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Peripheral odontogenic fibroma: A systematic review

Fibroma odontogênico periférico: Uma revisão sistemática

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Abstract

Background: Peripheral odontogenic fibroma (POF) is a rare benign mesenchymal odontogenic tumor, representing only 0.05% of biopsy specimens. Despite its rarity, POF is considered the most prevalent peripheral odontogenic tumor. Conducting a systematic review is essential to determine the predominant epidemiological, clinical, and histological characteristics of POF, assisting dentists in similar cases. Aim: This study aimed to elucidate the epidemiological,

clinical, and histological characteristics of POF through a systematic review. Methods: The systematic review followed the PRISMA criteria. The clinically relevant question was: What is the epidemiological, clinical, and histological profile of POF. Articles in English were included, with individuals (humans) with a histological diagnosis of POF. Literature review articles that did not define the type of lesion were excluded. The search was conducted in several databases until December 2016. Results: Of the 964 articles, only 49 were eligible. The most frequent epidemiological characteristics were white women between the 2nd and 4th decades of life. Clinically, the lesions were located mainly in the mandibular gingiva, with characteristics of a nodule, ulcerated or not, sessile, red, smooth, or lobed surface, and an average size of 1.71 cm. The main histopathological findings were the absence of ulceration of the superficial epithelium, fibrocellular connective tissue, with or without calcifications, non-encapsulated lesion, with abundant or scarce presence of islands and strands of odontogenic epithelium. Conclusion: This topic requires more articles with a higher level of scientific evidence, such as a systematic review, requiring greater scientific rigor in the quality of these articles.
Keywords: Odontogenic Tumor; Fibroma; Human.

Resumo

Contexto: O fibroma odontogênico periférico (FOP) é um tumor odontogênico mesenquimal benigno raro, representando apenas 0,05% dos espécimes de biópsia. Apesar de sua raridade, FOP é considerado o tumor odontogênico periférico mais prevalente. A realização de uma revisão sistemática é essencial para determinar as características epidemiológicas, clínicas e histológicas predominantes do FOP, auxiliando os dentistas em casos semelhantes. Objetivo: Este estudo teve como objetivo elucidar as características epidemiológicas, clínicas e histológicas do FOP por meio de uma revisão sistemática. Métodos: A revisão sistemática seguiu os critérios PRISMA. A questão clinicamente relevante foi: Qual é o perfil epidemiológico, clínico e histológico do FOP. Foram incluídos artigos em inglês, com indivíduos (humanos) com diagnóstico histológico de FOP. Foram excluídos artigos de revisão de literatura que não definiam o tipo de lesão. A busca foi realizada em diversas bases de dados até dezembro de 2016. Resultados: Dos 964 artigos, apenas 49 foram elegíveis. As características epidemiológicas mais frequentes foram mulheres brancas entre a 2ª e 4ª décadas de vida. Clinicamente, as lesões localizavam-se principalmente na gengiva mandibular, com características de nódulo, ulcerado ou não, superfície séssil, avermelhada, lisa ou lobada, e tamanho médio de 1,71 cm. Os principais achados histopatológicos foram ausência de ulceração do epitélio superficial, tecido conjuntivo fibrocelular, com ou sem calcificações, lesão não encapsulada, com presença abundante ou escassa de ilhas e cordões de epitélio odontogênico. Conclusão: Este tema requer mais artigos com maior nível de evidência científica, como uma revisão sistemática, exigindo maior rigor científico na qualidade desses artigos.
Palavras-chave: Tumor Odontogênico; Fibroma; Humano.

