

## TO EVALUATE THE INCIDENCE OF CORONOID FORAMEN IN ORTHOPANTOMOGRAM AMONG PATIENTS VISITING PRIVATE DENTAL HOSPITAL

• **Aditya Reddy P**

Department of Oral & Maxillofacial Surgery Saveetha Dental College Saveetha Institute of Medical And Technical Science Saveetha University, Chennai

• **Abdul Wahab P U**

Professor Department of Oral & Maxillofacial Surgery Saveetha Dental College, Saveetha Institute of Medical And Technical Science Saveetha University, Chennai

• **Jagadish V**

Senior lecturer, Department of Oral & Maxillofacial Surgery Saveetha Dental College Saveetha Institute of Medical And Technical Science Saveetha University, Chennai

### ABSTRACT:

**AIM:** To study the incidence of coronoid foramen and accessory lateral canal in the opg with normal digital techniques.

**MATERIALS AND METHODS:** Randomly selected 100 opgs of all age groups were collected from the department of radiology in a private dental college and hospital and examined for bilateral coronoid foramen, confirmed patients were advised for CT. **RESULTS:** There were no bilateral coronoid foramen were not found with normal digital opg protocols.

**DISCUSSION:** Thereby, the possible hypothesis as understood from the exhaustive comparative morphology and the available literature by the author suggests, that the variation is a possible reflection of what is found in other mammals, one such hypothesis is the phylogenetic correlation.

**CONCLUSION:** From this study it is evident that there is no incidence of bilateral coronoid foramen in the digital opg.

### INTRODUCTION:

More so often, a clinical diagnostic and surgical dilemma which every clinician encounters is whether it is a 'variation from the normal or is it the normal variation'. The mandibular foramen is a prominent feature on the medial surface of the ramus of the mandible which is located just above its centre ('Local Government in Ghana. By J. S. Nsarkoh. London: Oxford University Press for Ghana Universities Press. 1964. xiv and 309 pp. 21s', 1964; Ellis, 1989; Popović *et al.*, 2017). Fawcett in 1895 wrote: 'The mandibular canal commences in the ramus midway between its anterior and posterior borders, and at the point of junction of the lower third with the upper two-thirds of a line drawn from the tip of the coronoid process to the angle of the jaw', and further that 'this line passes through the base of the lingula and the beginning of the inferior dental canal or groove leading into it, midway between the anterior and posterior borders of the ramus'. (Adlam, 1989) Accessory mandibular foramina are constant structures of the human mandible. They are the openings present in the mandible, other than alveolar sockets, mandibular and mental foramina (Adlam, 1989; Przystańska and Bruska, 2012). They are prevalent in the posterior mandible and the area of the symphysis and more frequently on the medial than the lateral surface of the mandible (Sutton, 1974) Nerves, neurovascular

bundles, arterioles and venules have been found to occupy the accessory canals and foramina. (Kaufman, Serman and Wang, 2000). Etymology of coronoid comes from the Greek word korax for raven or crow. This is a projection of bone that resembled a crow's beak. The term 'process' is derived from Latin which means 'to move forward', which denotes a projection of bone. However, the word coronoid also comes from the Greek word korone for hooked. (e.g., coronoid process of the ulna or of the mandible) also refers to a hooked projection of bone. (Kaufman, Serman and Wang, 2000; Longo, 2013). With a rich case bank established over 3 decades we have been able to publish extensively in our domain (Abdul Wahab *et al.*, 2017; Eapen, Baig and Avinash, 2017; Patil *et al.*, 2017; Jain and Nazar, 2018; J *et al.*, 2018; Marimuthu *et al.*, 2018; Wahab *et al.*, 2018; Abhinav *et al.*, 2019; Ramadorai, Ravi and Narayanan, 2019; Senthil Kumar *et al.*, 2019; Sweta, Abhinav and Ramesh, 2019). Based on this inspiration we aim to Incidence of Coronoid Foramen in Opg

### MATERIALS AND METHODS:

A random of 100 digital opgs from september 2019 - october 2019 of all age groups were collected from the department of radiology and examined by three reviewers and on the anticipated opgs the patient's concern was taken and confirmatory computerised tomography was taken to confirm the coronoid foramen.

Ethical approval All the findings were incidental and not planned procedural study. The patient was informed about the peculiar findings in him and an informed signed consent was taken with permission to use his data for research publication purposes

### RESULTS AND DISCUSSION:

Out of 100 opgs 56% were males and 44% were females (figure 1).the mean age of the study population was 28.35 years with a minimum of 17 years and maximum of 57 years ( figure 2).

