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Clinical manifestations in children with tonsillar lymphoma: A systematic review

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Contents

1. Introduction 147
2. Materials and methods 147
3. Results 147
4. Discussion 148
5. Conclusion 150
Conflict of interest 150
Reviewers 150
Acknowledgments 150
References 150
Biographies 151

Abstract

Background: The lymphoma is the most common childhood malignancy in the head and neck. Approximately 15% of head and neck lymphomas in children affect the Waldeyer's ring. Early diagnosis and treatment are of great importance in the prognosis of tonsillar lymphoma patients.
Objectives: To realize a systematic review of the literature on the clinical manifestations present at diagnosis of tonsillar lymphoma in pediatric patients.
Date Source: Articles in English, Spanish or Portuguese in the last 15 years about lymphoma in palatine tonsil in children from PubMed/Medline, LILACS, IBECS, Cochrane, SCIELO, BIREME and Scopus.
Study eligibility criteria: It was included articles and case reports that covered the pediatric age group, up to 18 years old and that contained information of the clinical manifestations of tonsillar lymphoma at diagnosis.
Results: We found 87 articles of which 18 were included; there were 66 cases of lymphoma of palatine tonsils. The most common clinical manifestations found in children with lymphoma in palatine tonsils were unilateral tonsillar enlargement (72.7%), alteration in appearance of the tonsil (45.4%) and cervical lymphadenopathy (30.3%). The presence of B symptoms occurred in only 16% of the patients. Burkitt was the most common type of lymphoma found.
Conclusion: The most common clinical manifestations of lymphoma in palatine tonsil are the tonsils asymmetry, alteration in the appearance of the mucous and cervical lymphadenopathy. A detailed description of cases of lymphoma in palatine tonsils and the use of criteria for classification of tonsillar asymmetry are important for future revisions.

Keywords: Lymphoma; Children; Tonsillar neoplasm; Tonsil; Adolescent

Abbreviations: NHL, non-Hodgkin lymphoma; PT, palatine tonsils.

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1. Introduction

Lymphoma is the third most common childhood malignancy, accounting for about 12% of all cancers in people under 15 years old [1].

Among children lymphoma is the most frequent malignant tumor in the head and neck. The non-Hodgkin lymphoma (NHL) is the most common type [2] and its usual presentation is as chronic cervical lymphadenopathy [2–4]. The extra-nodal involvement is more common in NHL when compared to Hodgkin's lymphoma, and the palatine tonsils (PT) are the most frequent site of involvement for extra-nodal NHL [3]. Extra-nodal involvement in the head and neck occurs in 4-20% of patients with NHL [5,6].

Roh et al. evaluated 45 children with lymphoma of the head and neck and in 15% of these cases, the Waldeyer's ring was involved and all were diagnosed as NHL [7]. NHL is responsible for about 90% of lymphoma cases involving Waldeyer's ring [8].

As for the prognosis of patients with PT lymphomas, several authors found an association with a greater disease-free survival and overall survival and the initial stage, according to Ann Arbor Stage System [4,5,9,10]. Gao and collaborators found that the size of the tonsillar lymphoma also has direct relationship with the prognosis [11]. Whereas staging is related to duration of disease, the early diagnosis and treatment is of great importance for a better prognosis of patients with PT lymphoma.

Considering that doctors interpret a clinical sign as a clue to a disease, is critical to know what are the main clinical manifestations of tonsillar lymphoma in children, and their frequencies, to help doctors know what is important to pay attention for to identify suspected cases.

The aim of this study was a systematic review of the literature on the clinical manifestations of tonsillar lymphoma in pediatric patients to identify which are the clinical manifestation and their frequencies. No studies with a high level of evidence on this subject were found in worldwide literature.

2. Materials and methods

A systematic literature review was performed by searching databases at PubMed/Medline, LILACS, IBECS, Cochrane, SCIELO, BIREME and Scopus.

The research covered articles in English, Spanish and Portuguese, related to tonsillar lymphoma in children from January 1996 until June 2012.

The year of 1996 was chosen to simplify the search because there were only a few articles written before this year and most of them were not available on the Internet.

The MeSH terms and free text words used were "tonsillar lymphoma and children." Only two authors were responsible for selecting all the articles that had been completely read. The inclusion of these articles was reviewed by the two authors.

Table 1
Articles included in the systematic review and the number of patients diagnosed with lymphoma in each study [12–29].

Author [12–29]	Country	Patients with lymphoma	Age: Median (years)
Tewfik et al. [12]	Canada	3	10
Berkowitz et al. [13]	Australia	7	5
García-Ortega et al. [14]	Spain	1	10
Broughton et al. [15]	USA	1	×
Smitheringale et al. [16]	England	5	2
Maitra et al. [17]	USA	1	7
Banthia et al. [18]	USA	1	14
Carvalho et al. [19]	Brazil	1	5
Willians et al. [20]	USA	1	2
Garavelo et al. [21]	Italy	2	7
Sayed et al. [22]	USA	29	7
Gheoghe et al. [23]	USA	1	10
van Lierop et al. [24]	South Africa	1	×
Dolev et al. [25]	Canada	6	9.5
Papouliakos et al. [26]	Greece	1	6
Zeglaoui et al. [27]	Tunisia	1	5
Sturm-O′Brien et al. [28]	USA	2	×
Guimarães et al. [29]	Brazil	2	8
Total		66	7

×: children without specified age.

Articles and case reports were included covering the pediatric age group, considered up to 18 years old that contained information of the clinical manifestations of tonsillar lymphoma at diagnosis. Review articles without description of clinical cases, and those that did not clearly define the presence or absence of tonsillar lymphoma for each patient were excluded. Only the cases of lymphoma that were confirmed by histopathological examination were included. Considering that TP lymphoma in children is a rare condition, all case reports matching our criteria were included to increase the sample size and to avoid the loss of any potentially important information.

The evaluated data of the articles were: number of cases of PT lymphoma, gender, age, type of study, unilateral tonsillar enlargement, altered mucosa, fever, lymphadenopathy, weight loss, dysphagia, immunosuppression, previous radiotherapy, symptoms of snoring or apnea, type of lymphoma, also considered was the origin of the article, authors, year of publication, and other information considered relevant by the authors (local pain, voice alteration, treatment of acute bacterial tonsillitis without improvement and auricular fullness). During the evaluation of reported information in the articles clinical manifestations not mentioned were considered absent.

3. Results

There were 87 articles found after the research that were evaluated and completely read by the researchers, in which 18 (20.6%) met the inclusion criteria, all of then were transversal studies (Table 1).