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Research Article

Accessory and Sesamoid Bones in the Body: A study on their Size and Presence

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Abstract

Aim: Accessory and sesamoid bones are hidden anatomical structures that fulfil a wide variety of functions in the human body. Therefore, studying the nature, formation and dimensions of these structures is of great importance for the medical literature. In our study, we aimed to measure the presence and area (size) of these ossicles.
Material and Method: Our study was performed retrospectively on the images of individuals who applied to Ordu University and whose radiological images were obtained. The presence of accessory and sesamoid ossicles (present/absent) and their sizes (measured using the PACS system) were evaluated on radiographs and Computed Tomography (CT) images. The results of the ossicles were divided into gender, age, and bilateral groups. Statistical analyzes were performed with the SPSS program.
Results: The most common and largest accessory ossicles in the foot were os peroneum (18.2%), os naviculare accessoria (17.4%), os trigonum (12.1%) and os intermetatarsarum (7.8%). Sesamoid ossicles at the level of the first metatarsophalangeal (mtp) joint of the foot and the first metacarpopgalangeal (mcp) joint of the hand were found to be 100% common. The second most common sesamoid bone in the hand and foot was at the fifth mtp (22.22%) and mcp (68.53%) joints. In the hand, the most common accessory ossicles were os triangulare (6.08%), os radiale externum (2.60%) and os centrale (1.73%). Accessory ossicles (fabella: 19%, cyamella: 17.5%) were found in 25.5% of the knee.
Conclusion: Accessory and sesamoid ossicles are most commonly found in the hand, foot, and knee. The presence and size of these ossicles can be both beneficial and harmful. Sesamoids provide mechanical benefit, whereas accessory ossicles can be mistaken for fractures and may lead to unnecessary medical conditions. Knowing the dimensions of these ossicles allows them to be clinically differentiated from avulsion fractures.

Keywords: Accessory ossicles, sesamoid ossicles, morphometry, radiograph

INTRODUCTION

Accessory bones in the body are variational bones that are formed by separation from the main bone during the development of the skeletal system and are of congenital origin. They are usually formed when the secondary ossification centre fails to join the primary ossification centre. They are usually round or oval in shape and have smooth edges. Although they do not cause pain under normal conditions, they may cause pain due to fractures, dislocations, bony deformities, irritation of soft tissues and overuse. Fractures and dislocations are the most common manifestations of disorders of these ossicles. In the presence of trauma, these bones may be misdiagnosed as avulsion fractures and may restrict movement. Therefore, the localization and dimensions of the accessory bones should be well known to avoid misdiagnosis. Misdiagnoses cause excessive workload, additional costs, and unnecessary treatment services (1,2).

Accessory bones around the foot and ankle are commonly seen. In the current literature, many accessory ossicles have been described in the foot. Some of these bones have not been adequately described or some of them have been described by many people. Musculoskeletal injuries in this region are commonly seen in patients presenting to the emergency department due to trauma. It is important for physicians to be aware of the presence of these bones and to differentiate them from fractures in radiographs or

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tomography images taken in emergency departments or clinics. Therefore, knowing the normal and/or abnormal variations of bone structures in the lower extremity and various radiological pitfalls that may cause confusion is the primary objective of our study (1,3).

The most common accessory ossicles in the foot and ankle are os trigonum, os peroneum and os naviculare accessoria. The os trigonum is formed by the separation of the lateral posterior process of the talus and should not be confused with a fracture of this process (Shepherd's fracture). Os peroneum is located within the tendon of the peroneus longus muscle within the cuboid tunnel. Accessory navicular bone is formed by the separation of the tubercle of navicular bone in the medial part of the navicular bone (4-6).

Os intermetatarsarum is usually located dorsal to the bases of the first and second metatarsal bones. The secondary calcaneal bone is an accessory ossicle arising from the anterior process of the calcaneus. The os vesalianum pedis is formed by the separation of the secondary ossification centre of the fifth metatarsal bone and is located within the tendon of the peroneus brevis muscle (7).

The term sesamoid is derived from the Latin word 'sesamum' and means sesame. A sesamoid bone is a small round bone embedded in a tendon or joint capsule. Sesamoid bones are typically found where a tendon passes over a joint. They prevent friction between the tendon and the joint, protect the tendon and increase the biomechanical effect of the tendon by changing its direction of pull. Most sesamoid bones begin as cartilaginous nodules that undergo endochondral ossification in early to late childhood, between the ages of 3 and 12 years. Sesamoid bones are generally thought to result from an interaction between mechanical and biological factors (2,8,9). The number and size of these bones can vary from person to person and are of great importance for athletes, dancers and other people involved in physical activity.

