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Behavior of stomatological emergencies of dental origin. Mario Pozo Ochoa Stomatology Clinic. 2022-2023

Comportamiento de las urgencias estomatológicas de origen dental, Clínica Estomatológica Mario Pozo Ochoa. 2022-2023

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ABSTRACT

Introduction: emergencies of dental origin develop in the tooth itself; Within this group of diseases are dental caries and its complications, as well as dental trauma.
Objective: to describe the behavior of stomatological emergencies of dental origin in patients treated in the Teaching Department of the Mario Pozo Ochoa Stomatological Clinic during the period from January 2022 to April 2023.
Method: an observational, descriptive, cross-sectional study was carried out. The universe consisted of all patients who came with a stomatological emergency of dental origin; 109 were selected through non-probabilistic sampling. The variables studied were: age group, sex, reason for consultation, nature of the emergency, type of dental emergency, dental emergency. The sources used were: observation and Individual Clinical History.
Results: the female sex predominated for 62,4 % and the age group of 48-65 years for 39,5 %. 33 % of the patients came to the clinic reporting pain. Inflammatory emergencies predominated. Caries emergencies and their complications were present in 84,4 % of the sample. Among stomatological emergencies of dental origin, acute dentoalveolar abscess prevailed in 25,7 % of patients.
Conclusions: the most affected patients were between the fourth and sixth decades of life and belonged to the female sex. They came to the consultation motivated by the pain caused by caries and its complications; Acute dentoalveolar abscess was the most common emergency.

Keywords: Stomatological Emergencies of Dental Origin; Dental Caries; Dental Trauma.

RESUMEN

Introducción: las urgencias de origen dental se desarrollan en el propio órgano dentario; dentro de este grupo de enfermedades figuran la caries dental y sus complicaciones, así como los traumatismos dentarios.
Objetivo: describir el comportamiento de las urgencias estomatológicas de origen dental en pacientes atendidos en el Departamento de Docencia de la Clínica Estomatológica Mario Pozo Ochoa durante el período comprendido de enero 2022-abril 2023.
Método: se realizó un estudio observacional, descriptivo, transversal. El universo estuvo constituido por todos los pacientes que acudieron con alguna urgencia estomatológica de origen dental; se seleccionaron 109 mediante un muestreo no probabilístico. Las variables estudiadas fueron: grupo de edad, sexo, motivo de consulta, naturaleza de la urgencia, tipo de urgencia estomatológica, urgencias estomatológicas de origen dental. Las fuentes utilizadas fueron: observación e Historia Clínica Individual.
Resultados: predominó el sexo femenino para un 62,4 % y el grupo etario de 48-65 años para un 39,5 %. El 33 % de los pacientes acudieron a consulta refiriendo dolor. Predominaron las urgencias de naturaleza inflamatoria. Las urgencias por caries y sus complicaciones estuvieron presentes en 84,4 % de la muestra. Dentro de las urgencias estomatológicas de origen dental, prevaleció el absceso dentoalveolar agudo presente en el 25,7 % de los pacientes.
Conclusiones: los pacientes más afectados se encontraron entre la cuarta y sexta década de vida y pertenecieron al sexo femenino, acudieron a consulta motivados por el dolor producto de la caries y sus complicaciones; el absceso dentoalveolar agudo fue la urgencia más frecuente.

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Palabras clave: Urgencias Estomatológicas de Origen Dental; Caries Dental; Trauma Dental.

INTRODUCTION

An emergency is nothing more than a situation of pain, discomfort, sudden functional alteration, or trauma suffered by the patient in their surrounding environment, which causes them to seek treatment from a dentist. This requires the professional to provide rapid and effective treatment to the patient while also acting decisively and firmly in the surrounding environment to calm the crisis.[1]

Dental emergency rooms regularly receive patients who report suffering from various health problems, ranging from simple cosmetic issues to functional impairments or more complex situations. In this regard, dental professionals must be prepared to find a quick solution to these emergencies.[1,2]

