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Dental care for patients with severe intellectual disabilities

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ABSTRACT
Objective: To present the conduction of a dental treatment case in a patient with severe Intellectual Disability (ID), detailing the procedures performed to demystify impossibilities. Case Details: A 48-year-old female patient, diagnosed with severe ID, ICD 10 F 72, sought dental treatment at a school clinic during the discipline of Supervised Internship for People with Disabilities. The patient needed surgical, endodontic, and restorative interventions. Final considerations: In patients with ID, due to the lack of oral health care skills, and/or inability to receive adequate personal and professional care, sometimes the condition of the oral cavity is complex, in addition, the presence of underlying congenital or developmental anomalies may be related. Tooth decay and periodontal disease are among the secondary conditions that most affect these individuals. The procedures performed on the patient were adapted according to her needs, aiming to deliver a better quality of life and comfort through the improvement of oral health.

Keywords: Intellectual Disability, Person with Disabilities, Oral Health.

1 INTRODUCTION

The term person with disabilities (PWD) refers to individuals who have intellectual, physical, or sensory limitations. Currently, in Brazil, 6.2% of the population has some kind of disability, be it hearing, intellectual, physical or visual. PWD may have limitations or inability to perform day-to-day activities, especially in the most severe cases (ARDUIM AS, et al., 2023). According to the demographic census conducted in 2010 by the Brazilian Institute of Geography and Statistics (IBGE), visual impairment was present in 3.4% of the Brazilian population, motor impairment in 2.3%, hearing impairment in 1.1%, and intellectual impairment in 1.4%. About 46 million Brazilians declare to have some type of disability (IBGE, 2010).

Intellectual disability (ID) is defined as a neurodevelopmental disorder, specifically intellectual developmental disorders, with heterogeneous etiology. Intellectual functioning refers to general mental capacity, related to learning, reasoning, problem solving, among others (AAIDD, 2010). The individual diagnosed with this condition has adaptive and comprehension difficulties, limitation in social skills

and daily practices. This disorder may be accompanied by other mental disorders, underlying congenital or developmental anomalies, or occur in isolation, with its onset before the age of 18 years as a standard characteristic (LUCKASSON R, et al., 2002).

Different terminologies can be found for its reference. The expression Mental Retardation (MR) is still used in some contexts, however, considered a pejorative term, the terminology was changed to ID; However, to date, it is still possible to observe research and studies with this reference. In light of this, the American MRI Association has been renamed the American Association on Intellectual and Developmental Disability (AAIDD), although it emphasizes that the definition of ID is exactly the same as for MRI (SHEA SE, 2012). Its prevalence is estimated to range from 1% to 3% worldwide (SÁ PKS, et al., 2022).

Regarding its classification, there is the Statistical Manual of Mental Disorders (DSM) that uses the term MR, in which it covers the best allusion, with a description of the mild, moderate, severe and profound degrees, and is based on the intelligence quotient (IQ) test for classification (DSM-5, 2014). By contrast, the AAIDD uses the term DI and is not based on DSM categorization (SHEA SE, 2012).

The etiology of ID is broad, and may be genetically-related, caused by environmental factors, or both. They are classified according to the causal epoch: periconceptional, intrauterine, perinatal, postnatal, and infancy. However, the diagnosis is complex and unknown in many cases (KATZ G and LAZCANO-PONCE E, 2008). It is estimated that it is not possible to verify the causal factor in 50% of the cases, and the probability of determining the etiological factor is greater in severe cases of the disorder. Some risk factors may be taken into account, such as: genetic syndromes; chromosomal abnormalities; problems during childbirth, such as choking; use of drugs or toxic products during pregnancy, among others (SCHWARTZMAN JS and LEDERMAN VRG, 2017).

The consequence of reduced IQ is accompanied by deficit in adaptive functions, i.e., lack of conceptual, social, and practical skills. In cases of severe ID, individuals may have difficulty understanding time, literacy, and communication, in addition, they have difficulty establishing social contact and developing interpersonal and social skills. On a day-to-day basis, they have limitations related to their ability to perform personal care and hygiene (SHEA SE, 2012). Therefore, the oral health of individuals with ID is complex due to the lack of oral hygiene care skills and/or inability to receive adequate personal and professional care. Tooth decay and periodontal disease are among the most common secondary conditions affecting people with ID (ANDERS PL, et al., 2010).

An aggravating factor to the above-mentioned scenario is the reality experienced by caregivers, who report lack of preparation to perform oral hygiene on these individuals, due to lack of skills and knowledge. In addition, socioeconomic status is a factor that must be taken into account when it comes to access to information and dental care. Thus, the search for a dental surgeon (DC) is late, therefore, the dentistry provided is not classified as preventive, but curative (JUNIOR ÊF, et al., 2020).

The dental practice in these patients is not at all different in technical-scientific matters, however, the management of the patient must respect their physical, psychological and emotional limitations (ANDERS PL, et al., 2010). It is important that during the consultation, the professional has knowledge to manage the individual's behavior, in order to ensure the safety and efficacy of the treatment. Therefore, behavioral management techniques are relevant tools in this context (PETROVIC BB, et al., 2016).