Resumen

Antecedentes: El fibroma odontogénico periférico (FOP) es un tumor odontogénico mesenquimatoso benigno raro, que representa solo el 0,05% de las muestras de biopsia. A pesar de su baja frecuencia, es el tumor odontogénico periférico más prevalente. Una revisión sistemática es fundamental para determinar sus características epidemiológicas, clínicas e histológicas, ayudando a los odontólogos en casos similares. Objetivo: Este estudio buscó esclarecer las características epidemiológicas, clínicas e histológicas del FOP mediante una revisión sistemática. Métodos: La revisión siguió los criterios PRISMA. La pregunta clave fue: ¿Cuál es el perfil epidemiológico, clínico e histológico del FOP? Se incluyeron artículos en inglés con diagnóstico histológico de FOP y se excluyeron revisiones sin una definición precisa de la lesión. La búsqueda se realizó en diversas bases de datos hasta diciembre de 2016. Resultados: De los 964 artículos revisados, solo 49 fueron elegibles. Las características epidemiológicas más frecuentes correspondieron a mujeres blancas entre la segunda y cuarta décadas de vida. Clínicamente, las lesiones se localizaron principalmente en la encía mandibular, presentando características de nódulo, ulcerado o no, con superficie sésil, rojiza, lisa o lobulada, y un tamaño promedio de 1,71 cm. Los principales hallazgos histopatológicos incluyeron la ausencia de ulceración del epitelio superficial, tejido conectivo fibrocelular con o sin calcificaciones, lesión no encapsulada y la presencia variable de islas y cordones de epitelio odontogénico. Conclusión: Este tema requiere más estudios con un mayor nivel de evidencia científica, como revisiones sistemáticas, que exijan un mayor rigor metodológico en la calidad de los artículos publicados.
Palabras clave: Tumor Odontogénico; Fibroma; Humano.

1. Introduction

Odontogenic fibroma is described by the World Health Organization (WHO) in 2022 as “a rare benign mesenchymal odontogenic tumor with variable amount of inactive-looking odontogenic epithelium with or without evidence of calcification”. This lesion can be found either inside the jaw bones or can be found in the buccal mucosa. Peripheral Odontogenic Fibroma (POF) is considered the extra bone equivalent of Central Odontogenic Fibroma (Alaeddini *et al*., 2010; Anand *et al*., 1967). This

lesion accounts for only 0.05% of biopsy specimens. Despite its infrequency, POF is regarded as the most common peripheral odontogenic tumor (Baiju & Rohatgi 2011).

Clinically, POF presents as a tough gingival mass, usually sessile, with slow, painless growth and similar color to adjacent mucosa (Anand *et al*., 1967; Bharathi *et al*., 2016; Bonetti *et al*., 2008). Radiographically, POF may have areas of radiopacity but does not affect the adjacent bone (Anand *et al*., 1967). The clinical differential diagnoses of POF are inflammatory fibrous hyperplasia, fibroma, peripheral ossifying fibroma, peripheral giant cell granuloma, and pyogenic granuloma (Brooks & Nikitakis 2011). The treatment is local excision of the lesion, and the prognosis is excellent with rare recurrences (Bharathi *et al*., 2016; Bonetti *et al*., 2008).

Studies and case reports have been describing this lesion in an isolated form, without grouping the information. It is important to report this lesion, so that the variations of its characteristics can be shown and it would help to establish the correct diagnosis, histopathology, treatment options and the recurrence rate (Reddy et al. 2014). In addition, it is essential to group this information with accuracy, so that a systematic review is necessary to determine the predominant epidemiological, clinical and histological characteristics of this lesion, since published literature show gaps in the diagnostic areas (Buchner *et al*., 2006), being this the purpose of the present study, which may help the dentist's conduct in similar cases. Systematic reviews help professionals to update themselves, summarizing large studies and discussing the difference from their point of view on a certain topic (Bosco *et al.*, 2006). Systematic reviews of clinical and radiographic features of oral and maxillary lesions have been conducted in: melanoacanthoma (Cantudo-Sanagustín *et al*., 2016), inflammatory fibrous hyperplasia (Buchner *et al*., 2006), lymphoma (Cantudo-Sanagustín *et al*., 2016), odontogenic keratocystic tumor (Cook *et al.*, 1997), orthokeratinized odontogenic cyst (Daley & Wysocki 1994), and odontogenic glandular cyst.

The objective of the study was to identify the epidemiological, clinical and histological characteristics of POF, by a systematic review.

2. Methodology

Quantitative research was carried out concerning the number of articles selected and percentages (Pereira et al., 2018).

The protocol of systematic review was based on the criteria presented by Preferred Reporting Items for Systematic Reviews and Meta-Analyses, o PRISMA (Cook, Mulrow & Haynes (1997).

Clinically relevant question: What is the epidemiological, clinical and histological profile of POF?

Inclusion Criteria: Articles in English, with (human) individuals with histological diagnosis of POF and with, at least, one of each epidemiological, clinical and histological characteristic.

