord mobilitesinde kısıtlılık saptanmıştır.

Tartışma ve Sonuç: Sunulan vaka, retrofaringeal abse etiyolojisinin konvansiyonel klinik prezentasyonundan sapabileceğini ve özellikle nörolojik semptomlar ile maskelenebileceğini ortaya koymaktadır. Diabetes mellitus, immün sistemin bozulması ve mikrovasküler sirkülasyonun etkilenmesi nedeniyle enfeksiyöz süreçlerin progresyonunda kritik rol oynamaktadır. İşitme engeli bulunan hasta gruplarında, anamnez alma sürecindeki iletişim bariyerleri ve subjektif semptom değerlendirmesindeki kısıtlılıklar, objektif tanısal yaklaşımların önemini artırmaktadır. Kontrastlı boyun bilgisayarlı tomografisi, retrofaringeal abse tanısında altın standart olarak kabul edilmekte ve erken tanısal yaklaşımda hayati önem taşımaktadır. Sonuç olarak, komorbidite yükü yüksek hasta popülasyonunda, atipik prezentasyonlar karşısında yüksek klinik süspsiyon indeksi ve kapsamlı görüntüleme protokolleri, morbidite ve mortaliteyi azaltmada anahtar rol oynamaktadır. Bu olgu, multidisipliner yaklaşımın ve erken müdahalenin başarılı sonuçlar elde edilmesindeki önemini vurgulamaktadır.

Anahtar Kelimeler: Retrofaringeal Apse, İşitme Kaybı, Boyun, Enfeksiyonlar, Nörolojik Belirtiler

ABSTRACT

Objective: The aim of this study is to present a case of retropharyngeal abscess in an elderly male patient with comorbidities of congenital hearing loss and uncontrolled diabetes mellitus, and to clinically evaluate the unusual neurological symptomatology with which this infection presented. Our study emphasizes the diagnostic challenges encountered in deep neck infections and the necessity of multidisciplinary evaluation, particularly in patient populations with sensory deficits.

Material and Methods: Our case involves a male patient approaching sixty years of age who presented to our clinic with cephalgia developing over approximately thirty days and a progressive pain syndrome that had intensified over the past five days. The patient's history was notable for paresthesia complaints in the right extremities. The patient's past medical history included congenital hearing deficit and a twenty-year history of type 2 diabetes mellitus. Clinical examination revealed vital parameters within normal limits, while biochemical analyses demonstrated elevated inflammatory markers (CRP: 21.6 mg/L, WBC: 12,700/µL). Advanced imaging modalities performed to exclude neurovascular pathologies revealed an abscess formation measuring 10×15×16 mm in the right retropharyngeal space. Otolaryngology consultation identified edema in supraglottic structures and restricted ipsilateral vocal cord mobility.

Discussion and Conclusion: The presented case demonstrates that the etiology of retropharyngeal abscess may deviate from conventional clinical presentation and can be masked by neurological symptoms. Diabetes mellitus plays a critical role in the progression of infectious processes due to immune system impairment and microvasculatory compromise. In patient populations with hearing impairment, communication barriers during history-taking and limitations in subjective symptom assessment increase the importance of objective diagnostic approaches. Contrast-enhanced computed tomography of the neck is considered the gold standard

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for retropharyngeal abscess diagnosis and is of vital importance in early diagnostic approaches. In conclusion, in patient populations with high comorbidity burden, maintaining a high clinical suspicion index and implementing comprehensive imaging protocols in the face of atypical presentations play a key role in reducing morbidity and mortality. This case emphasizes the importance of multidisciplinary approach and early intervention in achieving successful outcomes.

Keywords: Retropharyngeal Abscess, Hearing Loss, Neck, Infections, Neurologic Manifestations

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INTRODUCTION

Deep neck infections are treatable infections affecting the deep cervical spaces (1). When left untreated, these infections can progress rapidly and lead to life-threatening complications, resulting in significant morbidity and mortality (2). Retropharyngeal abscess is a common type of deep neck infection. It develops from infections occurring in the space between the pharyngeal constrictor muscles and the posterior vertebral fascia (3). In immunocompromised individuals, it can cause life-threatening complications (4). Chronic diseases harbor important risk factors for the development and progression of infections. Diabetes Mellitus affects the immune system, often causing infections to follow a more severe course (5).

A case study on retropharyngeal abscesses published at the European Congress of Endocrinology in 2023 noted that deep neck infections face higher risks of complications and complicated management in diabetic patients (6).

We present a diabetic and hearing-impaired patient who presented to our emergency department with neurological symptoms and was subsequently diagnosed with retropharyngeal abscess.