According to Lima AC (2022), the use of these techniques allows the emotional and behavioral control of the patient, and can be differentiated into three areas: pharmacological, physical, and linguistic. Thus, they can range from a simple verbalization and demonstration of procedures on objects, to the administration of general anesthetics in a hospital environment. The selection of the correct technique will vary according to the age and characteristics of each patient.

The present study aims to present the conduction of a dental treatment case in a patient with severe ID, detailing the procedures performed in order to demystify impossibilities.

2 CASE BREAKDOWN

The approval by the Research Ethics Committee (REC) preceded the publication and preparation of this case report, which presents CAAE No . 69725723.3.0000.5066. For this study, the patient's guardian signed the Free and Informed Consent Form (ICF). The ethical principles of resolution 466/12 were preserved, as well as the integrity and dignity of the patient. All dental care, from screening to procedures and subsequent follow-up, was carried out in a school clinic during the discipline of Supervised Internship for People with Disabilities.

The reported case is a 48-year-old female patient diagnosed with severe intellectual disability, presenting according to the International Classification of Diseases, ICD 10 F 72, referring to severe mental retardation. She routinely uses the antipsychotic drugs Olanzapine and Amplictil.

The caregiver reported difficulty in the oral hygiene process, and there was resistance to performing it. He had general characteristics such as difficulty in speech and communication, impaired cognition, impaired motor coordination, and slowness in perceiving commands. In addition, the patient was unable to keep her mouth open without the use of personalized mouth openers, which limited indirect vision with the use of mirrors on the elements used with the support of the opener.

The patient presented for treatment with a recent panoramic X-ray. Periapical radiographs were not requested due to limited mouth opening. Intraoral clinical examination revealed the following demands: Inadequate control of bacterial plaque; Presence of generalized dental calculus; Root remains; Tooth element with extensive carious lesion (21).

Figure 1 – Panoramic X-ray

Fonte: Kiill LKC, et al., 2023.

Based on the intraoral clinical examination and the anamnesis obtained, the treatment plan was prepared prioritizing the removal of the foci of infection. Initially, supragingival scaling was performed with manual curettes to remove the tartar present, and it was not possible to use ultrasound in view of the limitation of mouth opening and the gagging reflex.

Subsequently, the extractions of the root remnants were performed, with the surgical procedures completed in two sessions. The anesthetic of choice was lidocaine solution with epinephrine 1:100,000, and the surgical technique was conducted in the most atraumatic way possible, aiming at a better postoperative response.

After one week, the sutures were removed and the periapical radiograph of element 21 was taken to choose the appropriate treatment **(Figure 2).**

Figure 2 – radiographic status of element 21;

Fonte: Kiill LKC, et al., 2023.

Although the periapical radiographs did not present ideal quality and positioning, in view of the limitation of the patient compatible with her diagnosis, it was observed that dental element 21 had an extensive carious lesion, with pulp involvement, requiring endodontic treatment.

Based on the restrictions of the case, related to the mouth opening and the absence of the lower posterior elements after the extractions, making it impossible to use the mouth opener, conventional endodontics would not be possible. Other factors were associated with the choice of the modified treatment, such as: reduced visualization of the operative field, the need to reduce work time in order

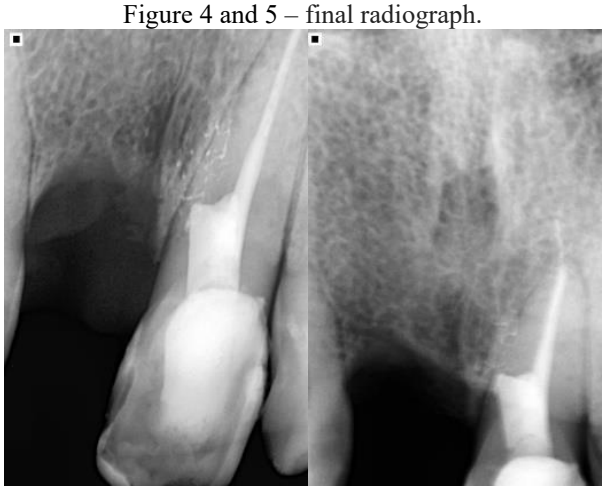
to improve the patient's comfort and conditioning, and the presence of a carious lesion on the buccal surface of the element with destruction of the structure.

Thus, the endodontic technique was adapted, modifying the procedure to a coronary opening performed through the buccal surface **(Figure 3).** In view of the above, aiming at a procedure that would bring greater agility, we opted for the use of a rotary instrument. After filling the root canal, the element was restored with composite resin. By means of the final radiograph, it was observed that there was a deviation in the root canal, and consequently, extravasation of the endodontic cement to the region **(Figures 4 and 5).** In view of the intercurrence, it is essential to follow up and control it later.

Figure 3 – coronary opening through the buccal surface;

Fonte: Kiill LKC, et al., 2023.

Figure 4 and 5 – final radiograph.



Fonte: Kiill LKC, et al., 2023.