Oral pain is a manifestation of actual or probable tissue damage. Tissue damage is perceived in the terminals of two types of nociceptive nerve fibers, which are distributed in the oral mucosa and dental pulp, providing an unpleasant sensory and emotional experience.[2]

Dental emergencies develop in the tooth itself and hurt the individual's health. This group of diseases includes dental caries and its complications, as well as dental trauma, which may be accompanied by bleeding in some instances.[1]

Dental caries is a condition that affects oral health, defined as the presence of one or more decayed (cavitated or non-cavitated), missing, or filled (due to caries) surfaces on any tooth, whether temporary or permanent. Caries have been considered the condition that most frequently alters oral health worldwide and significantly impacts the population's quality of life. Some studies claim that it affects 90 % of the world's population, making it the most prevalent oral disease today, mainly in countries in Asia and Latin America.[3,4] This condition causes pain and pulp inflammation, progressing through several stages until it invades the periapical tissues, leading to complications both locally and remotely, which can even cause death.

Rodríguez-Sánchez[5], Machado-Pina[6] and Graña-Dorta[7] who conducted research in East Timor, Camagüey, and Holguín, respectively, observed a gradual increase in the number of patients suffering from this disease.

On the other hand, dental trauma is damage to the teeth, bone, and other supporting tissues as a result of physical impact. They occur mainly in anterior teeth. Their dangerous effects can lead to the loss of the tooth. They are usually very painful and affect patients from a morphofunctional, aesthetic, and psychological point of view. They are the second leading cause of pediatric dental care after caries, especially in the municipality of Holguín.[8] Most authors agree that the most common cause of pulp injuries is bacterial invasion; microorganisms and their products can reach the pulp through a solution of continuity in the dentin, caries, or accidental exposure.[9] To diagnose these conditions, in addition to the signs found on clinical examination, it is necessary to assess the symptoms reported by the patient or accompanying family member, and in some cases, radiographic examination is used as an auxiliary means. Once the diagnosis has been established, immediate and appropriate treatment of the dental emergency is necessary to restore the function of the stomatognathic system as soon as possible, achieving relief and well-being for the patient.[10]

Taking into account the above and the lack of updated studies on the subject at the Mario Pozo Ochoa Clinic, as well as the functional and aesthetic consequences of these pathologies, the following scientific problem was formulated: What is the behavior of dental emergencies in patients treated at the Teaching Department of the Mario Pozo Ochoa Dental Clinic during the period from January 2022 to April 2023? This research aimed to describe the behavior of dental emergencies in patients treated at the Teaching Department of the Mario Pozo Ochoa Dental Clinic from January 2022 to April 2023.

METHOD

An observational, descriptive, cross-sectional study was conducted on the behavior of dental emergencies in patients treated at the Teaching Department of the Mario Pozo Ochoa Dental Clinic from January 2022 to April 2023. Universe and sample

The universe consisted of all patients who attended the Teaching Department of the Mario Pozo Ochoa Dental Clinic with a dental emergency that met the inclusion and exclusion criteria. The sample consisted of 109 patients and was intentional, not probabilistic.

Inclusion criteria

Patients who gave informed consent to participate in the research had no psychiatric disorders and belonged to the health area.

Exclusion criteria

Patients who presented a dental emergency that was not of dental origin.

Variables

The variables studied were age group, sex, reason for consultation, nature of the emergency, type of dental emergency, and dental emergencies of origin.

Methods

During the research process, theoretical methods (analytical-synthetic, historical-logical analysis), empirical methods (observation, documentary analysis), and mathematical-statistical methods (descriptive statistics) were used.

The intraoral evaluation was performed with adequate lighting, using a mouth mirror and probe. The teeth were examined from the second right molar to the second left molar of both arches, first vestibular and then lingual, always starting with the maxilla. Diagnosing dental emergencies was established through anamnesis, clinical examination, and periapical radiography as a vital complementary examination. The necessary materials (radiographic films, X-ray equipment) and human resources (radiology technician) were available. The results were filed in the Individual Medical Record.

