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Case Report

The Importance of a Good Differential Diagnosis of a Neck Mass. Neck Mass by Migration of a Toothpick from Mandibular Cortex

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Abstract

Objective: This study gives details of a rare case of cervical mass. We want to emphasize the importance of a good differential diagnosis in a cervical mass in an adult patient.

Method: This study presents a case report and review of the literature.

Results: We report the case of a 57-year-old male with a cervical mass of months of evolution, suspicious malignancy that after a difficult diagnostic process, turned out to be a reaction to a foreign body (toothpick) that had migrated and fistulized from the mandibular cortex to the skin of the neck.

Conclusion: This study presents a rare case of cervical mass and the difficulty sometimes involved in its management. After reviewing the medical literature, we have not found any similar cases described.

Keywords: neck mass; foreign body; differential diagnosis.

Introduction

Cervical tumors are a frequent finding in clinical practice and may be congenital, inflammatory or neoplastic. In adult patients with a persistent and indurated cervical mass, we should think of a malignant origin as the first option, it usually is metastasis of carcinomas of the head and neck [1,2]. Other less frequent causes are mycobacterial lymphadenitis [3,4]. The migration of foreign bodies through tissues is rare. Cases of migration from the upper aerodigestive tract to the cervical spaces have been described, such as fish spines [5], bones [6], or anesthesia needles in dental procedures [7]. But, we present a rare case of a patient with a cervical mass, simulating malignancy, produced by the migration of a foreign body from a dental piece. We critically analyze the difficulty in diagnosis and treatment and the basic aspects to take into account in similar situations.

Case report

A 57-year-old male farmer, and ex-smoker for 15 years, who consulted to our service with a left cervical mass of 2 months' duration. He presented with the following symptoms, odynophagia, dysphagia and dysphonia. On physical examination, he was afebrile and had a 2 cm in diameter in the left cervical level IIA which was erythematous, warm and tender to touch on palpation. On the inspection of the oral cavity we observed dental caries and in the fibroscopy there were no lesions in the upper aerodigestive tract. The cervical ultrasound was requested, and a 5x5 cm phlegmonous mass with 2.5 cm central abscess was diagnosed. The lesion was treated with empirical antibiotic therapy (amoxicillin-clavulanic acid) and non-steroidal anti-inflammatories. Two weeks post initiation of treatment, the patient showed poor improvement and the lesion was progressive in size, therefore, the patient was admitted to the hospital for intravenous treatment and further investigations. A full blood count was performed with leukocytosis

and neutrophilia and cervical and thoracic Computed Tomography (CT) scan which showed a soft-tissue density lesion with poorly defined contours of 3 x 7,4 x 4,3 cm in diameter that occupied the submandibular space with caudal extension into the left anterior cervical space, without identifying collections inside (Figures 1,2). Given the findings, a fine-needle aspiration biopsy (FNAB) was performed and reported as an inflammatory tissue, negative for tumor cells.

Figure 1: Cervical CT, axial section. The soft tissue density mass of ill-defined contours occupying the left submandibular space is observed.

Figure 2: Cervical CT, coronal section. The soft tissue density mass of ill-defined contours occupying the left submandibular space is observed.

The patient was admitted for 8 days presenting clinical improvement, without total cure of the lesion. In view of the torpid evolution, after a month, we decided to perform excisional biopsy, resecting an indurated, stony and fibrous mass of about 3 cm that infiltrates skin but not the submaxillary gland and the sample was sent to anatomical pathology. The report showed a skin with intense chronic inflammation abscess xanthogranulomatous with presence of birefringent foreign body material (plant tissue) (Figure 3). With this information, we made a new anamnesis to the patient, with special emphasis on traumatisms or injuries with foreign plant bodies at the workplace, in the field, denying any history of cervical injury. One-week post-surgery, the area appeared indurated and raised, with a granulomatous appearance with fistulization into the skin and drainage of purulent material (Figure 4). and the differential diagnoses of an atypical mycobacterial lymphadenitis was made. We performed a culture of the drainage material with negative findings and a new negative study for malignant cells.

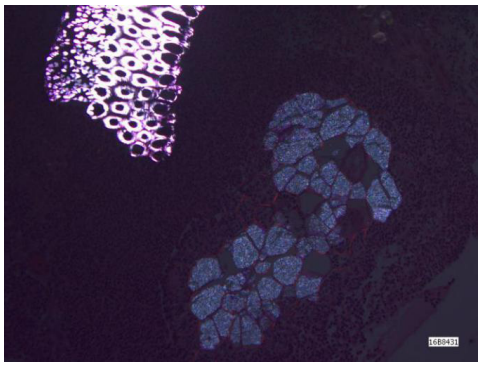

Figure 3: Two fragments of birefringent material formed by epithelial cells of vegetal nature are observed.

Figure 4: Indurated left laterocervical tumoration.

During the following 5 months there were intermittent episodes of suppuration of the injury with partial improvement after antibiotic therapy, so we performed a new cervical CT where phlegmonous inflammatory changes appeared in the submandibular space and in the left anterior cervical space without collections and a bone defect in the left mandibular branch at the level of the roots of the dental pieces 36 and 37 (dental universal numbering system). This made us think of a possible dental origin of the process, therefore we performed a new intervention together with maxillofacial surgery for the resection of the tumor and extraction of the dental pieces 36 and 37.