Exclusion Criteria: Literature review and articles that did not define the type of lesion (central or peripheral/odontogenic fibroma or ossifying fibroma).

Data sources: The search was made in the National Library of Medicine (NLM-interface PubMed), and the Virtual Health Library (VHL), Cochrane, Science Direct and Scopus, included in the platforms until the month of December 2016.

Terms used to search on PubMed: (((Peripheral odontogenic fibroma) OR ((((("Odontogenic Tumors"[Mesh]) AND "Fibroma"[Mesh])) AND ((((("Diagnosis"[Mesh]) OR odontogenic epithelium[Title/Abstract]) OR (nets[Title/Abstract] OR islands[Title/Abstract]) OR histopathology)) AND ((((((((((("Gender Identity"[Mesh]) OR "Sex"[Mesh]) OR male[Title/Abstract]) OR female[Title/Abstract]) OR man[Title/Abstract]) OR woman[Title/Abstract])) OR (((((("Age of Onset"[Mesh]) OR years[Title/Abstract]) OR Onset Age[Title/Abstract]) OR Age-at-Onset[Title/Abstract]) OR Age at Onset[Title/Abstract])) OR (((((((("Disease Attributes"[Mesh]) OR clinical characteristics[Title/Abstract]) OR Attribute, Disease[Title/Abstract]) OR Attributes, Disease[Title/Abstract]) OR Disease Attribute[Title/Abstract]) OR

nodule[Title/Abstract]) OR sessile[Title/Abstract]) OR pedicellate[Title/Abstract]) OR gingival mass[Title/Abstract]))) OR "Humans"[Mesh])))

The study selection was made in two phases. First, the search for articles, and data extraction were conducted independently and in duplicate. A third evaluator solved the differences on the cases. Initially, articles were withdrawn in duplicate, followed by deletion of articles that did not attend the eligibility criteria. In the second stage, articles were tabulated in Excel, following the process of data extraction, including inform. These outcomes described above were assessed.

To classify the patients in decades, the mean ation regarding the articles: a) authorship, year of publication, number of cases; b) epidemiological aspects: ethnicity and gender of participants, age; c) Anamnesis: signs and symptoms, time of evolution; d) Clinical aspects: location, fundamental lesion, ulceration, insertion, color, surface, size, dental displacement; e) histopathological aspects were odontogenic epithelium islands or cords, quantity, ameloblastoma-like epithelium, epithelium with differential for light cells, connective tissue type, superficial epithelial ulceration, basal cells in buds, presence of calcification, lesion encapsulated; f) recurrence.

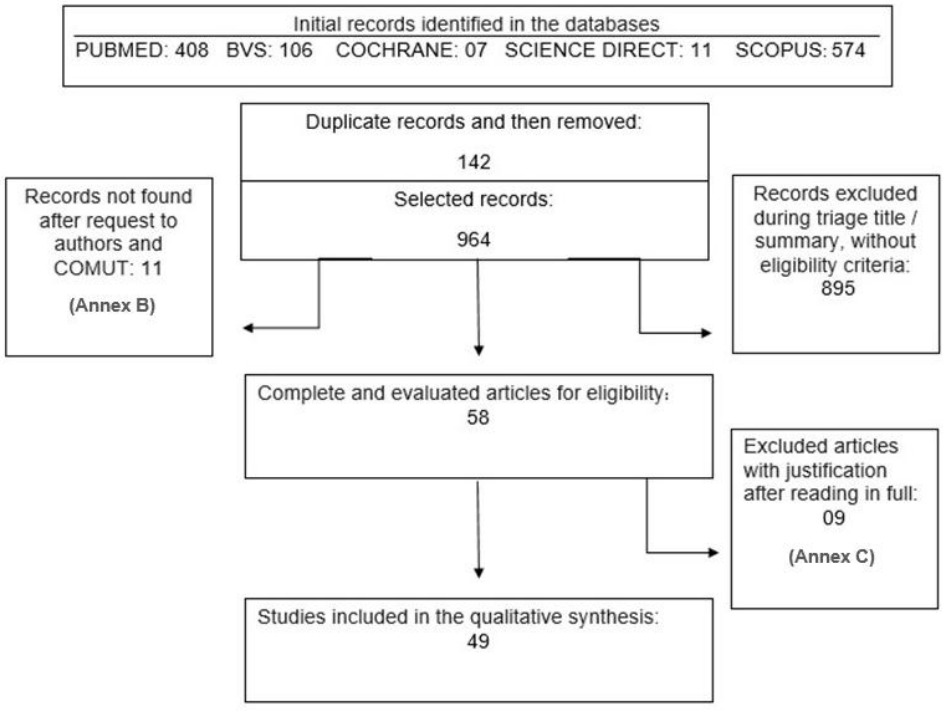
Age was made and converted into decades. For the evolution of the lesion, the average number of cases per article was obtained, and for the calculation of the size, the average was performed in cm per article.

