The challenge of diagnosing atypical odontalgia. Case report

O desafio para o diagnóstico da odontalgia atípica. Relato de caso

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ABSTRACT

BACKGROUND AND OBJECTIVES: Atypical odontalgia is characterized by continuous pain that persists for more than three months in one or more teeth or in the socket after extraction, without apparent dental and neurological causes, with transient pain relief and worsening within a few days or even weeks in patients undergoing extensive dental treatment. These patients are at risk of going through unnecessary dental/surgical procedures, which would worsen their pain. This article aims to report a difficult case of atypical odontalgia diagnosis of a patient that underwent extensive dental treatment accompanied by severe pain.

CASE REPORT: A 57-year-old female patient with severe and excruciating pain in the right maxillary region of no identified source. After an endodontic retreatment on teeth 14 and 16, the pain worsened suggesting traumatic pericementitis or reaction to the intracanal drug used. Since the pain did not improve, a pulpectomy on 13 was performed. However, the pain increased significantly, and after an evaluation by volumetric computed tomography, a paraendodontic surgery was performed, but the pain irradiated to the ocular fundus and the maxillary region. The absence of neurological, ophthalmological, and otorhinolaryngological alterations led to the diagnosis of atypical odontalgia.

CONCLUSION: The diagnosis of atypical odontalgia is difficult, requiring a multidisciplinary approach listening to the patient's complaint, and, in case of doubt, avoid any procedures not to worsen pain and turn it chronic.

Keywords: Diagnosis, Endodontics, Toothache.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A odontalgia atípica caracteriza-se por dor contínua que persiste por mais de três meses em um ou mais dentes ou no alvéolo após extração, sem causas dentárias e neurológicas aparentes, com alívio transitório, e piora da dor dentro de poucos dias ou até semanas, em pacientes com amplo tratamento odontológico. A dificuldade para o diagnóstico pode levar a procedimentos odontológicos desnecessários e mutiladores, com piora e/ou cronificação da dor. Este artigo tem como objetivo relatar um caso de difícil diagnóstico de odontalgia atípica em paciente submetida a extenso tratamento odontológico.

RELATO DO CASO: Paciente do sexo feminino, 57 anos, apresentava queixa de dor lancinante em região maxilar direita cuja origem não identificava. Após retratamento endodôntico dos dentes 14 e 16, houve piora da dor sugerindo pericementite traumática ou reação a fármaco intracanal. Como a dor não melhorou foi realizada uma pulpectomia no dente 13. Entretanto, a dor aumentou e após tomografia computadorizada volumétrica foi realizada cirurgia parendodôntica, porém a dor irradiou para fundo do olho direito e região maxilar. A ausência de alterações neurológicas, oftalmológicas e otorrinolaringológicas permitiram diagnosticar a odontalgia atípica.

CONCLUSÃO: O diagnóstico é difícil, sendo recomendada a abordagem multidisciplinar, valorizar a queixa do paciente e, em casos de dúvida, evitar quaisquer procedimentos para não piorar e cronificar a dor.

Descritores: Diagnóstico, Endodontia, Odontalgia.

INTRODUCTION

Atypical odontalgia (AO), a subtype of persistent idiopathic facial pain or a sub-form of post-traumatic painful trigeminal neuropathy, is characterized by continuous pain in one or more teeth or the socket after extraction, without any apparent dental or neurological cause. It lasts for more than two hours a day, persisting for more than three months, associated or not with a history of dental trauma[1]. Commonly, patients have extensive dental treatment[2] that transitorily relieves pain, usually increasing in a few days or weeks[3].

The physiopathology is not entirely clarified, although there is strong evidence of neuropathic mechanisms involved[4-10], and studies seek to determine whether there is an involvement of central and/or peripheral sensitization[10-14]. There is no gold standard for the diagnostic protocol[14,15,] and the existing ones are not fully reliable[4]. As the physiopathology is not well defined[12,16], the diagnosis is made by exclusion[15,17]. Tricyclic antidepressants,

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anticonvulsants, anesthetics, and botulinum toxin reduce pain[18-20], but have limited activity and have no proven effectiveness[20-22]. The objective of this study was to report a case of AO, highlighting the challenge and the importance of diagnosis to avoid unnecessary and irreversible procedures.