The anatomopathological analysis informed about fragments of fibrous tissue covered by squamous epithelium, with non-specific chronic inflammation, compatible with odontogenic cyst. With the diagnosis of cervical fistula due to periapical mandibular cyst of dental pieces 36 and 37, the patient was examined by maxillofacial surgery 10 days after surgery, reporting having spontaneously expelled a fragment of toothpick about 2 cm in length from the cervical fistula (Figure 5).

Figure 5: Fragment of toothpick next to one-euro coin (diameter of 2,3 cm).

Discussion

In the differential diagnosis of a neck mass there are different etiologies that vary significantly with age [1,8]. Thus, persistent asymptomatic neck mass in the adult patient should be considered malignant until proven otherwise, we must first think of a metastasis of a head and neck cancer, being the most common squamous cell carcinoma. Early diagnosis is important, since delayed diagnosis directly affects survival. The initial complementary tests that must be performed for diagnostic are CT with contrast, which is the gold standard to see the location and extension of the lesion, and FNAB [2,8,9]. The inflammatory aspect of the lesion of our patient suggested bacterial lymphadenitis in the first place, but the lack of response to antibiotic therapy, the time of evolution and the CT with imprecise edges, supported the malignancy, despite not finding lesions. The cytology by FNAB indicated that the mass was inflammatory, but the sensitivity of the test detecting malignancy, despite being high, is not 100% [2,10].

Another possible etiology of a chronic cervical mass that does not respond to the usual antibiotic therapy are mycobacterial infections that are the most common cause of cervical granulomatous lymphadenitis, which occurs painlessly and with a hard consistency. Its diagnosis of certainty is the culture, although it is difficult due to the technical difficulties involved. FNAB or excisional biopsy of the lesion can help us in the diagnosis [3,4,10].

The culture discarded the presence of microorganisms in the lesion and the anatomopathological study of the piece after the excisional biopsy, indicated absence of malignancy and guided us to the presence of a foreign body that we were unable to discover because of the scarce information provided by the patient. Given the torpid evolution of the following months, we considered other more rare diagnoses such as actinomycosis or *Bartonella henselae* infection [2,8,10], which can also be presented as a single, non-painful cervical adenopathy. These diagnoses were discarded after the anatomopathological study.

It is after the completion of the second CT, when we noticed the mandibular bone defect that gave us the clue of a possible odontogenic origin, however, the extraction of the affected dental pieces did not solve the problem in definitively, a fact that occurred with the spontaneous expulsion of the foreign body, toothpick, which the patient brought to consultation. Thus, in the face of a non-congenital cervical tumor, we must think of another possible differential diagnosis in an odontogenic origin. Our case has the singularity of the migration of a foreign body through the mandibular cortex to the neck skin, of which there is no evidence in the literature and what justified the confusion with malignancy and the diagnostic delay.

Summary

- In adult patients with a persistent and indurated cervical mass, we should think of a malignant origin as the first option.
- A good anamnesis and appropriate complementary tests are important to guide the diagnosis.
- Although it is a rare situation, migration of a foreign body ingested through the aerodigestive tract to the neck should be kept in mind in the differential diagnosis of patients who present with neck masses.
- This paper describes the first case of migration of a foreign body through the mandibular cortex to the neck skin.

References

1. Balikci HH, Gurdal MM, Ozkul MH, Karakas M, Uvacin O, et al. (2013) Neck masses: diagnostic analysis of 630 cases in Turkish population. Eur Arch Otorhinolaryngol 270: 2953-2958.
2. Haynes J, Arnold KR, Aguirre-Oskins C, Chandra S (2015) Evaluation of neck masses in adults. Am Fam Physician 91: 698-706.
3. Quinteros R, López V, Gutiérrez D, Cardemil F (2016) Mycobacterial infections in otolaryngology. Review. Rev. Otorrinolaringol. Cir. Cabeza Cuello 76: 111-120.
4. Rives P, Joubert M, Launay E, Guillouzouic A, Espitalier F, et al. (2016) Cervicofacial non-tuberculous mycobacteria: A report of 30 cases. Eur Ann Otorhinolaryngol Head Neck Dis 133: 107-111.
5. Cheng YC, Lee WC, Kuo LC, Chen CW, Lin HL (2009) Protrusion of a migrated fish bone in the neck. Am J Otolaryngol 30: 203-205.

6. Demirhan E, İber M, Yağız Ö, Kandoğan T, Çukurova İ (2016) An Unusual Neck Mass: Ingested Chicken Bone. Balkan Med J 33: 695-697.

7. Altay MA, Jee-Hyun Lyu D, Collette D, Baur DA, et al. (2014) Transcervical migration of a broken dental needle: a case report and literature review. Oral Surg Oral Med Oral Pathol Oral Radiol 118: e161-165.

8. Rosenberg TL, Brown JJ, Jefferson GD (2010) Evaluating the adult patient with a neck mass. Med Clin North Am 94: 1017-1029.

9. Pynnonen MA, Gillespie MB, Roman B, Rosenfeld RM, Tunkel DE, et al. (2017) Clinical Practice Guideline: Evaluation of the Neck Mass in Adults Executive Summary. Otolaryngol Head Neck Surg 157: 355-371.

10. Moghimi M, Salentijn E, Debets-Ossenkop Y, Karagozoglu KH, Forouzanfar T (2013) Treatment of cervicofacial actinomycosis: a report of 19 cases and review of literature. Med Oral Patol Oral Cir Bucal 18: e627-632.