Publisher
Maharshi Charaka Ayurveda
www.maharshicharaka.in

E-ISSN:2456-3110

Journal of Ayurveda and Integrated Medical Sciences

2025 Volume 10 Number 9 September

Case Report

Gantzer's muscle

# Variation of Flexor pollicis longus muscle (Gantzer's muscle) - A Rare Variation

Kavyakala[1*], Jose K[2], Kumar N[3]

DOI:10.21760/jaims.10.9.51

[1*] Kavyakala, Third Year Post Graduate Scholar, Dept of Rachana Sharira, Sri Dharmasthala Manjunatheshwara College of Ayurveda, Hospital and Research Centre, Kuthpady, Udupi, Karnataka, India.

[2] Kochuthresia Jose, Assistant Professor, Dept of Rachana Sharira, Sri Dharmasthala Manjunatheshwara College of Ayurveda, Hospital and Research Centre, Kuthpady, Udupi, Karnataka, India.

[3] Nithin Kumar, Professor, Dept of Rachana Sharira, Sri Dharmasthala Manjunatheshwara College of Ayurveda, Hospital and Research Centre, Kuthpady, Udupi, Karnataka, India.

Flexor Pollicis longus is one of the deep muscles of the anterior compartment of the forearm, responsible for the flexion of the thumb at the interphalangeal joint. By originating from the anterior surface of radius and the adjacent interosseous membrane, this muscle inserts into the base of the distal phalanx of the thumb. However, anatomical variations in its morphology, including presence of extra head, commonly referred to as the Gantzer's muscle are not common. This study presents a rare case of additional head of the flexor pollicis longus muscle arising from the ulna.

**Keywords:** Flexor Pollicis longus, Accessory head, Gantzer's muscle.

**Corresponding Author**

Kavyakala, Third Year Post Graduate Scholar, Dept of Rachana Sharira, Sri Dharmasthala Manjunatheshwara College of Ayurveda, Hospital and Research Centre, Kuthpady, Udupi, Karnataka, India.
Email: kavyakala98@gmail.com

**How to Cite this Article**

Kavyakala, Jose K, Kumar N, Variation of Flexor pollicis longus muscle (Gantzer's muscle) - A Rare Variation. J Ayu Int Med Sci. 2025;10(9):324-326.
Available From
https://jaims.in/jaims/article/view/4744/

**To Browse**

| Manuscript Received | Review Round 1 | Review Round 2 | Review Round 3 | Accepted |
|---|---|---|---|---|
| 2025-07-11 | 2025-07-22 | 2025-08-02 | 2025-08-12 | 2025-08-28 |

| Conflict of Interest | Funding | Ethical Approval | Plagiarism X-checker | Note |
|---|---|---|---|---|
| None | Nil | Not required | 10.52 | |

## Introduction

Flexor Pollicis Longus muscle is a unipennate muscle[1] and one among deep muscles of anterior compartment of forearm. This muscle originates from the upper three fourths of anterior surface of the shaft of radius, extending between its tuberosity to within a short distance of pronator quadratus and adjoining part of the anterior surface of the interosseous membrane.[2] The muscle fibres end in a flattened tendon, lies superficial to the pronator quadratus and lateral to the flexor digitorum profundus. The tendon of this muscle passes deep to the flexor retinaculum, between the opponens pollicis and the oblique head of the adductor pollicis and is enclosed in a synovial sheath(osseo-aponeurotic) to facilitate smooth gliding.[3] Tendon gets inserted to the palmar surface of the base of distal phalanx of the thumb. This muscle is innervated by anterior interosseous nerve.[4] Blood supply to this muscle is by anterior interosseous artery which is a branch of ulnar artery.[5] The main action of this muscle is flexion of distal phalanx of the thumb. It also flexes proximal phalanx of thumb and first metacarpal at the metacarpophalangeal and carpometacarpal joints respectively.[6] Embryologically all skeletal muscles of the limb arise from myogenic precursor cells derived from hypaxial division of myotomes, which in turn come from somites. The upper limb muscles begin to form around the fifth week of embryonic development. As the limb bud grows, these myogenic cells migrate into the developing limb and split into dorsal and ventral masses. Flexor pollicis longus muscle arises from the ventral muscle mass of the forearm.[7]

## Methods

During the routine dissection on the right upper limb of a male cadaver of 72years old in the department of Sharira Rachana, after careful removal of skin, superficial fascia, superficial muscles of forearm, variation is identified.

## Result

After dissection of skin, superficial fascia and superficial muscle of forearm, it is observed that flexor pollicis longus muscle had an accessory tendinous head which originates from the lateral aspect of coronoid process of ulna, lateral to ulnar tuberosity above insertion of Brachialis muscle.

This head with its belly accompanied flexor digitorum profundus muscle in its lateral aspect and joins with flexor pollicis longus muscle in its middle one third and blended with the perimysium of the same. Later the muscle was inserted to the palmar surface of the base of distal phalanx of the thumb. The additional head was supplied by Anterior interosseous nerve and Anterior interosseous artery.