With the intention of increasing the search for data, we check the list of references of the articles in an attempt to include new articles.

3. Results

Flow diagram 1 illustrates the process of article selection.

Figure 1 – Flow diagram of the process of article selection.



Source: Authors.

A total of 964 articles were found, of which 895 were excluded because they were not articles about POF and 1 article was excluded for doing an immunohistochemical study comparing with other lesions and not characterizing epidemiologically, clinically and histopathologically. Another 15 were excluded because they were articles found in other languages than English and 11 because they could not be found, even after requesting authors, bibliographic switching and attempted purchase, totaling 906 articles excluded in this stage of screening. The complete texts of 58 articles were read, and 9 were excluded because they were a review of the literature, two of peripheral fibroma (without determining whether it was odontogenic or ossificant), or ossifying peripheral fibroma, or for not showing at least one of each epidemiological, clinical and histological characteristic. A total of 49 studies fulfilled inclusion criteria, of these 28 articles were case reports and 21 articles with case series.

Of the 49 articles, 539 cases of patients with POF were identified. The 539 cases of POF constituted a single group, and the collected results were evaluated within this group for epidemiological, clinical, and histopathological characteristics. The primary observations indicated a prevalence among individuals in the 2nd and 4th decades of life, particularly among white women, whether symptomatic or asymptomatic, with an average progression time of 3.04 years (Table 1).

Table 1 - Authorship, year of publication, number of cases, age, sex, ethnicity of individuals, signs, and effects and time of evolution in cases of peripheral odontogenic fibroma.

References	Year	Number of cases	Age (Decade)	Sex	Ethnicity	Signals and symptons	Evolution (years)
Buckman	1958	1	6ª	F	Y	*	14
Farman	1975	10	Average3ª	6M/4F	9B/1W	10*	*
Lownie et al.[4]	1976	1	4ª	F	B	No	0.16
McGuff et al.	1981	1	2ª	M	W	No	0.33
Klein[17]	1982	1	3ª	M	W	*	0.16
Harisson et al.	1983	1	2ª	F	*	*	3
Pockrass et al.	1983	1	7ª	F	W	*	*
Mulcahy & Dahl	1985	52	Average4ª	13M/39F	47W/5*	52*	Average3.75
McGnnis & Ray	1985	1	3ª	F	W	No	2
Buchner et al.	1987	9	Average5ª	5M/4F	6W/2B/1Y	Bleeding: 1/ 8*	Average0.55
Buchner	1989	5	Average4ª	2M/3F	5*	5*	Average0.775
Kenney et al.	1989	13	Average2ª	8M/5F	8W/4B/1*	13*	*
Slabbert & Altini	1991	30	Average3ª	16M/12F/2*	28B/2*	30*	*
Michaelides	1992	1	6ª	F	W	No	0.08
Weber et al.	1992	3	Average3ª	1M/2F	2B/1W	3*	Average3
Ficarra et al.	1993	1	2ª	F	Wh	*	*
Daley & Wysocki	1994	36	Average4ª	12M/24F	14W/1B/21*	No: 7/ 29 *	Average2.24
Siar& Ng	1995	2	Average4ª	1M/1F	2Y	2*	Average1
Siar& Ng	1995	1	7ª	F	Y	*	0.33
Siar& Ng[30]	2000	46	Average4ª	20M/26F	46*	Pain. Bleeding: 16 / 30*	Average2
Flaitz	2001	1	2ª	M	B	No	*
Manor et al.	2004	2	4ª	*	2*	2*	*
Martelli-Júnior et al.	2006	1	1ª	F	W	*	0.33
Buchner et al.	2006	23	Average4ª	11M/12F	19W/2B/1Y	23*	*
Bonetti et al.	2006	1	2ª	M	W	*	3
Bosco et al.	2006	1	2ª	F	W	Discomfort	0.5
Garcia et al.	2007	17	4ª	2M/15F	11W/2B/4*	No: 4/13*	*
Rinaggio et al.	2007	1	6ª	F	*	No	0.16
Lin et al.	2008	25	Average4ª	9M/16F	25Y	25*	*
Ide et al.	2008	1	2ª	1F	Y	*	3
Alaeddini et al.	2010	19	Average 4ª	11M/8F	19*	19*	*
Ritwik & Brannon	2010	151	Average4ª	65M/86F	97W/46B/8*	151*	Average20
Ramachandra et al.	2011	1	2ª	M	*	*	10
Baiju & Rohatgi	2011	1	3ª	F	*	*	1
Brooks&Nikitakis	2011	1	3ª	F	W	Bleeding	6
Patel et al.	2011	1	4ª	M	W	No	*
Eversole	2011	40	4ª	13M/27F	40*	40*	*
Lin et al.	2011	12	4ª	6M/6F	12*	12No	Average1.5
Silva et al.	2012	1	2ª	F	W	No	1
Wood et al.	2012	1	7ª	F	*	*	*
Livada et al.	2013	1	3ª	M	B	No	2
Wu et al.	2013	10	Average4ª	7M/3F	10*	10*	*
Soileau	2013	1	6ª	F	B	*	10
Silva et al.	2013	3	Average3ª	2M/1F	1W/1B/1Br	3No	Average1.47
Reddy et al.	2014	1	5ª	F	B	*	1

