

# Anaesthetic Challenges in A Pediatric with Solitary Fibrous Tumour in the Neck Posted for Resection: A Case Report

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## ABSTRACT

**Context:** Hemangiopericytoma and Solitary fibrous tumor in infant are more vascular involving head and neck region. Juvenile form have better prognosis compared to adult form, so surgical excision offers benefit at this age.

**Case Report:** Ten year old female child had presented with a soft tissue mass in the right temporal region behind ears, which was progressive in growth. In further evaluation, MRI showed heterogeneity enhancing lesion in posterior fossa in right cerebellar region with extracranial extension into subcutaneous space. Histologically, a hypercellular spindle cell mesenchymal neoplasm seen.

**Conclusion:** Solitary Fibrous Tumour of head and neck can grow rapidly during the paediatric age group period. Complete excision without mutilating surgery should be curative.

**Keywords:** Solitary Fibrous Tumour, Extracranial, Temporal Mass, Paediatric

## INTRODUCTION

Hemangiopericytoma was first described by Stout and Murray in 1942(1). The term "infantile HPC" refers to vascular tumors of the head and neck area that can occur during a child's first year of life or be congenital and have an uncertain clinical history(2). Extracranial HPCs are currently classified by the World Health Organization as soft tissue tumors, belonging to the subgroups of extra pleural HPC and solitary fibrous tumor (SFT).

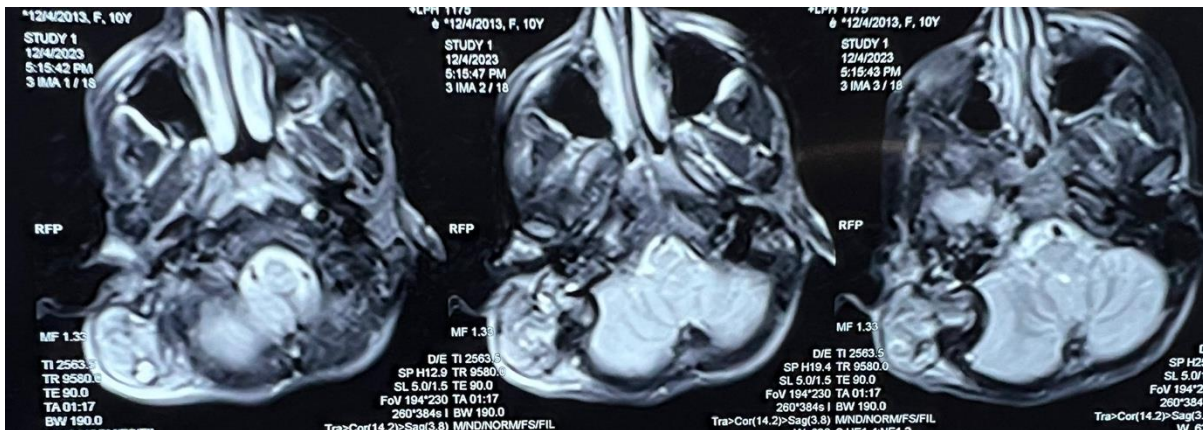
In this case, we report a congenital large temporal HPC/SFT that is growing quickly and resembles a malignant sarcoma.

Parental consent for publication was obtained as per journal guidelines.

## CASE PRESENTATION

A ten year old girl was referred to our institution with craniofacial soft tissue mass of her right side of neck. Maternal medical history was non contributory. Initial evaluation at pediatric oncology clinic revealed a painful, hard mass 5x5 cm mass, without signs of inflammation and erythema. Her MRI revealed a Extra axial heterogeneity enhancing lesion in the posterior fossa in right cerebellar region with extracranial extension into subcutaneous space right temporal soft tissue mass (Figure 1). Based on her MRI findings, an excisional biopsy of the lesion was performed. size of the mass measured to be 10x10 cm (Figure 2). General anaesthesia was induced with inhalational technique with sevoflurane about

4% in oxygen followed by titrated doses of propofol (up to 2 mg/kg) and fentanyl (up to 1 mcg/kg). Mask ventilation was established with some difficulty. Direct laryngoscopic examination revealed a Cormack-Lehane grade III view of the larynx and tracheal intubation was not attempted. Thereafter, A Glide Scope was utilized that revealed a grade II view and the trachea was intubated with an cuffed 6.0 endotracheal tube (ETT). We were able to confirm tracheal intubation by capnography and by auscultation appreciation of breath sounds over the lung fields. Perioperative period was uneventful. Adjuvant treatment was not applied in the postoperative period .



**FIGURE 1: MRI -Extra axial heterogeneity enhancing lesion in posterior fossa in right cerebellar region with extracranial extension.**



**FIGURE 2- mass Right temporal area**

## DISCUSSION

Because the infantile variation of HPC/SFT has a more benign clinical course than the adult version, asurgical excision is advised for this type of vascular tumor in the first year of life. Other pediatric malignancies such tufted angiosarcoma, pyogenic granuloma, infantile hemangioma, and kaposiform haemangiopericytoma should be taken into account when making a differential diagnosis(3).

Concerns in anaesthesia include a thorough pre-operative assessment of the patient's health. When using the haematogenous method, HPC have metastatic up to 50%. While involvement of lymph nodes is uncommon, the majority of metastases go to the liver, lungs, and bones. 10% of head and neck cancers have distant metastases, and 40% recur locally. These tumours have an unusual biological activity since benign-appearing non-mitotic HPCs have been shown to spread. Oral cavity, facial symmetry, congenital

abnormalities, and range of motion of the neck are all examined during an airway examination. The mandible and lower lip are the next most likely origin sites, after the oral cavity in the palate. The majority of hemangiopericytomas in the mouth are invasive. The surgical extensive local excision is part of the management. Embolization prior to surgery will be helpful to reduce the size and vascularity.

Although most patients are asymptomatic, intracranial extension presents with neurologic associated compressive symptoms(4). Due to bleeding, HPC/SFT may have a potentially fatal hypovolemic shock consequence. When it is feasible, total surgical excision is the primary therapeutic approach. In instances when total removal was possible, recurrence was not detected over a follow-up period ranging from one month to five years. For infantile HPC/SFT, chemo responsiveness is defined as the inability to conduct full excision(5,6). Radiation therapy is the last available option, despite concerns about its long-term safety(7).

So far 38 cases of extracranial HPC in infants have been reported in the literature out of which only two cases have been seen in the head region. This child showed such rapid growth imitating as malignant sarcoma, though it has better course of action than an adult form(8). Follow up of the patient for longer period of time will be helpful for further detailed research work.

## CONCLUSION

SFT should always be considered as diagnosis for management of Pediatric extracranial soft tissue masses. Complete excision of the lesion should be considered for the better outcome.

## Disclosures

Human subjects: Consent was obtained by participant in this study.

Conflicts of interest: NIL

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GJ concept, manuscript- SNS – done the case and literature search.

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