The largest sesamoid bone is the patella and is located within the tendon of the quadriceps muscle. In the foot, there are usually two sesamoid bones (sometimes 2-3 in pieces) at the connection of the first metatarsal bone with the big toe. Both are located within the tendon of the flexor hallucis brevis muscle. One is located on the lateral side of the first metatarsal and the other on the medial side. Some people have only one sesamoid on the first metatarsal bone (10).

There is a sesamoid bone called fabella embedded in the tendon of the lateral head of the gastrocnemius muscle behind the lateral condyle of the femur behind the knee. It is found in 10-30% of humans. It can be single-parted or multi-parted. Cyamella is rarely seen in humans and is found in the tendon of the popliteus muscle. The presence of fabella and cyamella usually does not cause knee pain or discomfort, but it can sometimes lead to knee problems in some athletes or individuals engaged in physical activity. Sesamoiditis, an inflammation of the sesamoid bones, is common in dancers and is caused by inflammation or irritation of the tendons surrounding these bones (11).

MATERIAL AND METHOD

Ethical approval was obtained from Ordu University Clinical Research Ethics Committee (2023/103) and Ordu Provincial Health Directorate. Computed Tomography (CT) and radiography images to be used in the study were obtained from Ordu University Training and Research Hospital PACS system. Individuals with fractures and chronic bone disorders in their extremities were not included in the study. Radiological images of the foot, ankle and knee were evaluated. The frequency of accessory and sesamoid bones (present/absence) and the size (area) of the bones with the cursor were calculated. The frequency of accessory and sesamoid bones according to age and gender and the bilateral differences were determined.

Statistical Analysis

Statistical analysis of the data was performed with IBM SPSS 28. All the measurements are expressed as the Mean±SD, and the incidence of each type is described in terms of numbers and percentages. The homogeneity of variance was performed using the Kolmogorov-Smirnov test. Mann-Whitney U test was applied for gender comparison in nonparametric data. $p<0.05$ was considered statistically significant.

RESULTS

Foot and ankle images (45 right foot, 30 left foot and 40 bilateral feet) of a total of 115 individuals were evaluated. The mean age of the individuals is 45.65±16.76 (14-86 years) and of these, 54 were male (47%) and 61 were female (53%). 55 patients had no accessory bone (47.82%), while 60 patients had at least one accessory bone (52.17%). In 16 bilateral feet (7 males, 9 females), no accessory bone was found (40%). No accessory bone was found in 25 right feet (55.55%) and 14 left feet (46.66%) in unilateral feet (Table 1).

On an individual basis, the most commonly identified accessory bones were os peroneum (18.2%), os naviculare accessoria (17.4%), os trigonum (12.1%) and os intermetatarsarum (7.8%). On a foot basis, os peroneum (14.83%), os naviculare accessoria (14.83%), os trigonum (9.03%) and os intermetatarsarum (0.64%) were the most common accessory bones (Figure 1). Accessory bones were found in 55.55% (30) of males and 50.81% (31) of females. The frequency of accessory bones in the foot is shown in Table 1.

In our study, in addition to the normal accessory ossicles reported in the literature, bipartite os trigonum* (2 feet) and bipartite os naviculare accessoria** (1 foot) were

found. These pairs of bones are usually one large and one small (Figure 2).

Table 2 shows the dimensions of the accessory bones found in the foot, their minimum and maximum values according to gender and bilateral averages. The largest accessory bone was os trigonum (83.83 mm^2), followed by os peroneum, os intermetatarsarum and os naviculare accessoria. Although accessory ossicles showed a steady increase with age, this increase was not found to be regular due to individual differences. The sizes of males were found to be larger than those of females (Graphic 1).