Techniques for processing and analyzing the results

Clinical data on age, sex, reason for consultation, nature of the emergency, and dental emergency were collected from medical records and entered into a Microsoft Excel database on Windows XP. Microsoft Word 2010 was also used. The results were presented in tables and graphs, expressed as absolute and relative frequencies.

Ethical considerations

The informed consent of each sample member was obtained for participation in the study and authorization from the Medical Ethics Committee of the Mario Pozo Ochoa Dental Clinic. The ethical principles promulgated by the World Medical Association in the Declaration of Helsinki were used as a guide throughout the study. In addition, it was taken into account that the four fundamental ethical principles must conduct all research involving human subjects: respect for persons, beneficence, non-maleficence, and justice. The information obtained will be protected, and the basic principles of medical bioethics will not disclose the names of the participating patients.

RESULTS

Of the 109 patients who attended emergency dental consultations, 68 were female (62,4 %), and the most representative age group was 48 to 65 years (39,5 %) (table 1).

Table 1. Distribution of patients by age group and gender. Teaching Department. Mario Pozo Ochoa Dental Clinic. January 2022–April 2023

Age group	Sex				Total	
	Feminine		Male			
	No.	%	No.	%	No.	%
10-28	13	19,1	13	31,7	26	23,9
29-47	20	29,4	12	29,3	32	29,3
48-65	31	45,6	12	29,3	43	39,5
66-84	4	5,9	4	9,7	8	7,3
Total	68	62,4	41	37,6	109	100

The majority of patients reported pain during questioning as the reason for consultation (36), accounting for 33 % (table 2).

Table 2. Distribution of the sample according to reason for consultation

Reason for consultation	No	%
Pain	36	33
Inflammation	16	14,7
Pain and inflammation	22	20,2
Discomfort	18	16,5
Accident	9	8,3
Bleeding	8	7,3
Total	109	100

The majority of patients (53) presented with an inflammatory emergency (48,6 %), while no patients presented with oncological emergencies (table 3).

Table 3. Distribution of the sample according to the nature of the emergency

Nature of the emergency	No	%
Infectious	39	35,8

Traumatic	16	14,7
Inflammatory	53	48,6
Hemorrhagic	1	0,9
Oncological	0	0
Total	109	100

Emergencies caused by dental caries prevailed, with a total of 92 patients (84,4 %) (figure 1).

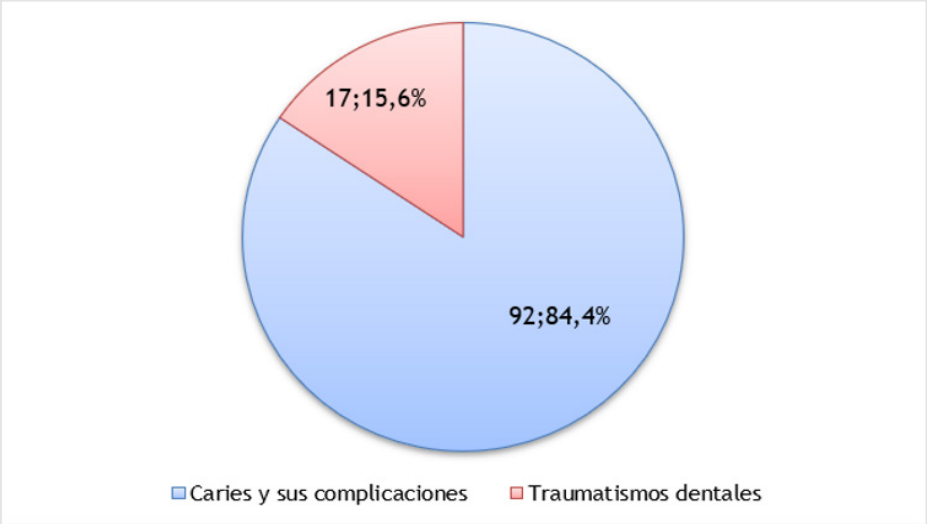

Figure 1. Distribution of the sample according to type of dental emergency

The number of patients who presented to the emergency department with acute dentoalveolar abscess prevailed, with a total of 28 cases, representing 25,7 % (table 4).

