Letter to Editor

Cervical neuroblastoma in a 2-month-old child

Sir,

Neuroblastoma is one of the common childhood malignancies. It originates from the neural crest of adrenal medulla or sympathetic ganglia.[1] The 3rd most common extracranial solid neurogenic tumor of infancy and childhood is neuroblastoma along the peripheral sympathetic nervous system. Neuroblastoma may be sporadic or nonfamilial in origin, the exact etiology of which is not well understood. However, recent studies have improved the understanding of genetic susceptibility to neuroblastoma.[2] Nearly 70% of neuroblastoma that are discovered in the head-and-neck region are metastatic lesions.[3]

A 2-month-old female baby was admitted in the surgery department with the complaints of swelling over the left side of the neck [Figure 1] of size 3 cm × 3 cm, which was well defined, immobile, nontender, nonpulsatile with smooth surface, and firm in consistency. It was progressively increasing in size. Family history was noncontributory.

Computed tomography scan demonstrated a neoplastic, solid, minimally enhancing, soft-tissue mass in the left neck involving the carotid space extending superiorly up to the left parapharyngeal space and inferiorly up to the thyroid level.

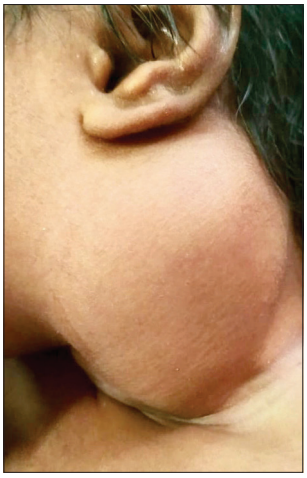

Figure 1: Left neck swelling: 3 cm × 3 cm, well defined with smooth surface, and firm in consistency

Fine-needle aspiration cytology [Figure 2] revealed cellular smears with monomorphic population of cells having salt and pepper chromatin nuclei, features suggestive of neuroendocrine tumor (NET). Biopsy revealed [Figure 3] multiple tissue bits aggregating 5 cm × 3 cm. Histopathology [Figure 4] revealed lobular arrangement of tumor cells with Holmer–Wright pseudo rosettes admixed with necrosis, suggesting a poorly differentiated neuroblastoma, which was confirmed on immunohistochemistry (IHC) [Figure 5] as tumor cells were positive for CD56, neuron-specific enolase, and chromogranin and negative for leukocyte common antigen, Tdt, desmin, and S100 protein.

Neuroblastoma is detected in 1/7000 live births.[4] Head-and-neck NET s are uncommon. The pathological diagnosis of NETs in head-and-neck area may be difficult just because of the low frequency of these tumors in that location. The diagnosis is based on histological, ultrastructural, and IHC criteria.

IHC study is also useful to distinguish other malignant, small, round cell neoplasms that may be considered in the differential diagnosis, as sinonasal undifferentiated carcinoma, basaloid squamous carcinoma, non-Hodgkin lymphoma, and paraganglioma.[5-7]

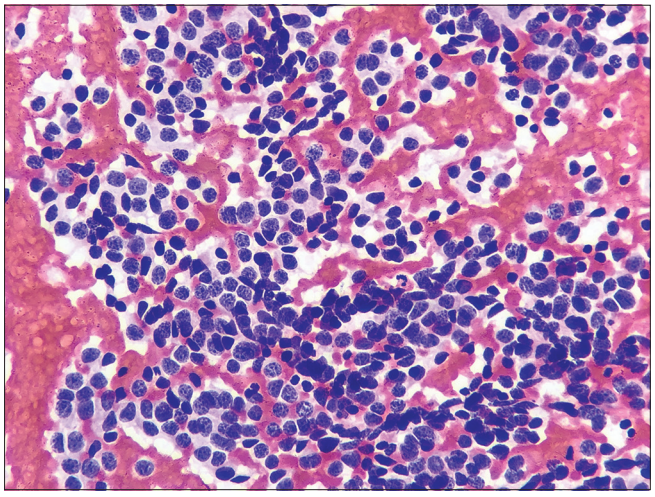

Figure 2: Fine-needle aspiration cytology: Cellular smears with monomorphic population of cells with salt and pepper chromatin nuclei (Pap: ×40)

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Nil.

Conflicts of interest
There are no conflicts of interest.