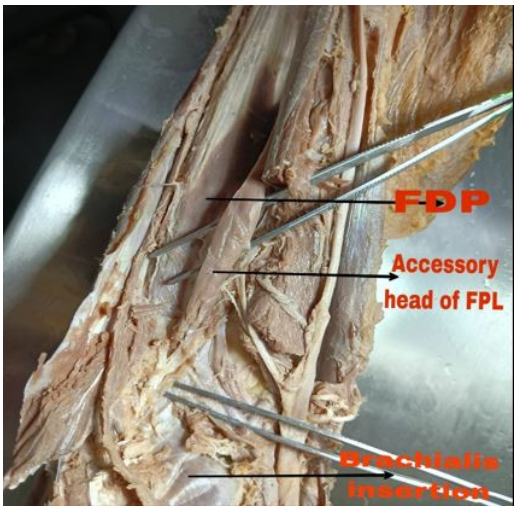


**Figure 1: Presence of accessory head of Flexor Pollicis Longus muscle**

FDP - Flexor digitorum profundus, FPL - Flexor pollicis longus

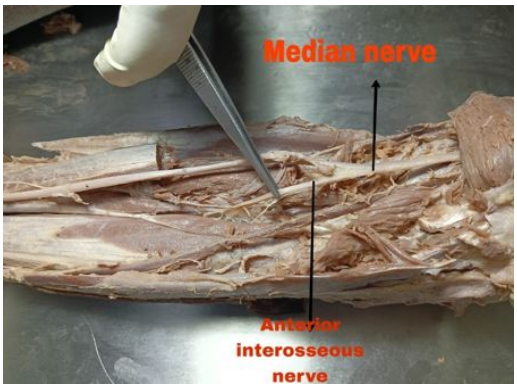


**Figure 2: Nerve supply to the Accessory Head**


**Figure 3: Insertion of Flexor Pollicis Longus**

## Discussion

Flexor pollicis longus muscle plays a vital role in the functional anatomy of the hand especially in thumb movement and precision grip. The presence of an accessory head of this muscle is an anatomical variation, commonly referred to as Gantzer's muscle. The accessory head is found in approximately 25%-73.6% of individuals in cadaveric studies, typically arises from medial epicondyle of the humerus, the coronoid process of the ulna, or the shaft of the ulna. It usually inserts into the main belly or tendon of the muscle.**[8]** This may assist in enhancing strength and stability of the thumb. Clinically the accessory head can compress the anterior interosseous nerve, leading to the condition called anterior interosseous nerve syndrome. This condition causes weakness or paralysis of flexor pollicis longus, flexor digitorum profundus, pronator quadratus.**[9]**

## Conclusion

An accessory muscle slip of flexor pollicis longus exhibits considerable anatomical variation. Recognising its presence is vital in clinical practice, particularly in cases of anterior interosseous nerve syndrome which is usually developed due to injuries, compressions or during forearm surgeries. Knowledge about these anatomical variations not only aids in accurate diagnosis, surgical planning but also enhances our understanding about functional anatomy of forearm.

## References

1. Williams PV, Warwick R, editors. Gray's Anatomy. 36th ed. New York: Churchill Livingstone; 1980. *p. 524 [Crossref][PubMed][Google Scholar]*

2. Williams PV, Warwick R, editors. Gray's Anatomy. 36th ed. New York: Churchill Livingstone; 1980. *pp. 577–8 [Crossref][PubMed][Google Scholar]*

3. Williams PV, Warwick R, editors. Gray's Anatomy. 36th ed. New York: Churchill Livingstone; 1980. *p. 578 [Crossref][PubMed][Google Scholar]*

4. Williams PV, Warwick R, editors. Gray's Anatomy. 36th ed. New York: Churchill Livingstone; 1980. *[Crossref][PubMed][Google Scholar]*

5. Garg K, editor. B D Chaurasia's Human Anatomy. Vol. 1. *6th ed. New Delhi: CBS Publishers and Distributors; p. 109 [Crossref][PubMed][Google Scholar]*

6. Singh V. Textbook of Anatomy. Vol. 1. *3rd ed. New Delhi: Reed Elsevier India Pvt Ltd; p. 108 [Crossref][PubMed][Google Scholar]*

7. Devi VS, editor. Inderbir Singh's Human Embryology. 12th ed. New Delhi: JP Brothers Medical Publishers; 2021. *pp. 189–92 [Crossref] [PubMed][Google Scholar]*

8. Ballesteros DR, Forero PL, Ballesteros LE. Accessory head of the flexor pollicis longus muscle: anatomical study and clinical significance. Via Medica. 2018. *[Crossref][PubMed][Google Scholar]*

9. Potu BK, Gorantla VR, Pulakunta T, Rao MS, Mamatha T, Vollala VR, Nayak SR. Accessory head of flexor pollicis longus muscle and its significance in anterior interosseous nerve syndrome: case report and review. Int J Morphol. 2007;25(4):911–14. *[Crossref][PubMed][Google Scholar]*