

# **A MORPHOMETRIC AND RADIOLOGICAL STUDY OF GREATER SCIATIC NOTCH IN HIP BONE FOR SEX DETERMINATION**

## **ABSTRACT**

### **INTRODUCTION:**

Hip bone is an ideal bone for sex determination. The Ilium and Pubic bone fragile and poorly preserved. The greater sciatic notch is especially valuable in such situations because they are highly sexually dimorphic and are resistant to damage, thus sex of an individual can often be determined in poorly preserved skeleton. Identification of deceased person from bones is the most common and critical problem faced by anatomists, forensic science experts and anthropologists. Almost all bones of the body show some degree of sexual dimorphism. Accuracy depends on skeletal completeness. The present study is on study of Greater Sciatic Notch by metric and radiological methods for sex determination.

### **AIM:**

To analyze the morphology and morphometry of greater sciatic notch for sex determination by both bone and radiographic study.

### **PARAMETERS STUDIED ARE:**

1. Width of the greater sciatic notch.
2. Depth of the greater sciatic notch.
3. Width of the anterior segment of notch.
4. Width of the posterior segment of sciatic notch.
5. Index I -  $\text{Depth} \times 100 / \text{Width}$ .
6. Index II -  $\text{Anterior segment of Width} \times 100 / \text{Width}$ .
7. Index III -  $\text{Posterior segment of Width} \times 100 / \text{Width}$ .
8. Total angle of greater sciatic notch.
9. Posterior angle of greater sciatic notch.
10. Presence or absence of piriform tubercle.

## **MATERIALS AND METHODS:**

20 male and 20 female hip bones from the Institute of Anatomy, Madras Medical college for a period of 3 years from 2016.

25 radiographs of pelvis of both male and female from Barnard Institute of Radiology, Rajiv Gandhi Government General Hospital, Chennai.

The width of GSN was measured using vernier calipers and all other parameters measured after reconstruction the GSN on paper using inextensible thread, scale and protractor.

## **RESULT:**

The study of morphology and morphometry of the GSN in hip bone is of paramount importance in sex determination when a bone of unknown sex is found. The width of GSN, anterior segment of GSN, posterior segment of GSN, Index I of GSN, total angle of GSN, posterior angle of GSN are good sex discriminators. The depths of GSN, Index II of GSN, Index III of GSN are poor sex discriminators. Thus, we would have better guidelines for forensic and archeological analysis.

**Keywords :** Greater sciatic notch, Hip Bone.