Table 1. Frequency of accessory bones in the foot

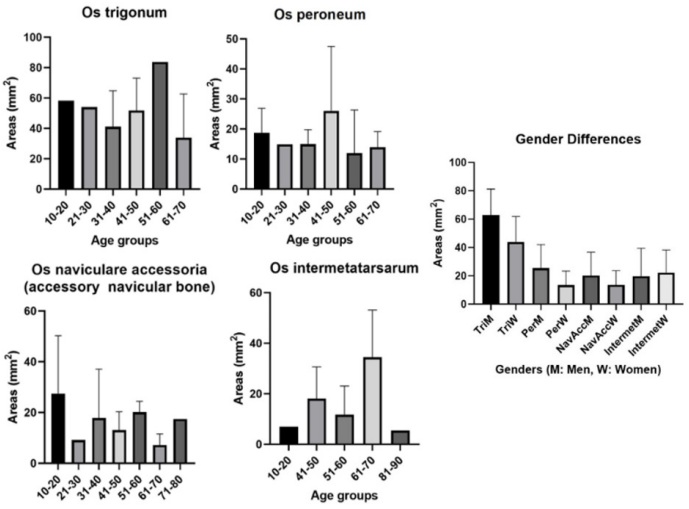
Accessory bones	Genders (54 Men, 61 Women)						Total (115)
	Men (36)		Women (39)		Men (18)	Women (22)	
	Right (21)	Left (15)	Right (24)	Left (15)	Bilateral (40)		
Os peroneum	5	3	5	6	1	1	21 (18.2%)
Os naviculare accessoria	6	1	4	6	1	2	20 (17.4%)
Os trigonum	2	4	7	1	-	-	14 (12.1%)
Os intermetatarsarum	4	3	-	1	-	1	9 (7.8%)
Os calcaneus secundarius	2	-	-	1	-	1	4 (3.5%)
Os vesalianum pedis	-	1	1	1	-	-	3 (2.6%)
Os supranaviculare	-	1	2	-	-	-	3 (2.6%)
Os supratalare	-	-	-	1	1	-	2 (1.7%)
Os cuboideum secundarium	1	-	-	1	-	-	2 (1.7%)
Os subfibulare	-	-	1	-	-	-	1 (0.9%)
Os talotibiale	-	1	-	-	-	-	1 (0.9%)
Os infranaviculare	-	-	-	1	-	-	1 (0.9%)
Os intercuneiforme	1	-	-		-	-	1 (0.9%)
Os tuberis calcanei	-	-	-	1	-	-	1 (0.9%)

Table 2. Areas (sizes) of accessory bones in the foot (mm^2)

Accessory bones	Men (54)			Women (61)		
	Min	Max	Right - Left (means)	Min	Max	Right - Left (means)
Os peroneum	11.07	60.03	23.89-27.82	3.42	44.12	9.63-16.65
Os naviculare accessoria	5.27	58.10	21.78-15.19	2.68	40.12	13.26-13.77
Os trigonum	33.68	83.83	71.09-58.77	13.5	68.62	43.95-13.50
Os intermetatarsarum	3.75	59.87	24.62-13.43	3.95	32.85	30.11-18.40
Os calcaneus secundarius	16.34	22.48	19.41	2.91	34.42	17.78-18.66
Os vesalianum pedis	4.48		4.48	8.96	27.13	27.13-8.96
Os supranaviculare	10.37		10.37	11.91	12.05	11.98
Os supratalare	9.98	10.11	10.11-9.98	4.54		4.54
Os cuboideum secundarium	3.35		3.35	7.37		7.37
Os subfibulare	-	-	-	29.26		29.26
Os talotibiale	24.77		24.77	-	-	-
Os infranaviculare	-	-	-	12.48		12.48
Os intercuneiforme	3.99	3.99	-	-		-
Os tuberis calcanei				22.56		

Figure 1. The most widely found accessory ossicles and their sizes in our study on foot radiographs

Figure 2. Bipartite os trigonum and bipartite os naviculare accessoria on axial CT section



Graphic 1. Comparison of the sizes of the most common accessory ossicles according to age and sex

Sesamoid Ossicles in the Foot

Sesamoid bones are small ossicles located at the level of the metatarsophalangeal joints in the foot and increase the insertion angle of the joint and provide better movement. In our study, sesamoid bones at the level of the right (Rmtp) and left metatarsophalangeal joints (Lmtp) and sesamoid ossicles at the level of the interphalangeal (interp) joints were evaluated.

