Scholars LITERATURE

La Prensa Medica Argentina

Research Article

DOI: https://doi.org/10.47275/0032-745X-381
Volume 108 Issue 6

Parotid Tumors in Pediatric Population: 10 Years of Experience

Oliva AR*, Udaquiola J, Lobos PA, Moldes JM and Liberto DH

Pediatric General Surgery Service, Italian Hospital of Buenos Aires, Buenos Aires, Argentina

Abstract

Introduction: Salivary gland tumors are rare in the general population and comprise less than 3% of head and neck tumors. In pediatrics, 90% correspond to tumors of the parotid gland being mostly benign tumors.

Objective: To describe the incidence of parotid tumors in a reference center, emphasizing the etiological variability and the presentation by age groups.

Materials and methods: This is a retrospective cohort study of patients under 18 years of age with parotid tumors over a period of 10 years: from 2011 to 2021, followed up at the Pediatric General Surgery Service of the Italian Hospital of Buenos Aires. All pediatric patients who presented tumors in the parotid region followed up or treated in this center were included, those who could not collect the data completely were excluded. The variables analyzed were age, sex, a form of presentation, complementary studies, type of treatment, histology, and complications.

Results: A total of 33 patients were analyzed, of which 64% (N = 21) were women, with a female/male ratio of 1.7. The mean age at diagnosis was 8.5 years, with 2 prenatal diagnoses and up to 18 years. The location was 57% (N = 19) left, and the remaining 43% right. The most frequent form of presentation was a palpable mass in the parotid region 75% (N=25), in two patients it was a finding in imaging studies: prenatal MRI and another by brain MRI.

Conclusions: In pediatrics, unlike the adult population, a wide variety of diagnoses are presented, ranging from vascular lesions to malignant tumors. Because malignant parotid lesions are clinically indistinguishable from benign ones, it is important to establish an accurate diagnosis. This series represents this etiological diversity in pediatrics, as well as the age distribution compared to that described in the literature.

Keywords: Parotid Tumors; Pediatric Population

Correspondence to: Oliva AR, Pediatric General Surgery Service, Italian Hospital of Buenos Aires, Buenos Aires, Argentina

Citation: Oliva AR, Udaquiola J, Lobos PA (2022) Parotid Tumors in Pediatric Population: 10 Years of Experience. Prensa Med Argent, Volume 108:6. 381. DOI: https://doi.org/10.47275/0032-745X-381

Received: December 05, 2022; **Accepted:** December 21, 2022; **Published:** December 26, 2022

Introduction

The tumors of the salivary glands are uncommon in the general population and comprise less than 3% of head and neck tumors [1]. In pediatrics, 90% correspond to tumors of the parotid gland, mostly benign tumors [2].

The most frequent presentation is the increase in local volume, the majority being asymptomatic, in some cases, it can be accompanied by inflammatory signs. They usually present multiple differential diagnoses, with various etiologies and consequently various types of treatment.

According to the bibliography, pleomorphic adenoma (AP) is the most common tumor, in 60% of cases, followed by mucoepidermoid carcinoma (CME), which represents 25% of epithelial tumors [3]. In pediatrics, vascular tumors and malformations are added to this diversity.

Objectives

Describe the incidence of parotid tumors in a reference center, emphasizing etiological variability and presentation by age groups.

Materials and Methods

This is a retrospective cohort study of patients under 18 with parotid tumors in a period of 10 years: from 2011 to 2021, followed in the Pediatric General Surgery Service of the Italian Hospital of Buenos Aires. All pediatric patients who presented tumors in the parotid region followed or treated in this center were included, those that could not be collected completely were excluded. The variables analyzed were age, sex, a form of presentation, complementary studies, type of treatment, histology, and complications.

Results

A total of 33 patients were analyzed, of these 64% (n = 21) were women, with a woman/man of 1.7. The average age at diagnosis was 8.5 years, being 2 prenatal diagnoses and up to 18 years. The location was 57% (n = 19) left, the remaining right. The most frequent presentation was the palpable mass in the parotid region at 75% (n = 25), in two patients it was a finding in image studies: prenatal resonance and another due to brain resonance.

In 100%, parotid ultrasound was performed with Doppler modality

as an initial complementary study, the resonance was requested by 60% and in 15% computed tomography was performed. Fine needle aspiration (PAAF) puncture was indicated in 14 patients (42%).