Table 4. Distribution of the sample according to dental emergencies

Dental emergencies	No	%
Pulp hyperemia	21	19,3
	18	16,5
Transient pulpitis	6	5,5
Acute irreversible pulpitis	8	7,3
Acute exacerbation of chronic alveolar abscess	0	0
Acute apical periodontitis	28	25,7
Acute dentoalveolar abscess	11	10
Odontogenic facial cellulitis	0	0
Enamel infracture	0	0
Uncomplicated crown fracture	7	6,4
Complicated crown fracture	3	2,8
Root fracture	3	2,8
Concussion	0	0
Subluxation	1	0,9
Dislocation	1	0,9
Dislocation	2	1,8
Total	109	100

DISCUSSION

The results of this study correspond to those obtained in studies by Graña-Dorta et al.[7], Álvarez-Hernández et al.[11], and Herrero-Solano et al.[12] conducted in the provinces of Holguín, Ciego de Ávila, and Granma, respectively, where a predominance of females was reported. However, it does not coincide with the results obtained by Dr. Rosello-Laguna[13], where males predominated

at 57,6 %; nor does it coincide with the study by Rodríguez-Sánchez et al.[5], where 51,9 % of patients were male, or with Yero-Mier et al.[14], where 60,4 % were male. The studies above differ in terms of the predominant age group.

Dental emergencies include symptoms such as pain, tissue inflammation, infection, and bleeding.[15] Mild dental pain is bearable, and, among other reasons, they ignore their condition due to the fear that most patients experience dental treatment; this is a warning sign, especially in patients with previous experiences of pain who seek emergency care promptly.[16,17]

Regarding why patients sought emergency care, the results obtained are similar to those of the study by Álvarez-Hernández et al.[11] where patients who reported pain predominated, accounting for 45,9 %.

In the studies by Álvarez-Hernández et al.[11] and Herrero-Solano et al.[12], inflammatory processes predominated, as in the present study.

Caries and their complications undoubtedly play a leading role in dental emergencies. This situation is reflected in the research data, which coincide with the studies by Graña-Dorta et al.[7], Álvarez-Hernández et al.[11], Herrero-Solano et al.[12], Hernández-Reyes et al.[18] and Chacón Najarro et al.[19], where pulp and periapical processes prevailed in more than half of the patients.

In the present study, acute dentoalveolar abscesses predominated among dental emergencies. This result coincides with those Herrero-Solano et al.[12] obtained for 18,96 % and Hernández-Reyes et al.[18] for 49,4 %. However, it does not correspond to those reported by Graña-Dorta et al.[7] and Rosello-Laguna[13], where reversible and irreversible pulpitis prevailed, respectively.

Although dental trauma was represented by a small number of patients in this study, it has maintained a significant prevalence over the years, which is reflected in several studies. It is necessary to educate legal guardians and educators on the conduct to follow in these cases, where the shorter the time the pulp is exposed to the oral environment, the greater the probability of success.

The authors of this study also consider that dental caries is a disease that requires special attention in today's society. Despite the health policies created, its prevalence continues to increase. This condition causes pain and pulp inflammation, progressing through several stages until it invades the periapical tissues, leading to complications both locally and at a distance. Complications that, if treated inadequately or late, can cause sequelae and even death of the patient.

We agree with the authors who recommend implementing educational programs supported by technology and communications. This is a novel and enjoyable way to convey information and knowledge to patients, which can positively influence the lifestyles of the Cuban population.[3,20]

CONCLUSIONS

The patients most affected by dental emergencies treated at the Teaching Department of the Mario Pozo Ochoa Dental Clinic were females between the ages of 40 and 60. They came to the clinic complaining of pain mainly due to tooth decay and its complications, with acute dentoalveolar abscess being the most common emergency.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

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Methodology: Yarisbeth Batista-Mariño, Luis Enrique Ricardo-Díaz.

Writing – original draft: Yarisbeth Batista-Mariño, Helen Gabriela Gutiérrez-Cristo, Mariam Díaz-Vidal.

Writing – review and editing: Luis Enrique Ricardo-Díaz.

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