

A STUDY ON MORPHOMETRY OF SQUATTING FACETS

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HOW TO CITE THIS ARTICLE:

Suresh Bidarkotimath, Manju Prakash, Shishirkumar. "A Study on Morphometry of Squatting Facets". Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 18, May 04, 2015; Page: 2727-2730.

ABSTRACT: Squatting is known to change the morphology of the bones especially the lower end of tibia and the superior articulating surfaces of talus. The changes are commonly known as squatting facets. Due to ever changing adoptions of the modern world the frequency of finding the squatting facets has been lowered. Is the facet inherited or is due to the prolonged extreme dorsiflexion is the question of the hour. The aim of the present study is to find the morphometry of the squatting facets so that a base study is formed for further evaluation to find out whether the morphometry changes occurs in subsequent populations or is the presence of such facets has an inherited history.

KEYWORDS: Dorsiflexion, Facets, Inherited, Morphology, Squatting.

INTRODUCTION: Changes in the morphology of the bones have long been reported due to the different life style changes. One such life style adoption is squatting, that is known to change the morphology of the bones especially the lower end of tibia and the superior articulating surfaces of talus. The changes are commonly known as squatting facets.

In the tibia it is commonly found on the anterior margin of the inferior articulating surface of the bone. The facet is commonly found anterior to the superior articulating surfaces of talus. Many authors have reported the presence of such facets in different populations.^{1, 2, 3, 4} But the morphometry in different parameters of the squatting facets has not been attempted. Many authors have claimed the presence of facets in the new born as well.¹ But is the facet inherited or is due to the prolonged extreme dorsiflexion is the question of the hour.

Due to ever changing adoptions of the modern world the frequency of finding the squatting facets has been lowered.⁵ The aim of the present study is to find the morphometry of the squatting facets so that a base study is formed for further evaluation to find out whether the morphometry changes occurs in subsequent populations or is the presence of such facets has an inherited history.

MATERIALS AND METHODS: Fifteen bones belonging to each side in which the squatting facets were clearly seen were selected in the Department of Anatomy, DM-Wayanad Institute of Medical Science. The Squatting facets were measured using a thread and scale. The highest curved length and breadth were recorded.

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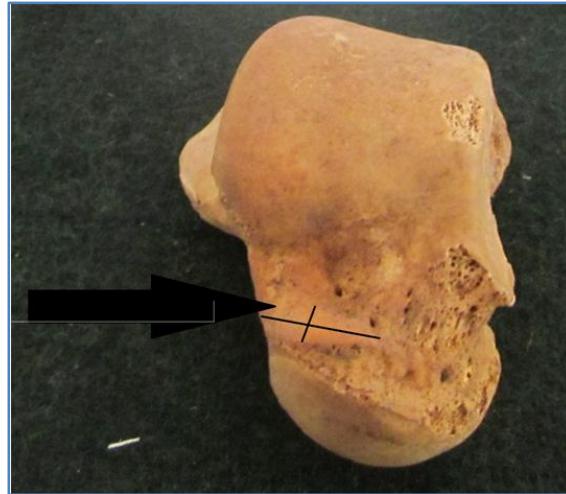


Image 1: Showing the Squatting facet of talus and the measurements that were taken



Image 2: Showing the Squatting facet of tibia and the measurements that were taken

RESULTS: The following results were obtained which can be appreciated in the tables below.

Squatting Facet (Tibia)	Side	Number	Mean	Std Deviation	t	df	Sig. (2-tailed)
LENGTH	LEFT	15	25.308	2.79431	0.213	17	0.834
	RIGHT	15	25.0522	2.40128			
WIDTH	LEFT	15	7.793	1.430991	1.328	17	0.202
	RIGHT	15	7.008889	1.098584			

Table 1: Showing the measurements obtained in the squatting facets of the tibia in each side

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Squatting Facet (Talus)	Side	Number	Mean	Std Deviation	t	df	Sig. (2-tailed)
Length	LEFT	5	15.334	3.158177	-0.248	9	0.81
	RIGHT	6	15.87833	3.960088			
Width	LEFT	5	13.118	1.5531	-0.078	9	0.94
	RIGHT	6	13.20833	2.16449			

Table 2: Showing the measurements obtained in the squatting facets of the talus in each side

There is no statistical significance in the measurements obtained in the different measurements obtained from both sides.

DISCUSSION: In the present study the maximum length and breadth of the squatting facets seen in the lower end of tibia and the superior articulating surface of talus has been studied. This forms the base for the evaluation of the further studies that would be done in the subsequent years in different population and find out whether the dimensions of the squatting facets has been coming down in which it will be concluded that the squatting facets is a direct consequence of the life style modifications. If the dimensions will be equal or approximately equal we can come to a conclusion that the genetic factors are playing their role and the evolution is taking its own course in the development of morphology.

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Date of Submission: 30/10/2014.
Date of Peer Review: 31/10/2014.
Date of Acceptance: 11/11/2014.
Date of Publishing: 02/05/2015.