From the acquired data the presence of bilateral coronoid foramen is relatively low / absent.(figure 3).

From these 100 opgs there are no findings of the bilateral coronoid foramen. There is an accidental finding of bilateral coronoid foramen reported from bengaluru(Firdoose Chintamani Subhan, 2018). Technique used for taking that opg was not mentioned in their study, in our study there is no findings of bilateral coronoid foramen. Advanced radiographic techniques like computerised tomography may be helpful for the three dimensional imaging of unidentified structures from normal imaging techniques. Recent advancements in CBCT(cone beam comotograph) which plays a major role in diagnosis and better visualization. Retrospective anatomic variations act as sign posts, planted at very irregular intervals, and often appearing at much unexpected places, which indicate the path which the individual has traversed in his ontogenetic and phylogenetic development.(Oetteking, 1923). A variation may occur in man which produces a structural character identical with what is seen normally in another animal group. The variation may be true, but for all that it does not follow, as a matter of course, that it is genetically related to the corresponding character in the animal group. This possibility has always to be in mind for determining the proper value of anatomical variation As these bilateral coronoid foramina along with the accessory foramina on the lateral aspect of the ramus of the mandible can be and are occupied by the neurovascular bundle. The confirmed structures are to be debated. We don't want to suggest extensive research on comparative morphology with respect to human evolution for further understanding by anatomists, neurovascular surgeons and radiologists. Large sample size with different geographic locations has to be considered , whereas this study was mainly confined to particular college.

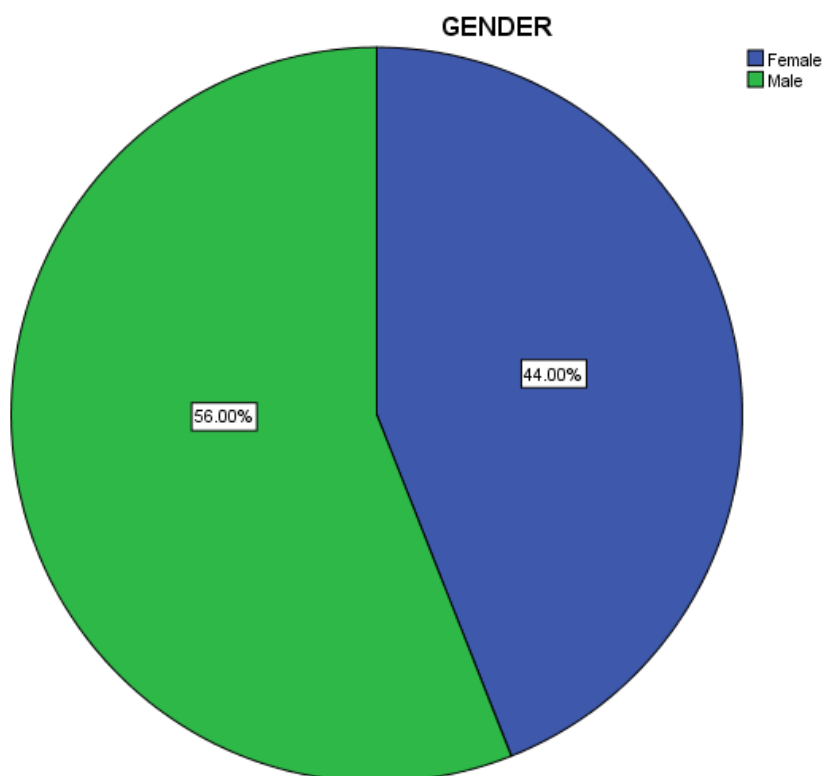


Figure 1: The above pie chart represents the study population. From the above pie chart it is evident that 56% are males(green) and 44% are females( blue).