Sesamoid ossicles were found in the lateral (Lat) and medial (Med) parts of the first metatarsophalangeal joint (mtp1) in all 84 right and 69 left feet. In 7.14% of the right and 8.69% of the left feet, these medial ossicles were divided into proximal (Prox) and distal (Dis) ossicles. These ossicles have different sizes depending on the age, bone development and gender. Figure 3 shows the frequency and mean size (mm^2) of sesamoid and accessory ossicles (mtp1, mtp2, mtp3, mtp4 and mtp5) in the foot. Accordingly, the largest sesamoid bone in the foot belonged to Rmtp1 Lat (97.84±26.47 mm^2). This was followed by Rmtp1 Med, Lmtp1 Lat, and Lmtp1 Med. The largest sesamoid bone was found to be Rmtp1 Lat with 181.49 mm^2. The smallest sesamoid ossicle was Rmtp5 (3.26 mm^2). The least common sesamoid ossicles were Rmtp3 (1.19%) and Rmtp4 (1.19%).

Figure 3. Frequency and size of the sesamoid bones commonly found in the foot (A and C: right foot; B and C: left foot) and of the sesamoid bones not commonly found (E, F and G).

Different from these sesamoid ossicles, we detected variational sesamoid ossicles including lateral and medial ossicles on the fifth metatarsophalangeal joint in 6 feet (Figure 3G), medial and lateral ossicles on the first interphalangeal joint in 3 feet (Figure 3E), proximal and distal separation of the lateral ossicle on the first metatarsophalangeal joint in 2 feet, lateral and medial ossicles on the fifth proximal interphalangeal joint in 1 foot (Figure 3F).

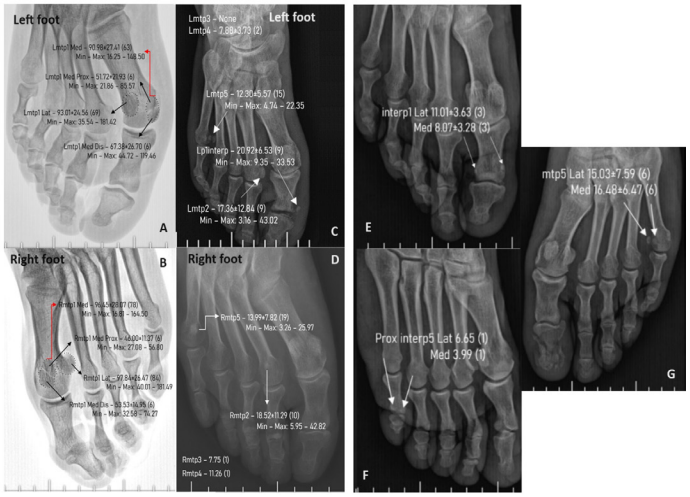


Figure 3. Frequency and size of the sesamoid bones commonly found in the foot (A and C: right foot; B and C: left foot) and of the sesamoid bones not commonly found (E, F and G)

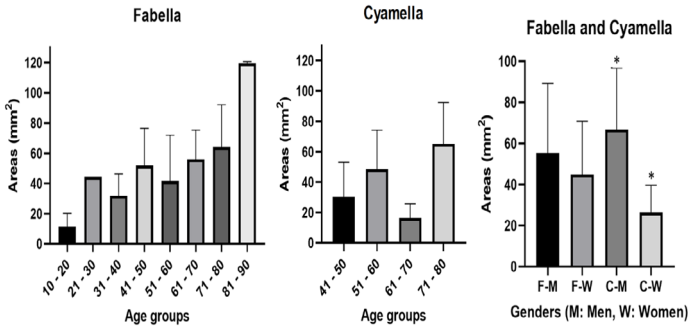
Accessory Bones in the Knee

In our study, bilateral knees of 200 individuals were evaluated. Of these, 68 were male and 132 were female with a mean age of 52.56±15.79 years (14-88 years). The incidence and dimensions of primary accessory bones of fabella and cyamella in the knee were evaluated. 149 (74.5%) of 200 participants had no accessory bones in the knee.

Fabella was found in 38 (19%) right and 35 (17.5%) left knees. In bilateral evaluation, fabella was found only in the right knee of 4 participants and only in the left knee of 1 participant. In the bilateral evaluation of 200 individuals, cyamella were found in 11 right knees and 12 left knees. Only 1 individual had cyamella only on the left side.