CASE

A 59-year-old male patient presented to our emergency department with complaints of headache persisting for one month that had intensified in the last five days, accompanied by numbness in the right arm and right leg. According to the patient's history, as communicated through his relatives, his symptoms had been ongoing for a month, with severe pain originating from the neck and radiating to the occipital region of the head, particularly worsening in the past five days. He had no nausea or vomiting. He reported frequent visits to emergency departments, where treatments provided did not alleviate his pain, and he had begun experiencing numbness in the right arm and leg. The patient had no recent history of trauma. His medical history included congenital hearing impairment and diabetes mellitus diagnosed approximately 20 years ago. He had no history of regular medication use for diabetes.

The patient's vital signs were as follows: Blood pressure: 120/80 mmHg, Oxygen saturation: 95%, Pulse: 102/min, Temperature: 37.1°C.

Physical examination revealed that the patient was conscious, cooperative, and oriented. Neurological examination showed no motor strength deficits or sensory deficits. There was no neck stiffness, but pain intensified with neck movements.

Laboratory investigations revealed: C-reactive protein (CRP): 21.6 mg/L, White blood cell count (WBC): $12.7\times10^3/\mu L$.Blood glucose level was 315 mg/dL, indicating poor glycemic control**.** Other values were within normal limits.

To rule out neurological pathologies, Brain Computed Tomography (CT), Diffusion Magnetic Resonance Imaging (MRI), and Contrast-enhanced Carotid CT Angiography to exclude carotid and vertebral artery dissection were requested.

Brain CT (non-contrast): No acute gross pathology was observed.

Diffusion MRI: No apparent diffusion restriction was observed.

Carotid CT Angiography: No major occlusion or apparent dissection flap was observed. A 10×15×16 mm lobulated contoured hypodense appearance (abscess?) with dense peripheral contrast enhancement was observed in the right retropharyngeal area (Figure 1). The described collection extended into the right prevertebral area.

An Ear, Nose, and Throat (ENT) consultation was requested with a preliminary diagnosis of retropharyngeal abscess. ENT examination revealed edematous epiglottis and arytenoids, limited right vocal cord movement with mobile left cord, narrowed laryngeal passage, and profuse secretions. Neck movements were restricted, and the gag reflex was assessed as weak. The patient was admitted to the ENT department with a diagnosis of retropharyngeal abscess. Intravenous antibiotic therapy was initiated, and surgical drainage was performed. Mixed flora (including Streptococcus anginosus and anaerobes) grew from the aspiration material obtained from the patient. Based on the sensitivity results, IV ampicillin-sulbactam (3 g/6 hourly) was given for 7 days, followed by oral amoxicillin-clavulanate for 7 days**.** The patient's clinical condition improved during follow-up, and he was discharged with complete recovery after completion of treatment.

