ABSTRACT

Introduction: IOF is a constant feature on the anterior surface of body of maxilla below the orbital margin. Infraorbital nerve (ION) & vessels pass through it. IOF assumes great importance in the field of Maxillo-facial surgery & dentistry as ION is anaesthetised during these procedures.

Aims & Objective: Presence of accessory IOF affects the process of nerve block as a branch of the nerve, may pass through it. Hence a study was conducted to determine the presence of accessory IOF.

Method: The study was conducted in Department of Anatomy, G.S.V.M. Medical College, Kanpur. 300 macerated dry adult human skulls of north Indian population belonging to both sexes were selected. Numbers of accessory IOF was determined by direct inspection.

Result: The present study found 10.7% of skulls have accessory IOF.

Conclusion: Thus knowledge of presence of Accessory IOF plays an important role in nerve block which, if ignored, would result in anaesthetic failure & injury to nerve.

INTRODUCTION
Infraorbital Foramen (IOF) is a constant feature on the anterior surface of body of maxilla present bilaterally 0.5 to 1 cm. below infraorbital margin (1,2).

Infraorbital artery which is a branch of third part of Maxillary artery exits through IOF. Its branches mainly supply structures in maxillary region.

Infraorbital nerve is a continuation of Maxillary nerve, second division of Trigeminal nerve (3,4). The terminal branches of Infraorbital nerve leave the infraorbital foramen. These supply skin of lower eyelid, conjunctiva, lateral surface of external nose, cheek and upper lip including skin, mucous membrane and gum (3,4,5,6,7,8,9,10).

The morphometry of IOF plays an important role during regional block anaesthesia techniques of Infraorbital nerve (11,,12,13,14) and nerve block during surgical procedures around it.

Another foramen referred to as Accessory Infraorbital Foramen (AIOF) may be present close to IOF (3,4,5,6,7,8,15,9,10). The frequency of AIOF is between 2.2 to 18.2% (16,17,18,19,20,21,22,7,8,23,24).

A branch of Infraorbital nerve may pass through it. This fact should be taken into consideration during surgical intervention. If ignored, it may result in injury to nerve and failure of anaesthesia and nerve block.

AIMS & OBJECTIVES
A branch of Infraorbital nerve may pass through AIOF. This fact should be taken into consideration during surgical intervention. If ignored, it may result in injury to nerve and failure of anaesthesia and nerve block.

Thus, a study was conducted to determine the presence of Accessory Infraorbital Foramen.

MATERIAL & METHODS
The study was conducted in the Department of Anatomy, G.S. V. M. Medical College, Kanpur, Uttar Pradesh, India.

A. 300 macerated dry adult human skulls of North Indian population belonging to both sexes were selected. Age, sex and race were not considered. The skulls of children were not considered. Because of great amount of error in attempting sex differentiation, it was decided not to differentiate skulls by sex (25).

B. Number and location of Accessory Infraorbital foramen was determined by direct inspection.

C. Digital camera was used for taking photographs.

RESULT

<table>
<thead>
<tr>
<th>S. NO.</th>
<th>SIDE</th>
<th>NO. OF SKULLS WITH ONE AIOF</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Right</td>
<td>11</td>
<td>3.67</td>
</tr>
<tr>
<td>2</td>
<td>Left</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>3</td>
<td>Bilateral</td>
<td>6</td>
<td>2.0</td>
</tr>
</tbody>
</table>

- 1 skull ie .33% had 2 AIOF on right side and 1 AIOF on left side.
DISCUSSION

Knowledge of presence of AIOF is very important to surgeons. A branch of infraorbital nerve may pass through it. Ignorance about the presence of AIOF may cause injury to the nerve during procedures around maxillofacial region. It may result in sensory deficit in the area of supply of that nerve.

The presence of AIOF is also important for anaesthetists. If not taken into account, it may result in failure of nerve block and anaesthesia (26,15).

Multiple IOF have been associated with branching of nerves during development and may explain cases of failure during infiltrative anaesthesia for maxillofacial procedures (9).

The present study found 10.7% of skulls have AIOF, frequenting to right side which was in sync with studies by Hindy, 1993 (10.0%); Elias,2004 (10.0%) ; Sarla Devi,2011 (9.6%).

The present findings were in contrast to the results obtained by Apinhasmit, 2006 (3.8%) ; Gour, 2003-2006 (4.0%) ; Illyaperuma,2010 (3.7%).

All the AIOF observed in present study were located superomedial to IOF. The result is in agreement with studies by Saylam et al.,1999 (79.8%) and Tezer et al.,2011 (93.3%).

CONCLUSION

Thus, from the above study, we can safely conclude that knowledge of presence of AIOF is very important for surgeon as well as anaesthetist. If ignored, it may result in nerve injury and failure of nerve block during procedures in maxillofacial region.

REFERENCES