



ULTRASONOGRAPHY EVALUATION OF PEDIATRIC NECK MASSES

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KEYWORDS :

INTRODUCTION

- Neck masses are a common finding in children and can present a difficult diagnostic challenge.
- These masses may represent a variety of conditions having a congenital, acquired inflammatory, neoplastic, or vascular origin.
- The fascial spaces and compartments of the neck provide an approach to differential diagnosis, and extensive knowledge of the anatomy and contents of each cervical compartment is mandatory in the diagnosis of pediatric neck lesions.

Objectives

- To evaluate congenital & acquired masses of the neck in pediatric age group with ultrasonography (USG) & to correlate imaging findings with pathological findings, wherever applicable.

MATERIALS AND METHODS

- Prospective observational study of 30 paediatric patients clinically diagnosed to have palpable neck swelling and were referred for USG to the Department of Radiology Asrams Eluru.
- Evaluated with ultrasound, followed by USG guided procedures wherever necessary over a period of 6 months & radiological diagnosis was then compared with histopathology.

RESULTS

- In this study of 30 pediatric patients with palpable swelling of neck there are 21 (68%) males and 9(32%) females giving male preponderance.
- Most of the patients (53%) were between 1 to 10 years.
- Most of the lesions were observed on the right side (41.15%) while bilateral lesions were observed in 17.25% of the cases. Midline lesions were observed in 11.5% cases.
- Inflammatory swelling was most common aetiology (76.1%) followed by congenital (16.3%) and neoplastic (7.5%).
- On USG imaging, features of reactive lymphadenitis (14), TB lymphadenitis(6), abscess(2) – on aspiration pus came out, Thyroglossal cyst(3), Lipoma(2) – histopathology proven, Malignant(2) – biopsy proven & Branchial cyst(1).

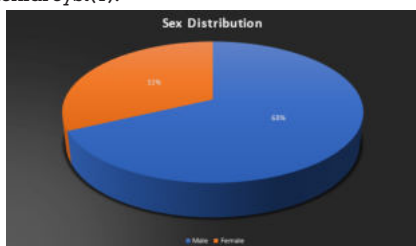


Figure 1 : Sex Distribution of the patients

AGE DISTRIBUTION OF THE PATIENTS

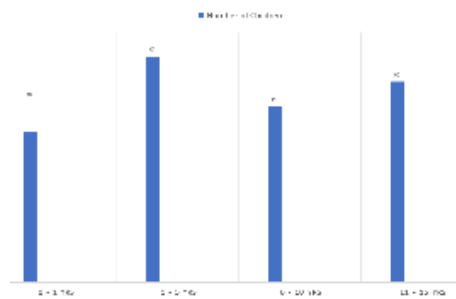


Figure 2 : Age Distribution of the Patients

Laterality of Neck Swellings

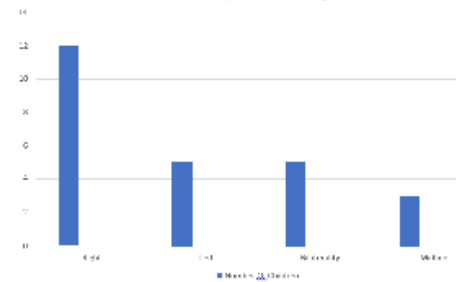


Figure 4 : Laterality of Neck Swellings

AETIOLOGIES OF NECK SWELLINGS

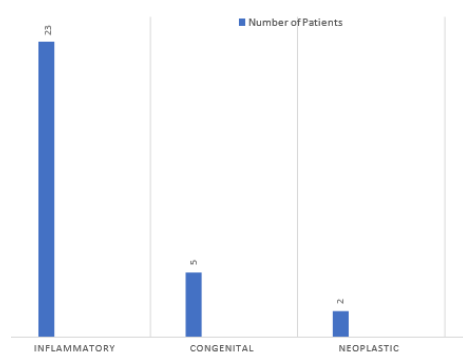
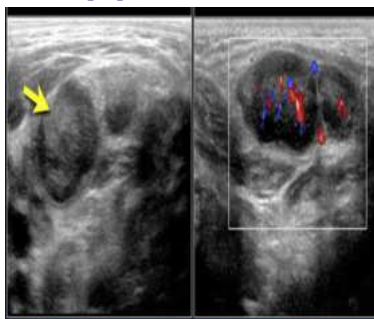


Figure 4 : Aetiologies of Neck Swellings

Table 1: Break-up of the aetiology of neck swelling.