As for the etiology, they were classified, as shown in Figure 1, into vascular (45%) and non-vascular (55%), the etiologies according to frequency were the following: Children's hemangioma, Pleomorphic adenoma, lymphatic vascular malformation, Venous vascular malformation, Parotid cyst, Mucoepidermoid carcinoma, the rest is occupied by diagnoses not as frequent as granulomatous disease, acute lymphoblastic leukemia, oncocytoma, among others.

The treatments were performed according to the algorithm of the Pediatric Surgery and Urology Service of the Italian Hospital of Buenos Aires [4], and depended fundamentally on the pathology. 42% required surgical behavior, vascular malformations were treated with percutaneous sclerosis, vascular tumors with propranolol, surgery or expectant behavior according to the type of hemangioma (childish or congenital). The treatment of the pathology of the salivary glands was carried out according to IPSO Surgical Practice Guidelines.

If all the injuries are taken into account, 12% (n = 4) were of evil etiology, without difference between sex, being 2 women and 2 men. In these cases, the treatment was surgical and subsequently with chemotherapy and/or radiotherapy as the case may be. The patient with rhabdomyosarcoma required lung metastasis resection.

As for complications, most were lower as transient facial asymmetry, hypertrophy and scar-cycatric retraction, Frey syndrome, recurrence of disease, and hyperpigmentation after sclerosis of a lymphatic vascular malformation. There were two major complications, an Obito and a relapse of the disease.

Conclusion

With respect to the age distribution, which is represented in Figure 2, we find that, of the total parotid lesions, 20 were presented in children under 10 years and 13 between 10 and 18. As for non-vascular tumors (n = 19), 9 were presented in children under 10 years. This differs from what is previously published where they show less proportion of tumors in patients under 10 years [2]. Like literature, within benign tumors,

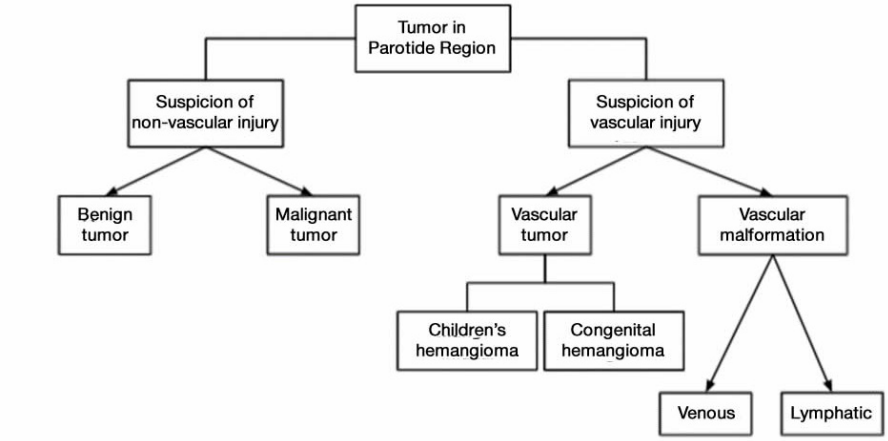

Figure 1: Represents the diagnostic algorithm used by the service.

