



BRANCHIAL ARCH ANOMALIES OF NECK- A CASE SERIES

Dr. Neha Teckchandani2nd year radiodiagnosis resident, GMC, Surat.**Dr. Rohit Harwani**2nd year radiodiagnosis resident, GMC, Surat.**Dr. Bhagvati Ukani**

Associate Professor, GMC, Surat.

(ABSTRACT) *Aims And Objective-* Branchial arches (6 in number) give origin to sets of tissues forming structures in head and neck region. 5th branchial arch fails to develop. Anomalous development from branchial arches which may present as cysts, sinus tracts and fistulae. *Methods And Materials-* Retrospective study was done to include 10 case studies of anomalous branchial arch development and further differentiated from embryological view in a tertiary care centre. *Results & Conclusion-* The location, clinical symptoms and radiological findings aid in its diagnosis. In our study of 10 subjects, male female ratio is 3:2 Even with limited sample size, it is quite evident that second arch anomalies are most common (up to 95%) followed by first, third and fourth.

KEYWORDS : Branchial Arch, Pharyngeal Arches, Sinus, Fistulae, Cysts**INTRODUCTION-**

They are congenital anomalies arising from 1st to 4th arches with second being the commonest (50-90%) followed by 1st, 3rd and 4th.

They present as cysts, fistulae or sinuses.

Incomplete fistulae are more common than complete. Complete fistulae present as discharging defects. Their opening and internal course depends on the arch it arises from.

RELATION OF LOCATION WITH ARCHES.

First arch- in lateral neck below EAC, above hyoid bone, anterior to SCM and posterior to submandibular angle.

Second arch- deep to platysma and opens into tonsillar fossa. Presents as discharging sinus along anterior border of SCM.

Third arch and fourth arch- internal opening is found in pyriform fossa and apex.

Sr. No.	Age and sex	Anomaly	Investigations
1	19 year male	2 nd arch	USG & CECT neck
2	47 year male	2 nd arch	MRI neck
3	7 year female	1 st arch	CECT neck
4	45 year female	2 nd arch	MRI neck
5	24 year male	4 th arch	MRI neck
6	20 year male	2 nd arch	MRI neck
7	32 year female	1 st arch	MRI neck
8	17 year female	2 nd arch	CECT neck
9	28 year male	2 nd arch	CECT neck
10	20 year male	2 nd arch	CECT neck

MATERIALS AND METHODS-

A retrospective study of 10 patients was carried out who presented to ENT and surgery department with complaints of neck swelling.

Few Of The Cases Are As Follows-

Case 1- 19 year old male patient as shown in Fig 1 and 2

Type 2 branchial cyst

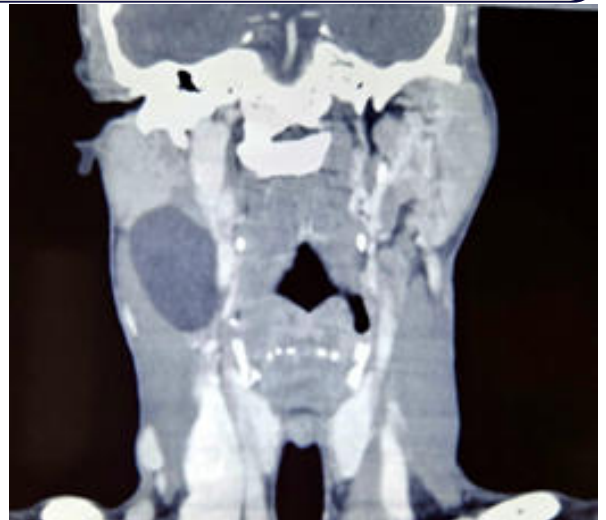
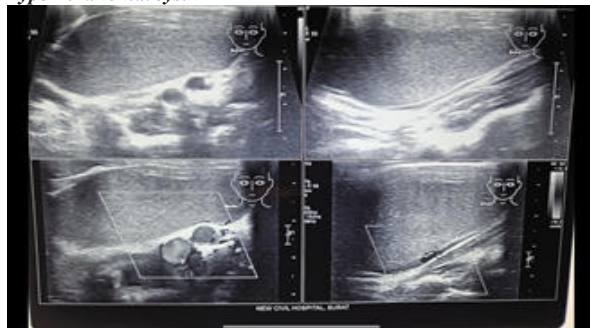
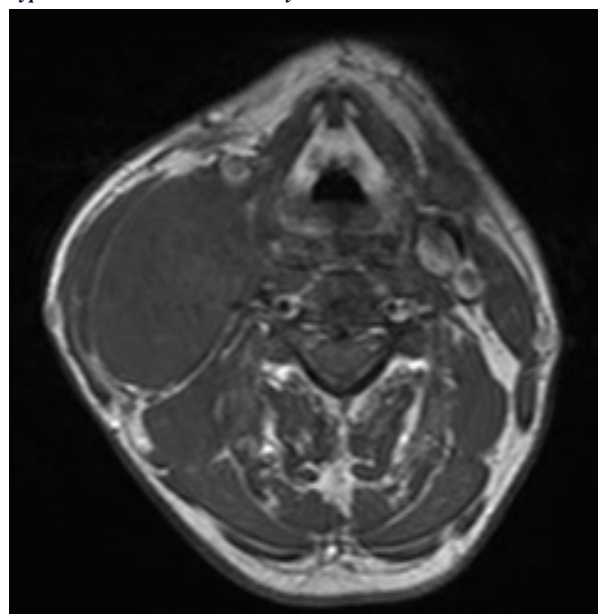


Fig 1 & 2 Well defined cystic lesion on right side at upper and mid IJV level deep to right SCM.