The minimum, maximum and average dimensions of fabella and cyamella in the right and left knee are shown in Figure 4. As a result of the measurements, it was observed that fabella and cyamella accessory ossicles in the knee increased with age. In addition, the sizes of these bones were determined to be larger in male individuals and a statistically significant difference (*p<0.05) was found between men and women in cyamella bones (Graphic 2). These findings provide an important contribution to research on bone development and sex differences.

Figure 4. Accessory and sesamoid ossicles identified on lateral knee radiographs



Graphic 2. Comparison of accessory bones in the knee according to age and sex (F: fabella, C: cyamella)

Sesamoid Ossicles in the Hand

In our study, 143 hand images of a total of 115 individuals, including 45 right hands, 42 left hands and 28 bilateral hands, were evaluated. The mean age of the individuals is 43.50±19.06 (14-88 years) and of these, 49 were male (42.60%) and 66 were female (57.40%). Sesamoid ossicles on the metacarpophalangeal joint (mcp1, mcp2, mcp3, mcp4 and mcp5) and interphalangeal joint were analysed on the images. The lateral and medial sesamoid ossicles on the first metacarpophalangeal joint (mcp1=hallux sesamoids) were found in all hands. The largest sesamoid ossicle found in the right hand was the lateral sesamoid ossicle (Rmcp1 Lat) on the metacarpophalangeal joint (23.47±7.68 mm²). The average size of the sesamoid ossicles in the hand is shown in Figure 5B.

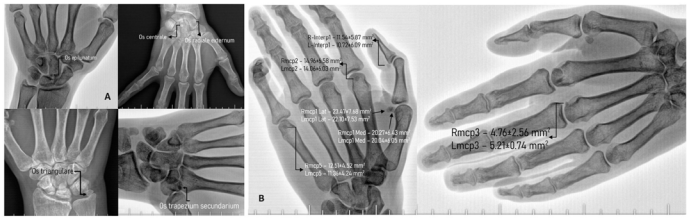


Figure 5. The frequency and mean size of sesamoid (B) and accessory (A) ossicles in the right and left hand

The most common sesamoid ossicles in the hand were mcp1 (100%), left mcp5 (72.85%), right mcp5 (64.38%) and right mcp2 (53.42%). When analysed individually, the largest sesamoid ossicle was found to be Lmcp1 lateral (49.40 mm²), and the smallest sesamoid ossicle was found to be left mcp4 (2.60 mm²). Table 3 shows the frequency of sesamoid ossicles in the hand and their minimum and maximum dimensions. Sesamoid ossicles in the hand increase significantly with age, but this increase is not large due to individual differences.

Accessory Bones in the Hand

The presence and dimensions of the accessory ossicles in the hand were evaluated and the most common accessory ossicle was os triangulare. Seven different accessory ossicles were found, os centrale (1.73%-11.13 mm²), os triangulare (6.08%-9.21 mm²), os radiale externum (2.60%-9.30 mm²), os epilunatum (0.86%-6.60 mm²), os vesalianum manus (0.86%-6.45 mm²), os epitrapezium (0.86%-1.27 mm²) and os trapezium secundarium (0.86% - 12.90 mm²) (Figure 5A).

Tablo 3. The frequency and minimum-maximum size of sesamoid ossicles in the hand

	Frequency of occurrence		Minimum - Maximum	
	Right hand	Left hand	Right hand	Left hand
Mcp1 lateral	(73)-100%	(70)-100%	3.45-47.11	3.30-49.40
Mcp1 medial	(73)-100%	(70)-100%	3.62-38.72	3.59-35.74
Mcp2	(39)-53.42%	(31)-44.28%	3.69-31.45	6.11-27.56
Mcp3	(3)-4.10%	(3)-4.28%	2.84-7.68	4.57-6.03
Mcp4	-	(1)-1.42%	-	2.60
Mcp5	(47)-64.38%	(51)-72.85%	4.51-20.62	3.18-22.26
Interp1	(24)-32.87%	(29)-41.42%	2.54-26.80	3.92-32.40

Mcp: metacarpophalangeal joint; interp1: first interphalangeal

DISCUSSION

The accessory bones and sesamoid bones are notable for being mysterious anatomical structures that perform a wide range of functions in the human body. These bones are found in the body in unique shapes and have a variety of functions. It is therefore of great importance to the fields of medicine and biology to study the nature, occurrence, and dimensions of these important structures (9).