Sreeja et al.	2014	1	6ª	M	B	No	0.5
Kumar et al.	2014	1	3ª	F	*	*	5
Truschnegg et al.	2015	3	Average3ª	3F	3*	3*	*
Bharathi et al.	2016	1	6ª	M	*	No	0.5
			1ª: 2.05; 2ª:20.40; 3ª:22.45; 4ª:32.65 5ª:4.08; 6ª:12.25;	219(40.63) M 316(58.62) F	218(40.45) W 107(19.85) B 32(5.94) Y 1(0.18) Br	19(3.52)Symptons 26(4.83) No	
Total (%)		539	7ª:6.12	4(0.75)*	181(33.58) *	494(91.65) *	Average: 3.04 years

Subtitle: M= male, F= female, Y= yellow, W= white, B= black, Br= Brown. *= not reported. Source: Authors.

The lesions were commonly located in the mandibular gums, either in the posterior or anterior region, exhibiting clinical characteristics such as nodules, whether ulcerated or not, with a sessile, red, smooth, or lobed surface, and an average size of 1.71 cm (Table 2).

Table 2 - Variable, number of cases, location, jaw involved, region, fundamental lesion, presence of ulceration, insertion, color, surface, size and dental displacement peripheral odontogenic fibroma.

Variable/ total (%)	Location	Maxilla or mandible	Region	Lesion	Ulcerated	Insertion	Color	Surface	Size (cm)	Tooth dislocation
	8 (1.49) AR	257(47.69)Md	92(17.06) Posterior				5(0.93)Pk			
	495 (91.84)G	190(35.25)Mx	82(15.40)	213(39.52)N	74(13.73)Yes	192(35.62)S	112(20.77)R	20(3.72) Sm		14(2.60) Yes
	36 (6.67)*	92(17.06) *	Anterior	111(20.60)I	86(15.95)No	93(17.25)P	42(7.80)SM	12(2.22) Lo	Average	65(12.05)No
539			364(67.54)*	196(39.88)*	379(70.32)*	254(47.13) *	380(70.50)*	507(94.06)*	size= 1.71	460(85.35)*

Subtitles: AR= Alveolar ridge, G= Gum, Md= Mandible, Mx= Maxilla, I= Increase of volume, N= Nodule, S= Sessile, P= Pediculated, Pk= Pink, R= Red, SM= Similar to mucosa, Lo= Lobed, Sm= Smooth *=No relatated. Source: Authors.

Histologically, the prevalent findings included non-superficial epithelial ulceration, fibrocellular connective tissue, with or without calcifications (mainly cementoid and occasionally bone), and non-encapsulated lesions. The lesions demonstrated either abundant or sparse presence of islands and cords of odontogenic epithelium (Tables 3 and 4).