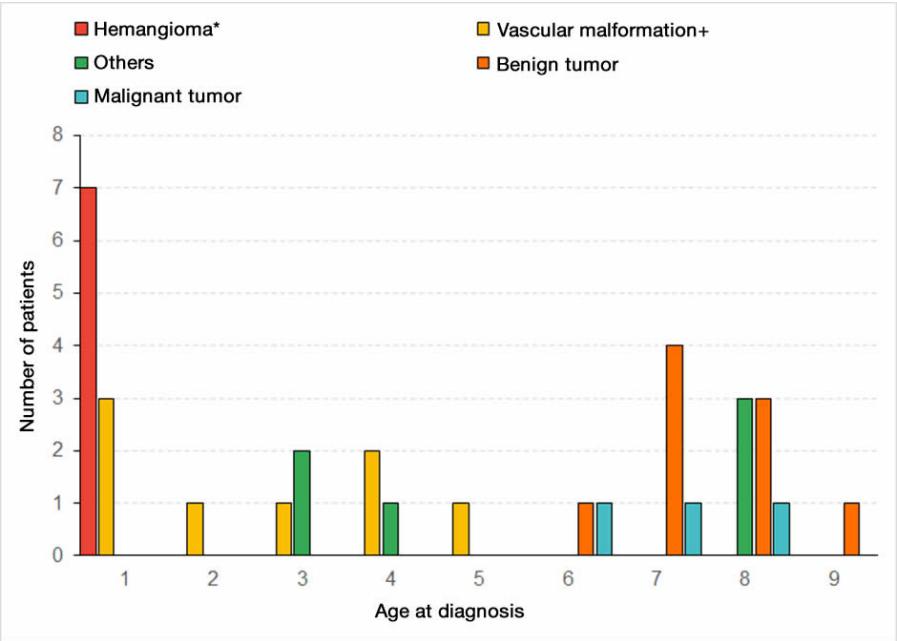

Figure 2: Represents age at diagnosis distributed by pathology. Within hemangiomas, there are 6 children's hemangiomas and a congenital hemangioma.

the most frequently found in our series was the pleomorphic adenoma, which was presented with a median age of 13 years.

In our series, malignant tumors were presented with an average age of (range 10 to 18 years) which is similar to what is previously reported that which is an average age of 15 years. Within this group the most frequent was mucoepidermoid carcinoma, which coincides with the previous bibliography [2], this diagnosis was presented with an average age of 15 years.

Within vascular lesions, we find vascular tumors and malformations (MV). Vascular tumors can receive pharmacological medical treatment or expectant behavior, depending on whether they are children's hemangiomas that respond to propanolol, or congenital hemangiomas (Rich, Nich, PIHC). The latter are present from birth, and according to the type (Rich) they involve spontaneously during the first year of life. The partially or non-involutive (Pich and Nich), as the name implies do not involve and may require surgical exeresis but are rare in the parotid region.

MVs are congenital lesions, which grow harmoniously with the patient and do not return spontaneously. They are divided into venous, lymphatic, or arteriovenous according to the vessel that composes them. They can also be classified according to the flow, being low-flow lymphatic and venous. We have not had patients with arteriovenous malformations (high flow) in the parotid region. The first-line treatment for low-flow MV is image-guided percutaneous sclerosis, which consists of the injection of a sclerosing agent into malformation, which subsequently causes cell destruction, thrombosis, and local inflammation. The posterior healing leads to a decrease in the lesion. The results are favorable in 75 to 90 %, however, in many cases, they require more than one intervention [5].

For lymphatics, the treatment of choice is sclerosis, surgical resection of cervical lymphatic malformation has the possibility of facial nerve injury, many times the resection is subtotal and because of this, there is usually a recurrence of 35 to 64% [5].

To conclude, in pediatrics, unlike the adult population, there are a wide variety of diagnoses, which include vascular lesions to malignant tumors. Because malignant parotid lesions are clinically indistinguishable from benign ones, it is important to establish a precise diagnosis. This series represents this etiological diversity in pediatrics, as well as the age distribution compared to that described in the literature.

References

1. Verdecia Cañizares C, Cubero Meléndez O, Alonso Pírez M, Portugués Díaz AM (2012) Ten-year study on varieties of parotid tumors in pediatrics. Cuban J Pediatr 84: 201-207.
2. Fang QG, Shi S, Li ZN, Zhang X, Liu FY, et al. (2013) Epithelial salivary gland tumors in children: A twenty-five-year experience of 122 patients. Int J Pediatr Otorhinolaryngol 77: 3-5. https://doi.org/10.1016/j.ijporl.2013.04.034
3. da Cruz Perez DE, Pires FR, Alves FA, Almeida OP, Kowalski LP (2004) Salivary gland tumors in children and adolescents: a clinicopathologic and immunohistochemical study of fifty-three cases. Int J Pediatr Otorhinolaryngol 68: 895-902. https://doi.org/10.1016/j.ijporl.2004.02.004
4. Oesterreich R, Udaquiola J, Lobos P, Moldes J, Liberto D (2017) Diagnosis and treatment of pediatric parotid tumors: cohort. Cir Pediatr 29: 135-141.
5. Greene AK (2011) Vascular anomalies: current overview of the field. Clin Plastic Surg 38: 83-93. https://doi.org/10.1016/j.cps.2010.08.004