

## UNILATERAL PARAMASTOID PROCESS IN DRY HUMAN SKULL - A CASE REPORT

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**Abstract:** The temporal bone is composed of four parts: the mastoid process, the petrous pyramid, and the squamous and tympanic portions. It is variable in size, being very small in adolescence and increasing in prominence by adulthood. The bone is pneumatized with the mastoid air cells. These hollow air cells form connections with the middle ear via the mastoid antrum. Unilateral paramastoid process is very rare anomaly in craniovertebral region. The complication of mastoid disease meningitis, of greater or less degree is perhaps the most common. It is a very fatal condition if not recognized and dealt with early by efficient surgical operation. Such unilateral paramastoid process is clinically essential for neurological surgeons and for neurological manifestations.

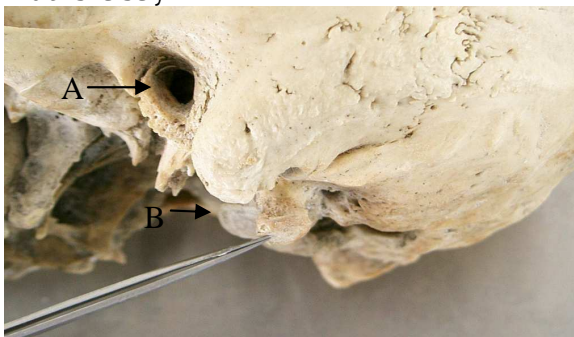
**Keywords:** Unilateral Paramastoid Process, Mastoid Air Cells, Mastoiditis.

### INTRODUCTION

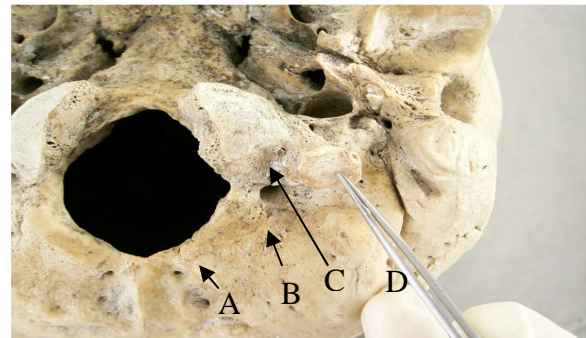
Temporal bone contains the organ of hearing. At birth mastoid process is undeveloped. It grows after birth, and assumes a nipple-like form about the second year of life. Towards puberty its spongy internal substance (dipole) becomes permeated with air spaces, and sometimes this condition is met with in quite early childhood. These air spaces receive the name of mastoid cells, the name mastoid (Greek, mastos, breast and eidos) referring to the characteristic shape of this process.

#### Case Report:

During routine study of human skulls in Santhiram medical college, one of the crania presented a well-defined projection on the left side midway between mastoid process and occipital condyle measuring 1.25 cm in length. Its lower end presented a flattened area with well-defined articular facet lined by hyaline cartilage, measuring 7mm, anteroposteriorly and 10 mm transversely.



**Fig.1:** Skull seen from lateral view A-External acoustic meatus, B-Mastoid process, C-paramastoid process



**Fig.2:** Skull seen from inferior view

A- Foramen magnum,  
B-Posterior condylar canal,  
C-Occipital condyle,  
D-Paramastoid process

All muscular markings and ridges characteristic of male skull were exaggerated including the external occipital protuberance. There was large posterior condylar canal. There was no such projection or facet on the right side.

### DISCUSSION

Earlier authors Nicholson *et al.*, (1968), bhagawathi *et al.*, (1997), Dhahran singh *et al.*, (1998) has done work on the anomalies of cranio vertebral junction has not come across this anomaly.

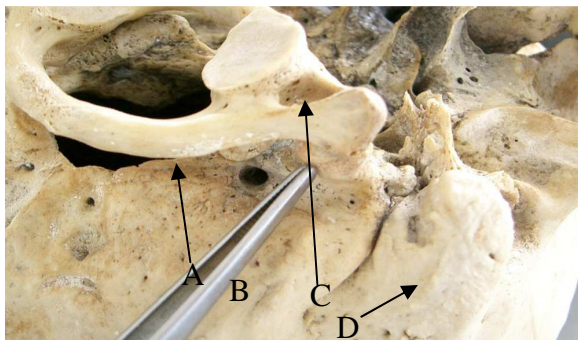
Vinod Kumar *et al.*, (1995) observed 21 skulls with assimilation of atlas and in 23.8% the transverse process found to be fused with paramastoid process in our specimen the paramastoid process had a facet indicating the presence of a joint between this and

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transverse process of atlas.



**Fig.3:** Atlanto occipital joint seen from Inferior view  
 A-Posterior arch of atlas,  
 B-Superior surface of transverse process of atlas  
 contact with paramastoid process,  
 C-Foramen transversarium,  
 D-Mastoid process

### CONCLUSION

We tried to articulate few atlas vertebrae available with us. Few of them had their transverse process very close or in contact with this projection. These observations as well as the presence of facet made us think of joint between the paramastoid process and the superior surface of transverse process of atlas. The prominent paramastoid process would not have hindered with any clinical manifestations because of the presence of a joint.

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