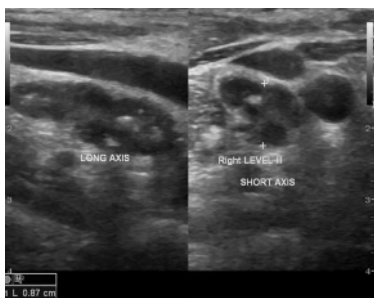
Aetiology	No. of Children	%
Reactive Lymphadenitis	14	46.66
TB Lymphadenitis	6	20.00
Abscess	2	6.66
Thyroglossal Cyst	3	10.00
Lipoma	2	6.66
Malignant	2	6.66
Branchial Cyst	1	3.33

Reactive Cervical Lymph Node



The lymph nodes are enlarged with preservation of the echogenic hilus and normal perfusion. They are slightly enlarged and more hypoechoic than normal with a broader echogenic center.

Tb Lymphadenitis



Few hypoechoic round / ovoid nodes (upto 1 cm) with loss of hilar fat are noted at right level III. E/o internal calcifications are noted within the lesions.

Lipoma



The lesion is isoechoic to adjacent muscle. It shows linear internal striations. No calcification or cystic changes are noted. It is compressible. No internal flow is noted in the lesion.

Malignant Neck Lesion



The affected nodes are round, homogeneously hypoechoic and the normal echogenic hilum is absent.

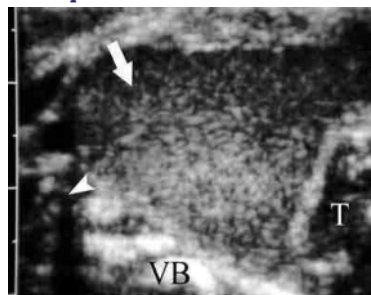
Thyroglossal Duct Cyst



Transverse image of a hypoechoic thyroglossal duct cyst with some internal echoes located in the midline.

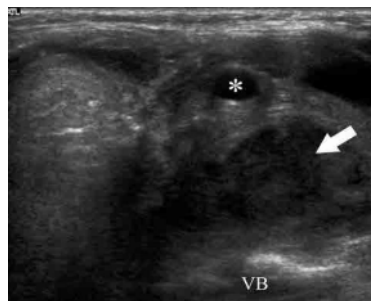
Transverse image of an anechoic thyroglossal duct cyst just left of the midline.

Branchial Cleft Cyst



Axial US image depicts a hypoechoic lesion containing some slightly echogenic debris (arrow). The lesion is located anterior to the vertebral body (VB) and anteromedial to the carotid sheath space (arrowhead). T trachea.

Abscess



Transverse US image shows a hypoechoic mass (arrow) between the carotid sheath (*) and the vertebral body (VB), a finding that represents a retropharyngeal abscess.

DISCUSSION

Pediatric neck masses are a common finding and a challenging diagnostic dilemma. Careful attention to clinical history and physical examination, as well as knowledge of the embryologic features and anatomy of the cervical region, can provide clues for accurate diagnosis. Combined use of the fascial spaces and compartments of the neck with a multimodality imaging approach is very helpful in making a correct diagnosis that allows appropriate management.

REFERENCES

1. Koeller KK, Alamo L, Adair CF, Smirniotopoulos JG. Congenital cystic masses of the neck: radiologic-pathologic correlation. *RadioGraphics* 1999; 19:121-146.
2. Malik A, Odita J, Rodriguez J, Hardjasudarma M. Pediatric neck masses: a pictorial review for practicing radiologists. *Curr Probl Diagn Radiol* 2002; 31:146-157.
3. Som P, Curtin H, eds. *Head and neck imaging*. St Louis, Mo: Mosby, 2003.
4. Harnsberger H. *Handbook of head and neck imaging*. St Louis, Mo: Mosby, 1995.
5. Zaunbauer W, Haertel M. The cervical compartments in the computed tomogram. *Rofu* 1984; 140:151-154.
6. Moore K. *The developing human*. Philadelphia, Pa: Saunders, 1998.
7. Frush DP, Donnelly LF, Rosen NS. Computed tomography and radiation risks: what pediatric health care providers should know. *Pediatrics* 2003; 112:951-957.
8. Reither M, Schwarzer U, Imschweiler E, Lindner R. Integrated imaging of head and neck tumors in children. *Radiologie* 1992; 32:309-313.