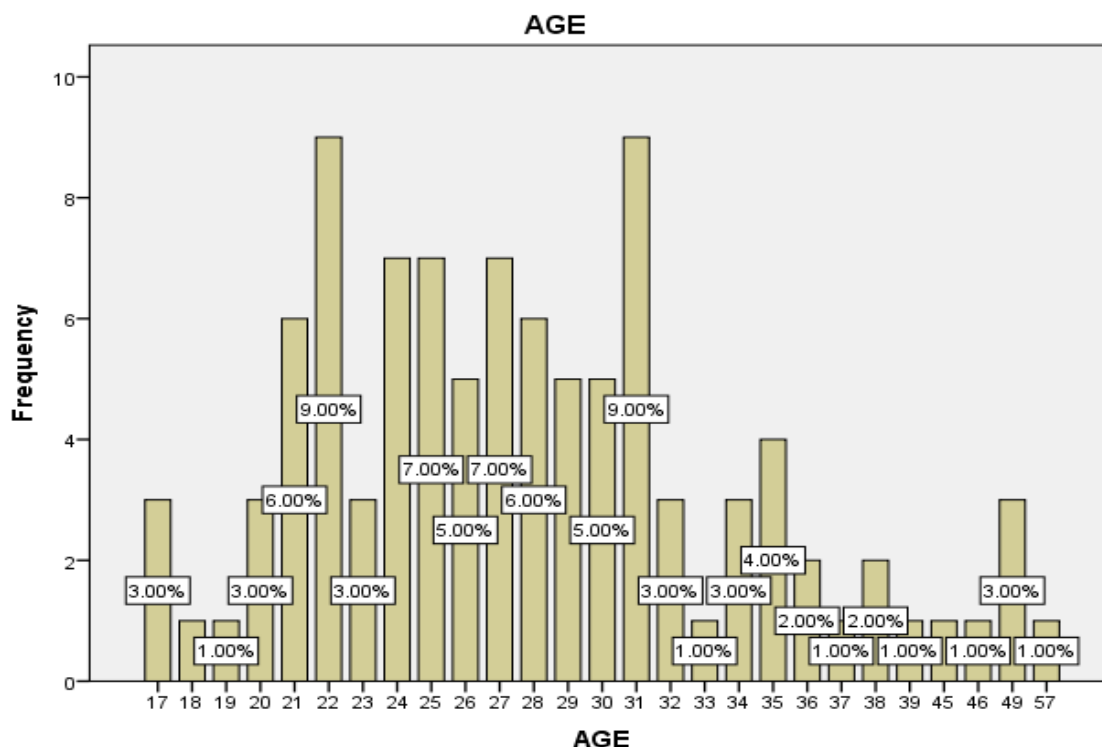


Figure 2: the above bar chart represents the age distribution of the patients. From the above bar chart it is evident that the mean age of the study population was 28.35 years with a minimum of 17 years and maximum of 57 years.

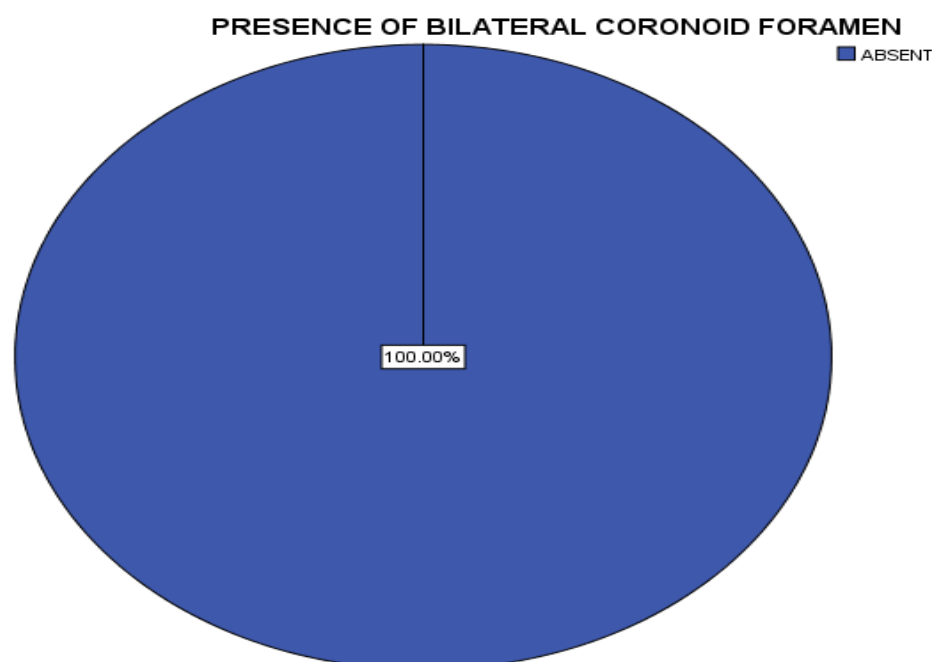


Figure 3: the above pie chart represents the presence of bilateral coronoid foramen findings in opg. It is evident that absence of the bilateral coronoid foramen is 100% (blue color)

**CONCLUSION:**

From the above study it is evident that there is no incidence of bilateral coronoid foramen in ortho pantomograph. Advanced radiological investigations are required for the conformation of the bilateral coronoid foramen like computerised tomography(CT). Furthermore studies are required with advanced imaging and large samples to visualize such peculiar structures which will aid in better understanding.

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