The functions of the accessory and sesamoid ossicles are primarily mechanical. Accessory ossicles often act as pulleys, changing the direction and magnitude of muscle forces, or as shock absorbers, protecting joints from excessive forces. Sesamoid ossicles reduce friction and increase the mechanical advantage of tendons, improving their ability to transmit force and maintain joint stability (12).

Although they are generally recognised as anatomical variations, their presence can have clinical implications. Understanding the anatomy, function and clinical significance of these ossicles is crucial for the accurate diagnosis and treatment of associated conditions. Further research in this area may shed more light on the prevalence and variability of accessory and sesamoid ossicles among populations. Although there are many studies in the literature measuring the presence of accessory and sesamoid bones, there are not studies examining the areas (sizes) covered by these ossicles and their distribution according to age and gender. In our study, we tried to fulfil this deficiency.

The first discovery of these structures was made by cadaver dissection, and later, many studies have been carried out with these ossicles with imaging. The prevalence of accessory bones in the foot varies considerably according to the population studied and ranges from 21% to 49.2% (9,13). In a study conducted in a Korean population, accessory ossicles were found in 49.2% of healthy, asymptomatic Korean adults. Although we reported a high rate of accessory ossicles in our study, we identified at least one accessory ossicle in 52.18% (60/115). In studies in the literature, this rate was reported as 18.3%, 26.1% and 40.2% with different rates (14-17).

Although there are approximately 40 accessory bones, os trigonum is one of the most common accessory ossicles. Os trigonum syndrome is the pathology of this ossicle. It may occur with hyperflexion of the ankle (18,19). As we found in our study, it may be bipartite in some individuals. This variation should be noted as it may have radiographic appearances similar to a fracture of the posterior talar process (20). Its frequency varies between 1-25% in the literature (7,14-17,21). Candan B. et al. evaluated the diameters of os trigonum on radiological images and showed its mean length as 10.21 mm and mean width as 6.53 mm.

Os peroneum was first described in the "Fabrica" of Andreas Vesalius and is found in 9% to 26% of the general population. It has an oval, triangular or round shape and can be bipartite or multipartite. It is one of the largest accessory bones (40 mm^2) and its size range is very wide. In our study, a prevalence of 18.2% was found similar to the literature. In a study (22), the mean area was reported as 2.48mm^2 on the right and 2.70 mm^2 on the left, and the minimum area was found to be 3.42 mm^2 in our study.

Os naviculare accessoria, also called os tibiale externum, is the third most common accessory ossicle in our study. Its reported prevalence varies between 4 and 34% (23,24). Although it was found bilaterally in 3 patients in our study, it may be bilateral up to 50% according to some studies (5). According to Geist classification, it may be triangular or heart-shaped with dimensions ranging from 2 mm to 12 mm (25). In our study, it contains an area of approximately 2.70-58 mm^2.

In addition to these most common ossicles, other accessory ossicles: os intermetatarseum, os calcaneus secundarius, os vesalianum, os supranaviculare, os supratalare, os cuboideum secundarium, os subfibulare, os talotibiale, os infranaviculare, os intercuneiforme and os subtibiale are rarely reported in the literature (Table 4).

Table 4. The frequency of accessory bones in the foot reported in the literature

	Our study (115)	Kır et al. (277)	Cıllı et al. (464)	Candan et al. (1651)	Kalbouneh et al. (1000)	Total range
Accessory bones (Total)	52.17%	45.4%	18.3%	26.1%	40.2%	21%-49.2%
Os peroneum	18.2%	16.6%	31.8%	5.8%	11.5%	9%-26%
Os naviculare accessoria	17.4%	65.8%	28.2%	7.9%	13.7%	4%-34%
Os trigonum	12.1%	11.9%	23.5%	9.8%	15.4%	7%-25%
Os intermetatarsarum	7.8%	2.3%	1.2%	0.12%	0.2%	1%-7%
Os calcaneus secundarius	3.5%	-	-	0.42%	0.3%	0.4%-11%
Os vesalianum pedis	2.6%	7.1%	5.9%		1.1%	<1%
Os supranaviculare	2.6%	-	3.5%	0.36%	0.7%	~1%
Os supratalare	1.7%	-	2.4%	0.48%	0.3%	0.2%-2.4%
Os cuboideum secundarium	1.7%	-	-	-	-	~0.1%
Os subfibulare	0.9%	-	-	0.42%	0.6%	0.2%-6.6%
Os talotibiale	0.9%	3.9%	-	-	0.4%	<0.5%
Os infranaviculare	0.9%		3.5%	-	0.3%	
Os intercuneiforme	0.9%	2.3%	-	-	-	
Os tuberis calcanei	0.9%					

