Schwannoma of the posterior pharyngeal wall in a child

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Case report

Keywords: Schwannoma , dyspnea, posterior pharyngeal wall, case report

Posted Date: April 8th, 2021

DOI: <https://doi.org/10.21203/rs.3.rs-402390/v1>

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Abstract

Background: To our knowledge, There are only 7 cases of posterior pharyngeal wall schwannoma which have been previously reported in the literature, but none of them was associated with a 3-year-old child.

Case presentation: We presented a rare case of a schwannoma which is localized on the posterior pharyngeal wall, It caused severe difficulty in swallowing and breathing in a child whose age is three years old. Schwannomas of the posterior pharyngeal wall has been rarely reported in children, The tumor was removed with plasma radio frequency excision via a transoral route, There was not seen any recurrence of tumor by examination of CT or MRI up to two years. as far as we know, It's the first time which a case of posterior pharyngeal wall schwannoma that has been reported to occur in a 3-year-old child, and the first case in which the schwannoma was removed via transoral plasma radio frequency excision.

Conclusions: This case illustrates that schwannoma may be found in children ,and it is safe to treat this disease through plasma radio frequency excision via a transoral route.

Background

Schwannomas may occur along any somatic or sympathetic nerve, Due to its anatomical compartmentalization of neural structures, The head and neck region presents a frequent site for the occurrence of these tumors, accounts for approximately 25 to 45% of all cases of schwannoma^[1], Although they are among the most common benign tumors of the parapharyngeal space, their rate of incidence in children on the posterior pharyngeal wall is extremely rare. None such a case has been recently reported in the literature. The purpose of this paper is to present one such case and discuss the treatment of the tumor.

Case Presentation

Because of progressive dysphagia and respiratory disturbance, a 3-year-old child come to our hospital to sought for medical attention. On clinical examination, a round mass was found to be protruding from the left posterior wall of the pharynx. Flexible fiberoptic endoscopy identified a pedunculated lesion that measured approximately 2.5 × 1.5 cm arising from the posterior pharyngeal wall, The mass occupied part of the supraglottic area and It causes the symptom of dyspnea (Figure-1), Computed tomography (CT) of the neck demonstrated a soft-tissue, protruding from the posterior wall of the pharynx. (Figure-2). On further physical examination, characteristic coffee-au-Lait spots was found around the patient's abdomen (Figure-3).

Based on the above-mentioned clinical and radiological findings, a complete plasma radio frequency excision of the mass was performed via a transoral route. The patient experienced only slight intraoperative bleeding, which was easily controlled. Little adhesion was found between the tumor and

the pharyngeal mucosa, and no nerve was found to be connected to the tumor. The cut surface exhibited tan and white areas. No necrosis was present(Figure-4).

Histological examination confirmed the diagnosis of schwannoma.

This patient recovered well and no damage to cranial nerves IX and X was found. Dysphagia and respiratory disorder were improved after the operation, One week after the excision, flexible fiberoptic examination showed a complete healing of the mucosal surface and no signs of persistence. after 2-year follow-up,there was no recurrence of schwannoma.

Discussion And Conclusions

Schwannoma is a benign, isolated, encapsulated tumor that can occur anywhere in the peripheral nervous system. Their incidence in the head and neck is 25 to 45 percent. The most common site of head and neck schwannoma is the parapharyngeal space, and the vagus nerve is the most common site of origin. It is very rare for a child to have a schwannoma in the posterior wall of the pharynx.

Schwannomas are usually asymptomatic. The symptoms that cause our patients to seek medical attention come from cosmetic malformations or tumors that interfere with certain functions, just like our patient. When they compress adjacent structures, they slowly grow and produce symptoms and signs. When they are located in the pharynx, they can cause breathing difficulties, dysphagia or dysphagia, and other symptoms associated with the origin nerve[2].

When the tumor occupied part of the supraglottic area, we should consult an anesthesiologist before surgery to evaluate the difficulty degree of trachea intubating, trachea intubation should be performed by an experienced anesthesiologist, If there is some question about the difficulty of intubation ,fiberoptic bronchoscopy intubation or tracheotomy should be performed in advance

Based on the available literature [3–4], and taking into account topographic data and the lack of signals from the 9th and 10th nerves, we can think that in our case, neuroblastoma also originated in the parapharyngeal plexus [5]

The choice of treatment is a complete surgical excision. The safest surgical entry path for parapharyngeal schwannoma is the external path, while transoral excision is suitable for pharyngeal tumors. However, in the use of this method, the limited risk of surgical exposure and bleeding must be taken into account, the use of plasma radio frequency excision is safe and effective, it allows for clear edges and minimizes inoperative bleeding. There was no recurrence and no damage to cranial nerve function after surgery.

Informed consent was obtained from the patients for publication of this case report details.

Abbreviations

Declarations

- Ethics approval and consent to participate: The experimental protocol was established, according to the ethical guidelines of the Helsinki Declaration and was approved by the Human Ethics Committee of Shanghai Children's Hospital ,Shanghai Jiao Tong University.
- Consent to publish: The portrayal of clinical data and images in this study were signed with informed consent, which was obtained on behalf of the patient from the legal guardian.
- Availability of data and materials: All data generated or analysed during this study are included in this published article.
- Competing interests: The authors declare that they have no competing interests.
- Funding: Not applicable.
- Authors' Contributions: PZ conception of the work, acquisition, analysis, and interpretation of data for the work, revision of work for important intellectual content, final approval of version to be published, agreement to be accountable for all aspects of work; XY L acquisition, analysis, and interpretation of data for the work, revision of work for important intellectual content, final approval of the version to be published, agreement to be accountable for all aspects of work;
- Acknowledgements: Not applicable.

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Figures

Figure 1

Endoscopic views show the pedunculated lesion arising from the posterior pharyngeal wall and occupying part of the supraglottic area.

Figure 2

CT shows the mass arising from the posterior wall of the pharynx

Figure 3

On further physical examination, characteristic coffee-au-Lait spots was found around the patient's abdomen.

Figure 4

Ten days postoperatively, fiberoptic endoscopy shows the cut surface exhibited tan and white areas.