Figure 6 – Follow-up X-ray 10 months after the procedure.

Fonte: Kiill LKC, et al., 2023.

3 DISCUSSION

According to Anders PL, et al. (2010), individuals with ID have limited manual dexterity, including oral hygiene, resulting in plaque accumulation. Therefore, they have high rates of caries and periodontal disease. The patient's oral health was precarious, with the presence of foul odor, root remains, carious lesions and dental calculus.

For these patients Camoin A, et al. (2018), attest to the complexity of simple dental procedures, precisely because of the difficulty in communicating and expressing feelings. As an aggravating factor, the fact that preventive practices are neglected is mentioned, that is, when they are taken to the dental office, the oral health picture is sometimes deficient; This was legitimized by the caregiver during the anamnesis, who pointed out the difficulty in performing oral hygiene, due to the fact that the patient presented an imperative and unfavorable behavior.

Usually, patients with special needs have difficulty expressing feelings and emotions, such as pain and fear. Despite this, it should be noted that the DC should be attentive to body language, facial expressions and movements, due to the possibility of being a way of transmitting sensations and disturbances (AMORIM CS, et al., 2020).

In this process, the inclusion of behavioral management techniques is integrated, which must be known by the professional, in order to reduce the stress that may be triggered during care (PUCCINELLI CM, et al., 2021). In this study, the fundamental deliberation of dental treatment was the removal of infectious foci and adequacy of the oral cavity, seeking to offer humanized care focused on the patient's needs.

Another important factor to be considered would be the behavioral aspects and other associated comorbidities; which corroborates when we also associate such characteristics with the use of medications, such as the antipsychotics used by the patient in this report, which validates the literary description, that ID is commonly accompanied by a psychiatric disorder (SÁ PKS, et al., 2022).

Amplictil and Olanzapine are drugs indicated for the treatment of psychiatric disorders (MACHADO FB, et al., 2009).

Accordingly, the continuous use of some medications induces alterations in the oral cavity, especially xerostomia and hyposalivation, favoring the development of periodontal disease and caries, which strongly corroborates the dental clinical picture exposed in this study (CARVALHO EMC and ARAÚJO RPC, 2004).

More complex dental treatments, such as surgeries, are commonly performed in a hospital environment, under general anesthesia, in order to ensure greater safety and comfort for the patient. The choice of this approach is chosen mainly in cases where the individual is not reassured through behavioral management techniques (SÁ PKS, et al., 2022). With regard to tooth extractions, despite the specificities of the case, they were performed without difficulties and quickly, and it was possible to perform them in the office, with no need to adapt the surgical technique. In addition, there were no postoperative complications.

Endo MS, et al. (2015) emphasize that endodontic treatment has success rates that can vary according to several factors, one of them being the number of sessions, and that in cases of pulp necrosis, the literature is controversial; however, Soares JA and César CAS (2001) note the advantages of performing endodontic treatment in just one session, with clinical success attested even in cases of pulp necrosis; therefore, it was decided to perform the procedure in a single session because the patient was a patient with ID.

Endodontic treatment encompasses several steps that are essential for the success of the procedure, and recommends pre-established points of choice for the beginning of coronary opening, and in incisors, the point traditionally described is the lingual or palatal surface (SHABBIR J, et al., 2021).

Nissan J, et al. In 2007, they conducted a study with maxillary incisors, alternating the coronary openings through the buccal or lingual surface. When the fracture strength was compared, they concluded that the different endodontic accesses did not affect the failure resistance of the maxillary incisors under simulated occlusal loading. Subsequently, Logani A, et al. (2009) emphasize that the use of the buccal face as a coronary opening has been studied as a way to save tooth structure, especially in cases of indication for dental veneers. In this report, the opening through the buccal surface was an adjustment chosen, due to the patient's conditions; aiming to be a more conservative method, but a subsequent follow-up is necessary, mainly due to the scarcity in the literature regarding the prognosis of modification of the conventional technique.

Regarding this fact, the final radiographic examination showed an image suggestive of a deviation in the root canal, possibly because of an accident during coronary opening, which may or may not be associated with changes in the conventional technique. Validating this justification, Miranda

EG, et al. (2012) confirm that the anatomy of root systems is complex and adverse events can occur in different circumstances in the dental context, making endodontic treatment difficult. For this reason, the importance of the basic care necessary for the success of the procedure is highlighted.

Even so, it is noteworthy that the complications were not enough to impair the success and prognosis of the case, considering that the patient remained without pathognomonic signs during the months after the procedure **(Figure 6).**

It may be considered that the care of patients with disabilities should be adequate and personalized according to their conditions and limitations, in addition, the ability to cooperate during treatment should be considered. Therefore,dentists must know the conditioning techniques, mainly because dental care for these patients is sometimes neglected. It is noteworthy that empathy is important to perform the procedures, which must be in conjunction with scientific knowledge and correct technical application, seeking to offer a humanized treatment. The procedures performed on the patient were adapted according to her needs, aiming to deliver a better quality of life and comfort through the improvement of oral health.

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