



## THE HUMERUS SUPRATROCHLEAR FORAMEN; A CLINICAL STUDY FROM THE HELLENIC REGION OF MAGNESIA

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### ABSTRACT

In humans, the supratrochlear foramen (STF) is a well-known anatomic variation in the distal end of the humerus. The supratrochlear septum, a thin bone plate, divides the two ears. The coronoid and olecranon fossae. In several instances, it may be pierced in some circumstances to form a sort of aperture has a number of names, including olecranon foramen, intercondylar foramen septal aperture and epitrochlear foramen. According to studies, this thin bony plate is usually present. until the age of seven years, with a seven-year age limit after that, it might be absorbed and an STF created. Other research suggests that the significance of the T-Box genes is a family of genes that regulate the synthesis of a variety of proteins that are essential for life. It is possible that the growth of the limbs will result in the presence of a foramen like this. Under the license of the Municipal Authorities, skeletons were examined during an educational study among the skeletons of 4 major cemeteries in the Magnesia region and Agios Georgios, all now placed in the New Central Municipal Cemetery of Volos). Our first instance involves a 72-year-old male skeleton with a maximum femoral length of 34.5cm, epicondylar breadth of 7.1cm, coronoid fossa transverse diameter of 11.04cm, and cephalocaudal of 7.74cm. The STF appears to have been first characterized by Mekell in 1825, with Pomeranz putting him in international medical databases in 1946. Although the mechanism for its production is still unknown, several possibilities have been offered. Such an aperture, which the authors believe is an aperture rather than a foramen, has substantial clinical implications in medical practice. Our on-the-spot investigation on dry bones indicated a very low prevalence rate among India's community.

**Keywords:** *Supratrochlear Foramen*, Humerus, Hellenic region of Magnesia.

### INTRODUCTION

In humans, the supratrochlear foramen (STF) is a well-known anatomic variation in the distal end of the humerus [1]. The supratrochlear septum, a thin bone plate, divides the two ears. The coronoid and olecranon fossae [2, 3]. In several instances, it may be pierced in some circumstances to form a sort of aperture has a number of names, including olecranon foramen, intercondylar foramen septal aperture and epitrochlear foramen [4, 5]. According to studies, this thin bony plate is usually present. until the age of seven years, with a seven-year age limit after that, it might be absorbed and an STF created [6, 7]. Other research suggests

that the significance of the T-Box genes is a family of genes that regulate the synthesis of a variety of proteins that are essential for life. It is possible that the growth of the limbs will result in the presence of a foramen like this [8, 9]. A few hypothesized that the STF may be inherited evolutionary importance phylogenetic characteristic (theory of genetics) Furthermore, sporadic the ulna olecranon or coronoid pressure. The humeral septum may be affected by processes. As a result, there could be a bony restart with a formation of an STF at the same time. It could also be occurred among those who have a weaker, lighter constitution humeri (mechanics theory).

A STF can come in a variety of forms [10, 11]. It does, however, mostly have a spherical, reniform, sieve-like, oval, triangular, rectangular. With a translucent septum, it's irregular. Its occurrence is linked to the medullary system. According to reports, an STF is connected to a small-sized medullary canal [12].

#### Case Presentation:

Under the license of the Municipal Authorities, skeletons were examined during an educational study among the skeletons of 4 major cemeteries in the Magnesia region and Agios Georgios, all now placed in the New Central Municipal Cemetery of Volos). Our first instance involves a 72-year-old male skeleton with a maximum femoral length of 34.5cm, epicondylar breadth of 7.1cm, coronoid fossa transverse diameter of 11.04cm, and cephalocaudal of 7.74cm. The round in shape STF has a diameter of 4.5mm. The second humerus bone is from an 85-year-old female skeleton with a maximum femoral length of 28.25cm, epicondylar breadth of 5.1cm, coronoid fossa transverse diameter of 8.23cm, and cephalocaudal of 6.25cm. The irregular-parallelogram in shape STF has a diameter of 2.6mm. We discovered two occurrences of STF in 251 dry humeral bone pairs (78 male and 173 female), both unilateral, with a total incidence of just 0.8 percent, 0.4 percent on each side, and 0.4 percent on the sex.

#### Discussion:

The STF has a wide range of prevalence, ranging from 0% to 60%. Adult European populations have a prevalence of 5% to 10%, although some North African and West African tribes have a greater frequency of up to 60%.

Surprisingly, our search yielded a significantly lower number. In fact, STF does not meet the definition of a foramen, which is a passageway for arteries and nerves. As a result, it should simply be referred to as an aperture, or a hole in the bone that has been observed in humans and other primates. Because STF has a wide incidence reference among various groups, anthropologists might utilize it as a metric in racial identification. The presence of a supracondylar process has been linked to the presence of the STF in several studies. Traumatic injuries and pathological fractures, as well as intermedullary nailing operations, necessitate a thorough understanding of the distal humeri components. Furthermore, the STF is a radiolucent area that is commonly referred to as "pseudo lesion" in radiography. Because it can present as an osteolytic or cystic lesion in day-to-day clinical practice, knowing the shape and dimensions of this foramen, such as aperture diameter and transverse and vertical distance, could prevent a malpractice during interventional surgical procedures and a misinterpretation among radiologists.

#### Conclusion:

The STF appears to have been first characterized by Mekell in 1825, with Pomeranz putting him in international medical databases in 1946. Although the mechanism for its production is still unknown, several possibilities have been offered. Such an aperture, which the authors believe is an aperture rather than a foramen, has substantial clinical implications in medical practice. Our on-the-spot investigation on dry bones indicated a very low prevalence rate among India's community.

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