Table 3 - Variable, number of cases, degree of surface epithelium ulceration, connective tissue type, presence of calcifications and capsule.

Variable/total (%)	Degree of surface epithelium ulceration	Connective tissue type	Calcification	Bone	Cement	Dentin	Dystrophic calcification	Capsule
	132(24.48) NU	220(40.82) FC/						
	/28(5.20)MOD/	146(27.08) MX/	234(43.41)No					2(0.37) Yes
539	12(2.23) EU/	14(2.60) HF/	248(46.01)Yes	116(21.52)Yes	118(21.89) Yes	28(5.20) Yes	42(7.80) Yes	102(18.92)No
	367(68.09)*	159(29.50)*	57(10.58)*	423(78.48)*	421(78.11)*	511(94.80)*	496(92.20)*	435(80.71)*

Subtitles: NU= Not ulcerated, Mod= moderate, EU= extensively ulcerated, FC= fibrocellular, MX= myxoide, FH= hyalinized fibrous, *=Not informed. Source: Authors.

Table 4 - Variable, number of cases, islands and cords of odontogenic epithelium, amount ameloblastoma like epithelium, epithelium with differential for clear cells, basal cells in shoots of peripheral odontogenic fibromas.

Variable / total (%)	Islands and cords of odontogenic epithelium	Amount	Ameloblastoma-like epithelium	Epithelium with differential for clear cells	Basais cells in shots
		74(13.73) Abundant			
	463(85.90) Yes	39(7.24) Moderate			
539	48(8.90) No	74(13.73)Scarce	5(0.93) Yes	3(0.55) Yes	39(7.23) Yes
	28(5.20)*	352(65.30)*	534(99.07)*	535(99.45)*	500(92.77)*

*= Not informed. Source: Authors.

Table 5 show the main difficulties found in the moment of data extraction and analysis.

Table 5 - Difficulties found each article.

Ref.	Incomplete clinical data	Incomplete histopathological data	Lack of images	Difficult to see image	Subtitles with missing information	Information not described. which needed to be collected through image analysis	Grouping of data in a serie of cases. without individualizing each case
Total	36	23	24	13	5	23	16
(%)	(73.46)	(45.93)	(48.97)	(26.53)	(10.20)	(46.93)	(32.65)

Source: Authors.

The most part of articles and cases were from the United States of America, being 19 published articles and 56,03% from the total of cases studied (539).

4. Discussion

This article shows a systematic review about the epidemiological, clinical and histopathological characteristics of the peripheral odontogenic fibroma, including 539 cases. The main findings were predominance in: 2nd and 4th decade of life, white women, symptomatic or not, with an average evolution time of 3.04 years, located in mandibular gums, posterior or anterior region, and clinical characteristics of nodule, ulcerated or not, sessile, red, smooth or lobed surface, and average size 1.71cm. The predominant histological findings were non-superficial epithelial ulceration, fibrocellular connective tissue, presenting or not calcifications (bone and mainly cementoid), non-encapsulated lesion, with abundant or sparse presence of islands and cords of odontogenic epithelium.

Comparing to WHO data presented in 2017, that says POF occurs twice times more in women than in men, we verified in this review a proportion of 1.44: 1 women/men. The peak age is between 2nd and 4th decades of life was the same of this study. It also describes the lesion as a sessile gingival mass that is compatible with the great frequency of nodules and increased volume showed by the read articles. About the surface of the lesion being intact we verified that it can be or not ulcerated. About the location, on the anterior region of gums, it was verified that the lesion may occur both anterior or posterior region with similar frequency.

In 85.90% of the articles, odontogenic epithelium was present in connective tissue, while 8.90% of the articles studied did not report the presence of odontogenic epithelium, but the authors declared that it was a POF. WHO (2017) affirms that the amout of odontogenic epithelium can be variable and reinforces that the epithelium may vary from totally absence till being conspicuous characteristic (Alaeddini et al., 2010). It corroborates with Daley & Wysocki (1994) that says that both epithelial and mesenchymal elements are required for diagnosis. Besides this, the absence of odontogenic epithelium difficulties the diagnosis of peripheral fibroma as odontogenic origin (Anand *et al.*, 1967). So, we suggest that more studies should be done about this. Despite WHO classification (2017), that defines POF epithelium as inactive-looking, 0.93% of the cases the odontogenic epithelium looked like ameloblastoma. In some cases, the proliferation of odontogenic epithelium is so strong that is difficult to distinguish from peripheral ameloblastoma. This proliferation, associated with the involvement of the superficial mucosa, as observed in two cases reported by Siar & Han (1996), is favorable to peripheral ameloblastoma diagnosis. However, the authors state that the small size of the lesions and confinement of epithelial odontogenic compound in peripheral region of the tumors and the absence of invasion in adjacent soft tissues and underlying bone are findings that favor POF diagnoses.