Sesamoid bones provide mechanical advantage during flexion of the fingers by reducing friction and strengthening the adjacent soft tissues (4). The medial and lateral hallux sesamoids are embedded in the medial and lateral tendons of the flexor hallucis brevis tendon. The size and shape of the hallux sesamoids vary considerably. In our study, the mcp1 lateral sesamoid (93.01 mm^2) was found to be larger than the medial (90.98 mm^2), and in addition, medial hallux sesamoid being in two parts as proximal and distal, which is reported with a rate of 2.7% in the literature (1), was found in 6 individuals (8.69%) in our study. Since it is difficult to distinguish bipartite medial hallux sesamoid radiologically, size difference as we measured in our study will be the solution to this situation. The fractured medial hallux sesamoid will appear larger than the lateral one, but as we stated in our study, the lateral hallux sesamoid is larger than the medial one. Knowing the normal dimensions, especially at the first presentation to the hospital, will reduce the likelihood of fracture. The incidence of mtp2 (12.92%), mtp3 (0.68%), mtp4 (2.04%) and mtp5 (23.12%) sesamoid ossicles was similar to the literature (1,4,26).

In humans, most of the sesamoid ossicles begin to develop in early and late childhood. Dharap et al. (27) reported that ossification of the first finger starts at the age of 10-11 years and is completed at the age of 13-14 years. Sesamoid ossicles are known to have important functions, such as protecting the tendon from damage and, in some cases, increasing the efficiency or mechanical advantage of associated muscles. If we consider that the sesamoid bones in the foot are particularly useful in walking, the sesamoids in the hand may have benefits such as increasing the strength of hand movements and providing a benefit in grasping an object with the fingers.

The incidence and size of sesamoid bones in the hand may vary depending on factors such as race, sex, and region. In our study, lateral and medial sesamoid ossicles at the level of the metacarpophalangeal joint of the thumb were seen in all individuals (73, 100%). In the literature, this rate varies between 98-100% (8,27). Similar to mtp1 sesamoids in the foot, the lateral sesamoid ossicle was found to be larger in mcp1 (Rmcp1 Lat: 23.47 mm^2, Lmcp1 Lat: 22.10 mm^2). In our study, the frequencies of mcp2, mcp3, mcp4 and mcp5 were 48.95%, 4.19%, 0.70% and 68.53%, respectively. Similar to our study, the frequency of mcp2 and mcp5 was reported as 42.3% and 41.1%, respectively, in the study by Amar E et al. (8).

Seki Y. et al. (28) reported the frequency of interp1 sesamoid ossicle as 67% in their study in which they analysed the sesamoid ossicles on the interphalangeal joint of the hand, while this rate was 37.06% in our study. In our study, os triangulare (6.08%) and os radiale externum (2.60%) were the most common accessory ossicles in the hand. Amar et al. (8) reported the most common os ulnostyloideum (1.13%) and os triangulare (0.67%).

The term 'Fabella' originated from the Latin term 'faba', meaning bean. In humans, it is more common in men than in women, and in older individuals than in younger ones. Bilateral presence is more common and unilateral is less common, and in individual cases fabellae are equally likely to be found on the right or left knee. Fabella and cyamella are anatomically similar sesamoid ossicles. Akkoç et al. (29) reported its presence in 38.8% of Turkish population and found the thickness, width, and length of fabella to be 3.84 mm, 6.04 mm, and 6.23 mm, respectively. In our study, the incidence of fabella was similarly 36.5% and the mean size was 49.37 mm^2 on the right and 48.19 mm^2 on the left.

CONCLUSION

According to the results of our study, the frequency of accessory and sesamoid ossicles in the hand, foot and knee was found to be compatible with the literature. Accessory and sesamoid ossicles are first visualised on radiographs and CT scans in the hospital. In our study, we measured the size (area) of these ossicles to differentiate them from avulsion fractures. There is no similar study in the literature. The physician can predict that the fragment separated from the main bone may be an accessory bone or a fracture with the size values in our study. With these results in our study, we thought that we could help clinicians and contribute to the literature.

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