Temporal bone and mastoid process morphology in Mediterranean Population

Evangelos Manolis[1], Dimitrios Filippou[1], P Vassilios Papadopoulos[2], Konstantinos Tsoumakas[1], Theofanis Katostaras[1], Efstratios Christianakis[1], Georgios Fildisis[1] and Efthimia Mompheratou[3]

[1]Departments of Anatomy-Histology-Embryology, Nursing School, University of Athens, Greece
[2]Department of Emergency Medicine, General Hospital of Xanthi, Xanthi, Greece
[3]Department of Anatomy, Medical School, University of Athens, Greece.

Key Words: mastoid air cell system, mastoid process, temporal bone.

SUMMARY

The mastoid process originates from a recent phylogenetic formation and is currently considered as an evolution of the supper-structures bones. The aim of this study was the detailed description of the anatomic elements of the mastoid and the temporal bone in a large Greek adult corpse material. In total, 298 temporal bones from 149 cadaverous (74 male and 75 female) were examined from 1973 through 1993. Concerning the shape of the mastoid apex 94.0% were normal, while the rest presented several variations No statistically significant difference was revealed between genders. The diameters and axis of the temporal bone presented an independent correlation with gender in a multiple regression model. This prescription may add in easier surgical approach by adding new morphological details directly from the corpse material.

INTRODUCTION

The mastoid portion of the temporal bone (namely as the mastoid process or the mastoid air cell system) is a representative osseous prominence that belongs to the supper-structures of the bones (Arora et al., 1978; Ashton and Zuckerman, 1954; Grant and Basmajian, 1980; Gulya and Schuknecht; 1955). The primitive humans (anthropoids and humans) encompassed a mastoid with abundant pneumatization that was evolutionary projected from the mammalian acoustic sphere with the most relevant species being the primitive monkeys. Although, the mastoid in protogenic humans was part of the temporal bone, it was missing the characteristic process.