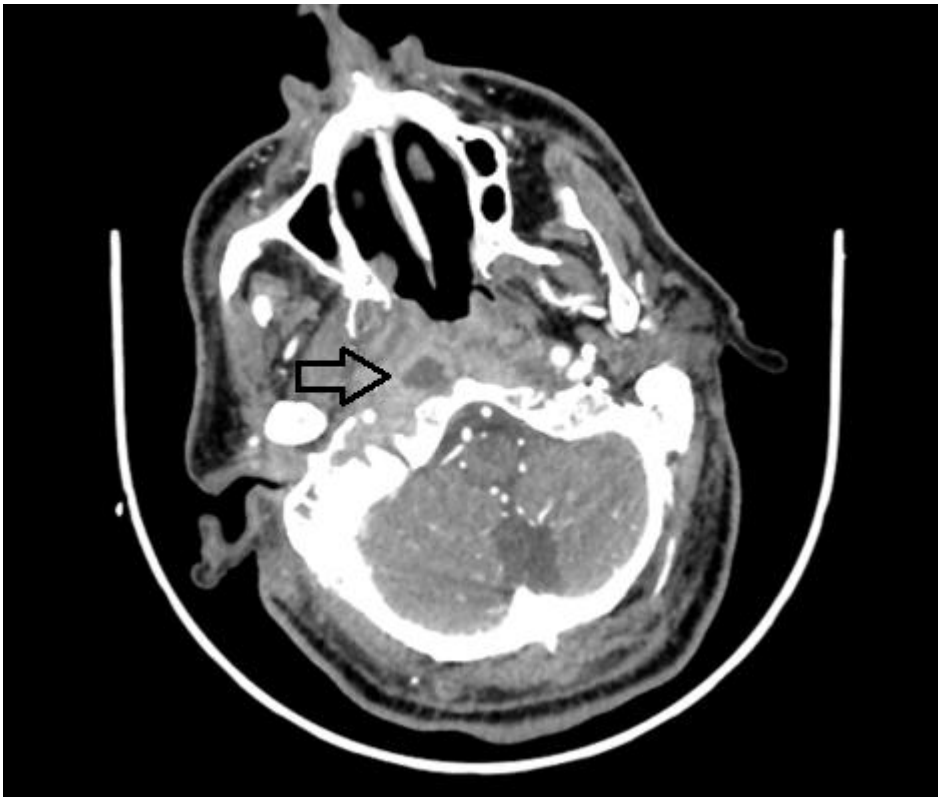

Figure 1. Carotid CT Angiography showing a 10×15×16 mm lobulated contoured hypodense lesion with dense peripheral contrast enhancement in the right retropharyngeal area extending into the right prevertebral area.

DISCUSSION

Deep neck infections are serious infections that can lead to life-threatening complications (2). Deep neck infections are predominantly polymicrobial and originate from the normal oral cavity flora and upper respiratory tract. In adults, the most common source is typically dental and periodontal structures, while the second most common source is the tonsils (7). Delays in the diagnosis and treatment of retropharyngeal abscesses can lead to serious complications such as mediastinitis, pneumonia, aspiration, and airway obstruction (8).

Our patient, who presented with severe headache and extremity numbness, initially suggested neurological pathologies and arterial dissection. Advanced imaging techniques and elevated infection parameters revealed the diagnosis of retropharyngeal abscess. This situation demonstrates that retropharyngeal abscess can present with atypical manifestations.

Recent literature confirms that retropharyngeal abscesses can present with atypical clinical findings, particularly neurological symptoms. Numerous case reports have documented unusual presentations such as post-traumatic neck pain, cephalgia, and neurological deficits

that may misdirect initial diagnostic efforts (9,10). These atypical presentations underscore the need for high clinical suspicion and comprehensive imaging protocols

Diabetes is an important risk factor for the development of retropharyngeal abscess (4). In diabetic patients, elevated blood glucose levels impair neutrophil function, which affects microvascular circulation, increasing susceptibility to infections (11). Studies demonstrate that patients with diabetes mellitus and peritonsillar abscesses show increased susceptibility to deep neck infections, with Type 2 diabetes mellitus being identified as a significant risk factor that leads to complications and poor outcomes (12). A study by Chang et al. demonstrated that diabetes causes deep neck infections to follow a more severe course and prolongs hospital stay (13). Our patient had diabetes as a significant risk factor, but due to early diagnosis and treatment, he recovered without complications and had a short hospital stay.

In individuals with hearing loss, due to limitations in the subjective assessment of symptoms, detailed objective assessment protocols and the use of advanced imaging techniques in clinical practice are of greater importance (14). In our case, communication difficulties arose due to the patient's hearing impairment. This complicated the detailed questioning of complaints and the evaluation of physical examination findings. Therefore, broadening imaging indications in such patients is of significant importance for establishing the diagnosis.

The detection of Streptococcus anginosus group in our case supports its established role in deep neck space infections. Although part of the normal oral flora, members of this group—*S. anginosus*, *S. intermedius*, and *S. constellatus*—are increasingly implicated in severe purulent infections, with growing evidence linking them to abscess formation across various anatomical sites (15, 16).

Contrast-enhanced neck CT is the gold standard in diagnosing retropharyngeal abscess (17). The presence of severe neck pain along with headache prompted us to request contrast-enhanced neck CT to rule out carotid and vertebral artery dissection. As a result, the abscess focus was detected with CT angiography, and the pattern of spread was evaluated.

The fundamental approach in the treatment of retropharyngeal abscess includes appropriate antibiotic therapy and surgical drainage (18). This treatment approach was also implemented in our case with successful outcomes.

CONCLUSION

Our case demonstrates that retropharyngeal abscess can present with unexpected clinical manifestations that deviate from the classic presentation. In individuals with chronic diseases such as diabetes, deep neck infections should definitely be considered in the differential diagnosis in the presence of headache and neurological findings of unclear etiology. In patient

groups with hearing loss who experience communication difficulties, a broad spectrum of imaging indications along with detailed physical examination will expedite the diagnostic process and prevent delays in treatment.

Ethics approval and consent to participate

A consent has been taken from subject regarding writing of this case report.

Competing interests

None

Funding

None

Authors' contributions

İHY: Data collection, writing, idea; DİE: Data collection, idea, supervision.

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