One of the major challenges of the search for articles was to determinate the keywords. The key word "peripheral odontogenic fibroma" is not indexed on MESH, which made necessary to include the term MESH "odontogenic tumors". Thus,

the search became very broad, and even conditioning terms like fibroma, associated with odontogenic epithelium, islands or cords or histopathological, ended up covering a large number of odontogenic lesions other than POF. If there were not included in the search for the term "odontogenic tumors", 10 (20.40%) of the 49 articles would be not found. This demonstrates that it is necessary to associate the keyword with a MESH term, when one is not found in a database, even if it expands the number of initial search articles. In an earlier systematic review about other lesion, it has been shown that the use of the term MESH associated with a keyword, separated for Boolean expressions AND / OR, fears its more efficient search (Doyle *et al.,* 1985), being this same effect in the present systematic review.

At the moment of data extraction, new challenges arose: incomplete clinical and histopathological data, lack of images, images difficult to visualize, missing information captions, non-described information that needed to be collected through image analysis, series of cases, without identifying each case. The only information present in 100% of the cases was age, and for the others, there was a variation in the absence of information from 0.75 to 99.45%. It limits the identification precision of the POF characteristics. These findings reveal the limitation of the present study and emphasize the importance of considering all the characteristics of an injury at the moment of elaboration of a clinical case or series of cases. The lack of information in articles of reports and series of cases was described in previous articles (Cook *et al*.,1997).. These findings reveal the need for greater scientific rigor in the quality of case reports and case series.

Regarding the lack of images, images difficult to visualize, subtitles with missing information, these points make it difficult to view the clinical case, therefore, the present study highlights that these aspects are observed both at the time of writing the article and at the moment of the review when they are submitted for evaluation of journals. The greatest proof of the importance of adding the images of the case is that some punctual information that was not in the written form of the text was collected through image analysis, which occurred in 23 articles.

The articles of case series did not individualize the characteristics of each case, revealing the frequency of each characteristic in the sample, which led the authors of the present systematic review to consider the average in some situations, such as age, time evolution and size of the lesion. The present study alerts that further articles in case series show the characteristics of the lesions, individualized, case by case, if possible in the article or as supplementary material.

Therefore, the present study highlights standardization when describing a clinical case, a series of cases or an epidemiological study containing all possible clinical-epidemiological and histological variables. Of the articles analyzed, 28 were case study and 21 were case series. It was not included in this systematic review an article that comparatively evaluated, through immunohistochemistry for PCNA and AgNORs' technique, POF with the central variant and ossifying fibroma, because the epidemiological, clinical and histopathological characterization of the sample of this article was not revealed (Wu 2013). These 49 articles included in this study, associated with this last one mentioned, reveal that the literature on peripheral odontogenic fibroma is poor in papers with a higher level of scientific evidence, such as a systematic review.

The research of articles was restricted until December 2016. The year 2017 was used for the preparation of the present study, however, updated research was conducted, where no new articles were found to be analyzed and recorded in our data.

5. Conclusion

This review highlighted gaps in the current literature related to the incomplete description of lesion characteristics, indicating the necessity for additional high-quality research to address these limitations. Anyway, within these limitations, it was possible to identify peripheral odontogenic fibroma is more common in white women, between 2nd and 4th decade of life, characterized as red nodule on both posterior and anterior region of de mandibule, with lobulated or smooth surface.

This study may serve as a valuable tool for clinicians in identifying the lesion, enabling clinical diagnosis, and for oral pathologists in recognizing its histopathological characteristics, allowing for accurate histopathological diagnosis and facilitating

the proper management of POF. The accurate diagnosis of the lesion, facilitated by the compilation of information presented in this article and the awareness of the need for publications addressing epidemiological, clinical, and histological characteristics in case descriptions, will be crucial for the study's potential impact on future research in this area.

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