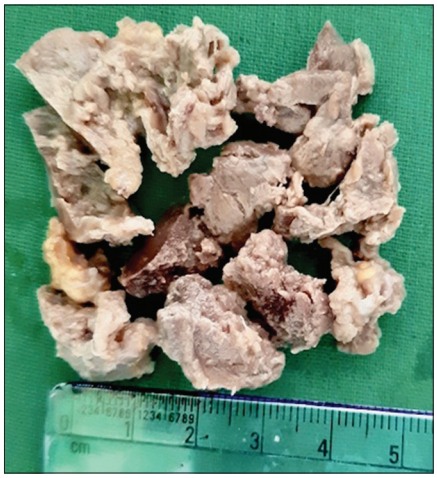

Figure 3: Gross: Multiple tissue bits aggregating 5 cm × 3 cm

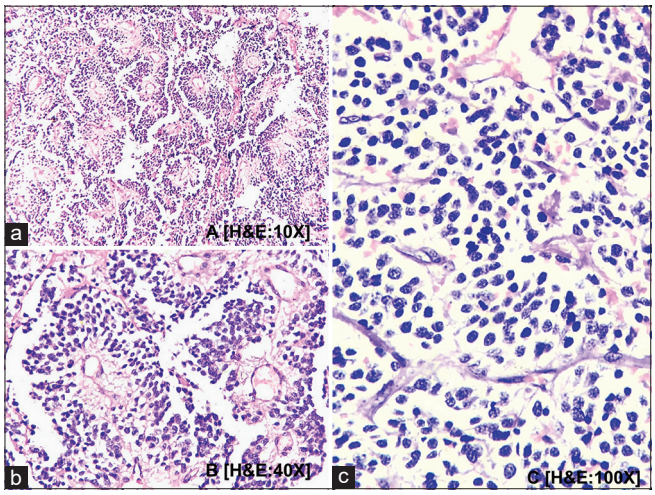

Figure 4: (a-c) Lobular arrangement of tumor cells with Holmer–Wright pseudo rosettes admixed with necrosis

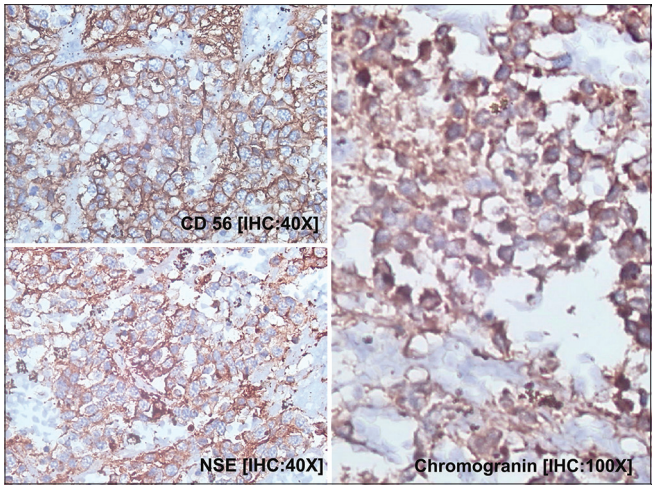

Figure 5: Immunohistochemistry: Positive for CD56, neuron-specific enolase, and chromogranin

Maheshwari A. Chate, Sunil Yogiraj Swami

Department of Pathology, S.R.T.R. Government Medical College, Ambajogai, Maharashtra, India

Address for correspondence: Dr. Sunil Yogiraj Swami, Bhagwanbaba Chowk, Gitta - Road, Shepwadi, Beed, Ambajogai, Maharashtra, India.
E-mail: drsys02@gmail.com

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REFERENCES

1. Shah S, Champaneria N, Pasle RK. Neuroblastoma in 3 months old infant – A rare case report. IAIM 2016;3:362-5.
2. Amit KD, Prashant S, Richa S, Kas K. Head neck neuroblastoma in early childhood: A rare case report. Int J Med Sci 2017;5:5466-9.
3. Singh H, Mohan C, Mohindroo NK, Sharma DR. Cervical neuroblastoma. Indian J Otolaryngol Head Neck Surg 2007;59:288-90.
4. London WB, Castleberry RP, Matthay KK, Look AT, Seeger RC, Shimada H, *et al.* Evidence for an age cutoff greater than 365 days for neuroblastoma risk group stratification in the Children's Oncology Group. J Clin Oncol 2005;23:6459-65.
5. Berthold F, Simon T. Clinical presentation. In: Cheung, Nai-Kong V, Cohn, Susan L, editors. Neuroblastoma. Springer; 2006. p. 63-85.
6. Meacham R, Matrka L, Ozer E, Ozer HG, Wakely P, Shah M. Neuroendocrine carcinoma of the head and neck: A 20-year case series. Ear Nose Throat J 2012;91:E20-4.
7. Citak C, Karadeniz C, Dalgic B, Oguz A, Poyraz A, Okur V, *et al.* Intestinal lymphangiectasia as a first manifestation of neuroblastoma. Pediatr Blood Cancer 2006;46:105-7.

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