CASE REPORT

Female patient, 57 years old, normoreactive, went to the dental clinic complaining of continuous and severe pain in the upper right dental arch, whose origin was not identified. The clinical examination showed fixed partial prosthesis with pillars being on teeth 14 and 16, which responded negatively to the horizontal and vertical percussion tests and the apical palpation. The radiography quality of the filling of the two elements was not satisfactory, leading to the diagnosis of symptomatic apical periodontitis (Figure 1).

After removing the prosthesis and making the definitive cementation of the temporary fixed partial prosthesis, access to the pulp chambers was made after perforation of the temporary occlusal, reducing the risk of loosening and consequent contamination of the root canals. Gutta-percha with orange peel was removed, followed by manual instrumentation, with 1% sodium hypochlorite, 17% EDTA-T (Fórmula e Ação, São Paulo, SP, Brazil). As an intracanal medication, it was used calcium hydroxide pro-analysis (PA) associated with the viscous vehicle paramonochlorophenol + rinosoro® (sterile saline nasal spray) + polyethylene glycol (PEG) Fórmula e Ação, São Paulo, SP, Brazil).

Three days after the beginning of retreatments, the pain worsened, with positive sensitivity to horizontal and vertical percussion, without edema. The hypothesis for pain worsening was a reaction to the orange peel oil and/or to the paramonochlorophenol present in the drug used as a calcium hydroxide vehicle. The canal was irrigated with 0.5% sodium hypochlorite to remove the intracanal drug, and the canals were filled (Figure 2).

Given the intense pain in the region of teeth 12 and 13 and an altered response to the thermal test with refrigerant gas, it was performed a pulpectomy on tooth 13, after the diagnosis of symptomatic irreversible pulpitis. Two weeks after the pulpectomy, the pain was more severe, originating from the fundus of the right eye. Teeth 12 and 13 showed exacerbated sensitivity to touch and apical palpation, and the pain extended from the region of the nose wing towards the eye. It was performed a photodynamic therapy with a 660nm laser and methylene blue, and six days later, teeth 12 and 13 still showed exacerbated sensitivity to vertical percussion, and the pain was being reflected throughout the cheek. The apical palpation of tooth 14 previously retreated caused great pain in the optic nerve's innervation region, suggesting that the pain had no odontogenic origin. The patient was referred to the neurologist, who did not diagnose headaches or any other disorders. An otolaryngologist and an ophthalmologist were also consulted, and they did not identify any abnormality or disease. As the pain reduced, tooth 13 was filled.