Case 2- 47 year old male as fig 3-4
Type 2 Second Branchial Arch Cyst.



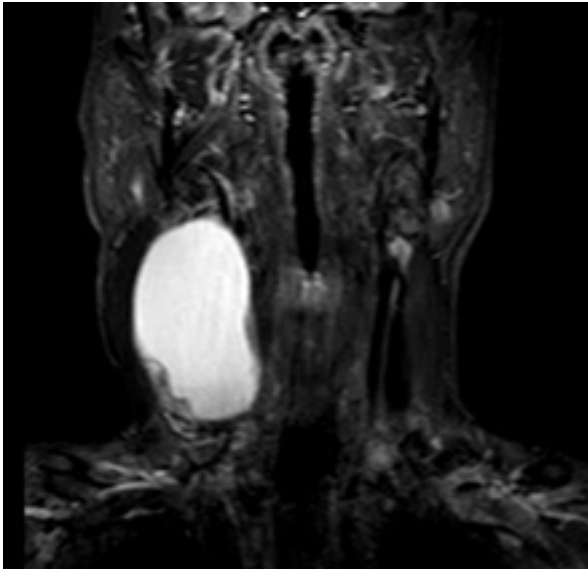


Fig 3 & 4- T1 hypointense, T2 shine through w T2 hypointense dependent debris

Case 3- 7 year old in fig 5-6

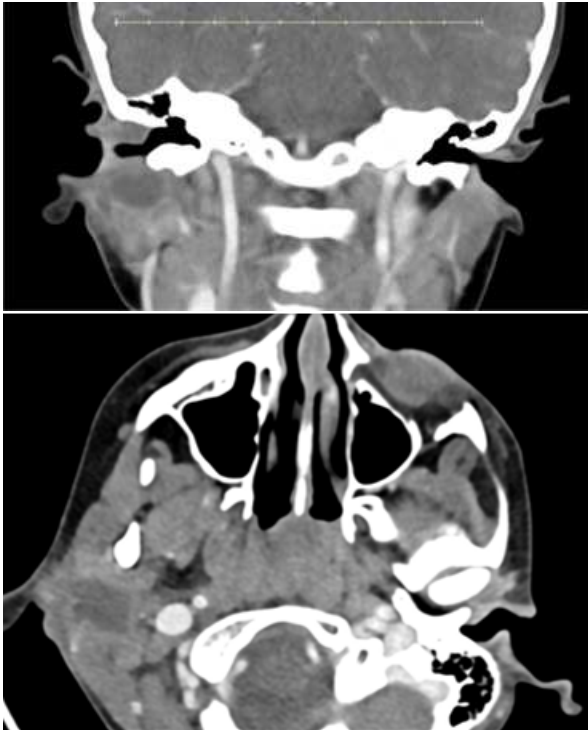
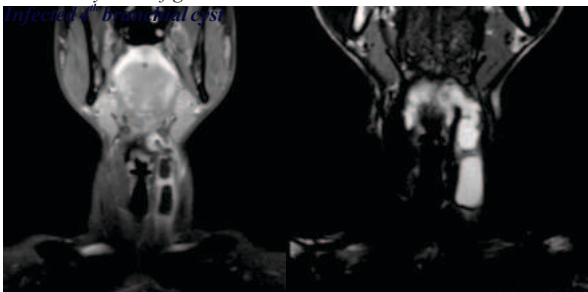


Fig 5-6 cystic lesion behind the external ear with associated subcutaneous edema at posterior surface of pinna.

Case 4- 24 yo male fig 7-8



Well defined peripherally enhancing cystic lesion, T1 hypointense and T2/STIR hyperintense with few septations in left paramedian position, Superiorly reaches pre-epiglottis, inferiorly to thyroid. Laterally between strap muscles.

DISCUSSION-

The branchial arches develop within the fourth and seventh week of gestation and form the precursors of face, neck and pharynx.

Schematically the sixth arch is representative as part of fourth arch due to its small size.

Branchial anomalies are most commonly seen in first three decades of life.

In our study of 10 subjects, male female ratio is 3:2

Even with limited sample size, it is quite evident that second arch anomalies are most common (up to 95%) followed by first, third and fourth.

CONCLUSION-

First arch anomalies closely related to salivary gland so may require partial or complete excision of gland.

Second arch anomalies may pass through bifurcation of carotid arteries so CECT NECK may give an early idea.

Third and fourth arch anomalies are relatively rare.

Although the study size was limited in our series, we did have majority of cases of 2nd arch anomalies.

Radiological investigations are important to delineate entire extent of lesion.

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