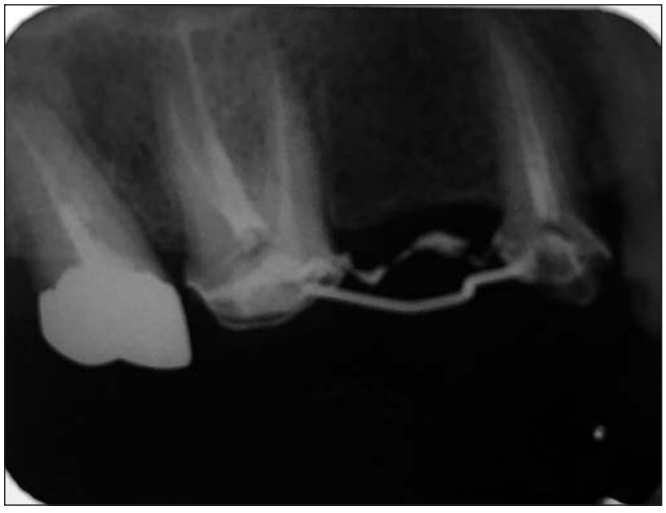

Figure 1. Teeth 14 and 16 periapical radiography

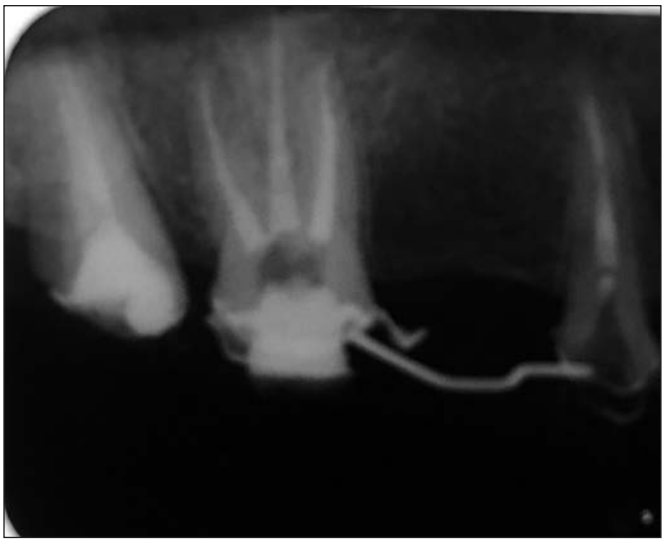

Figure 2. Final radiography of the filling of teeth 14 and 16

After a few days, the patient experienced pain in the eye and left temporal muscle region. It was performed the endodontic retreatment of the 26 without complications and pain. In the same period, the patient reported sensitivity in tooth 46 when biting, and after complementary radiographic evaluation, endodontic retreatment was indicated.

Two months after filling tooth 13, the patient returned to severe pain condition, and the tomography showed a radiolucent image in the periapical region (Figure 3), with a diagnosis of symptomatic apical periodontitis and an apicectomy (Figure 4).

After surgery, the pain worsened with allodynia and hyperalgesia when touching the mucosa and epidermis close to the region of the procedure. The pain was very intense, and the suture was not completed. It was applied Infrared laser to the periapex of 13 to reduce pain and control the inflammatory process. Five days later, the pain was concentrated in the right nose wing and radiated to the base of the eye, like a knife prick. There was good healing, without edema, but the area became very sensitive to touch. Dexamethasone 8 mg/day was prescribed for seven days. After two months, pain sensitivity to vertical percussion and apical palpation was present. The patient was referred to an acupuncturist, and, although diagnosed with fibromyalgia, did not un-

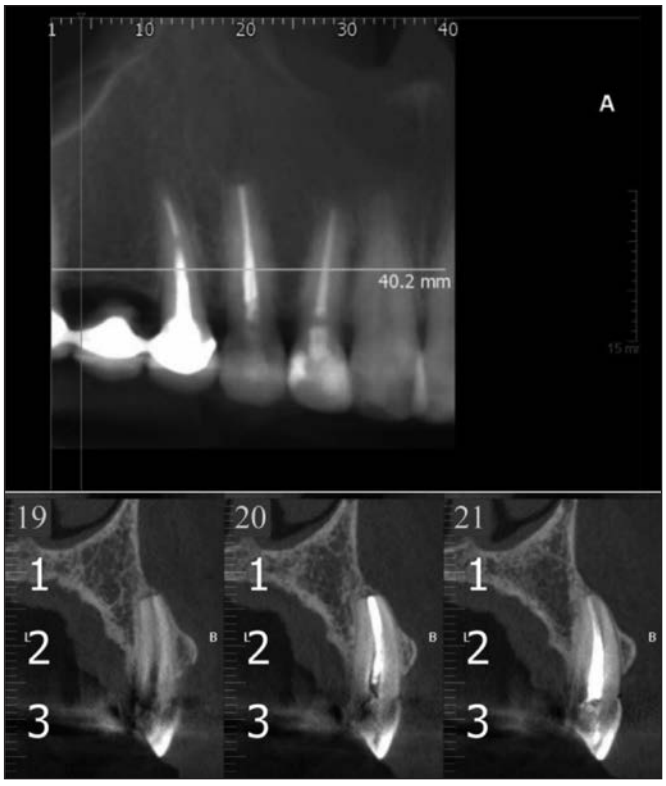

Figure 3. Transaxial sections of volumetric computed tomography of tooth 13

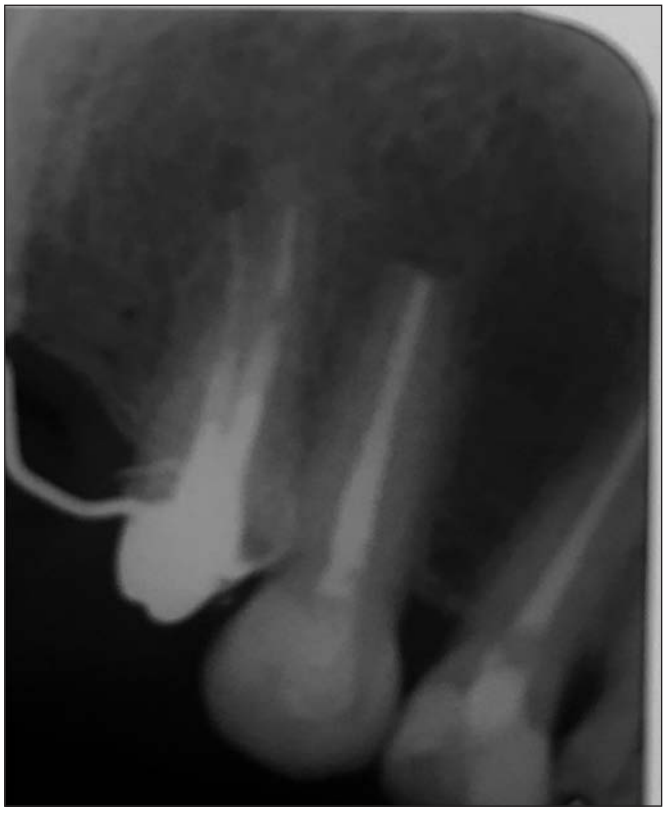

Figure 4. Periapical radiography of tooth 13, after an apicectomy

dergo any treatment. In another dental appointment, the patient requested not to be palpated at the periapical area, as she had a pressure sensation for three days after the previous appointment. After more than 12 months, there was a reduction in pain, and six years later, the patient is asymptomatic, reporting pain in the right maxilla with irregular and sporadic frequency, with mild to moderate intensity.

DISCUSSION

AO represents a clinical challenge for most dentists[4], because when the patient complains of pain, the origin is usually odontogenic, and its cause can be identified and treated. Although there is a well-defined diagnostic criterion for AO[1], in the present case, three facts were decisive for not making an initial diagnosis of AO: 1) according to the patient's dental history, there was no recent previous dental procedure that justified the onset of continuous and severe pain in the upper right hemiarch; 2) the complementary clinical and radiographic examination provided sufficient information to diagnose symptomatic apical periodontitis of odontogenic cause in teeth 14 and 16. 3) The patient did not report any disease, drug use, and allergy that, according to the study[12], could bring important information related to pain.

One of the characteristics of AO is the increase in pain intensity after endodontic and surgical procedures[3]. In this case, the pain worsened after the start of retreatments, which became a stabbing pain. Since there was a diagnosed odontogenic cause, symptomatic apical periodontitis, the worsening of pain was interpreted as postoperative pain, pericementitis resulting from endodontic manipulation. Premature occlusal contact, presence of preoperative pain, presence of a periapical lesion, and the type of the tooth would explain the pain after endodontic procedures[23]. Therefore, the chemical substance was replaced as well as the intracanal drug, despite the worsening of the pain that occurred after the endodontic treatment of tooth 13 and after the apicectomy.

Studies show that extensive dental treatments performed in an attempt to reduce pain only worsen it. Pulpectomy of tooth 13 caused a significant worsening of pain, which radiated to the nose wing and fundus of the eye, and the apicectomy caused allodynia to touch on the mucosa and epidermis close to the operated area. However, they were necessary procedures because pulpectomy was indicated with a diagnosis of irreversible pulpitis and apicectomy after volumetric computed tomography to detect periapical lesion, consistent with studies that emphasize the need for a thorough clinical examination to rule out all odontogenic causes[5,6,24,25].

The analysis of the characteristics of the pain and the absence of a neurological cause allowed the diagnosis of AO, especially the exacerbation after surgical procedures when central or peripheral sensitization may occur[11,16,18,26]. It is important to highlight that the prevalence is high in females[3,27].

The neurological, ophthalmological, and otorhinolaryngological evaluation was correct[5,12,28], and the absence of neurological abnormality coincides with one of the diagnostic criteria defined by the *International Classification of Headache Disorders* (ICHD)[1], corroborating for the diagnosis of AO.

Chronic pain lasting longer than six months is another ICHD diagnostic criteria [1] for AO. It is common to see demotivation and loss of credibility on the professionals, is recommended to pay attention to the patient's complaint and the history of treatments performed, and not to perform only technical therapy. The correct approach is the holistic and psychosocial adopted during treatment[29,30]. The pain decreased, and after six years, the patient is asymptomatic, with no use of tricyclic antidepressants, antiepileptics, anesthetics, and botulinum toxin[18-21].

CONCLUSION

The presence of pain without odontogenic causes was important for the diagnosis, and the reception of the patient during treatment was fundamental and decisive for its success. The diagnosis of AO is difficult, A multidisciplinary approach, valuing the patient's complaint and, in cases of doubt, avoiding any dental treatments to avoid worsening and chronic pain is recommended.

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