

This is a provisional PDF only. Copyedited and fully formatted version will be made available soon.



**ISSN:** 0015-5659

**e-ISSN:** 1644-3284

**Before assessing a novel muscle in the hand, please be very careful**

**Author:** Georgi P. Georgiev

**DOI:** 10.5603/FM.a2023.0028

**Article type:** Letter to the Editor

**Submitted:** 2023-02-26

**Accepted:** 2023-04-05

**Published online:** 2023-04-20

This article has been peer reviewed and published immediately upon acceptance. It is an open access article, which means that it can be downloaded, printed, and distributed freely, provided the work is properly cited. Articles in "Folia Morphologica" are listed in PubMed.



## LETTER TO THE EDITOR

### **Before assessing a novel muscle in the hand, please be very careful**

Georgi P. Georgiev

Department of Orthopaedics and Traumatology, University Hospital Queen Giovanna – ISUL,  
Medical University of Sofia, Bulgaria

Address for correspondence: Georgi P. Georgiev, MD, PhD, DSc, Department of  
Orthopaedics and Traumatology, University Hospital Queen Giovanna – ISUL, Medical  
University of Sofia, 8, Bialo More Str., BG 1527 Sofia, Bulgaria, tel: +359884 493523, e-  
mail: [georgievgp@yahoo.com](mailto:georgievgp@yahoo.com), ORCID: <https://orcid.org/0000-0001-8343-0337>

I read with interest the article of Antonopoulos et al. [1] on the study of a variant  
hypothenar muscle – “Aberrant accessory abductor digiti minimi manus muscle: a rare  
anatomical variation”, which the authors accept as unique.

However, I want to apply my modest comments to this article. 1) In the abstract, the  
authors state that except for morphological variations of the ADMM, have been described  
other cases of an extra wrist muscle, as the accessory ADMM. Such an opinion at the start of  
the manuscript could mislead the readers; in the discussion most of the text is directed to the  
accessory ADMM, as hypothenar muscle variation, and its role in compression syndromes at  
the wrist. Moreover, all of the reported examples are different variants of the ADMM, not a  
cases of extra wrist muscles. 2) Antonopoulos et al. [1] reported that the presented accessory  
ADMM originated from the tendons of the flexor digitorum superficialis (FDS). Firstly, I  
would like to point out not so representative dissection and fixation of the upper extremity.  
Secondly, it is clearly visible that the origin of the presented muscle is from the antebrachial  
fascia, which is widely known [3]. 3) In the case report section the authors report an origin  
from the tendons of the FDS and insertion to the base of the fifth proximal phalanx. However,  
at the start of the discussion they present the described case as unique with origin from FDS  
and insertion to the head of the fifth metacarpal. Moreover, the same description is also

included in the conclusion. Thus, it could be not clearly understood the correct attachment of unique accessory ADMM. This raised my forth comment. 4) About quality and clearness of the figures; no clear insertion of the accessory muscle to the head of the fifth metacarpal bone or to the base of the fifth proximal phalanx is presented. I would like to point out that when the authors pretend to describe something unique nowadays, they need to present it in clear and informative dissection, excellent photographs and no misdicriptions in the text. 5) In the discussion the authors state that the existence of an accessory AADM muscle has been previously described [5]. According to this consideration and to the description in the case report section, Antonopoulos et al. [1] accept the described unique muscle as a hypothenar variation; this is in contrast to their previous assessment for an extra wrist muscle in the abstract. However, if they accepted an insertion to the fifth metacarpal, as they present in the start of discussion and conclusion, thus an extra wrist muscle which might involve the wrist function should be accepted. 6) In the discussion, at the start of section clinical considerations, the authors report that generally, the existence of an accessory ADMM has been involved in ulnar nerve compression. However, the cited articles to this statement are cadaver cases, not some surgical ones. Therefore, to my opinion, presented in that way this statement is very speculative. It should be noted that the existing anatomical variation near the nerve generally does not mean entrapment [4]. To accept nerve compression by the variant muscle, hypertrophy of the muscle should exist, and thus narrowing the canal through which the nerve passes. Muscle variation should be considered as a predisposing factor that could provoke nerve compression [3,4]. Moreover, in the presented cadaver case, no medical history was proven. To my opinion, the authors need to point out the medical history of the anatomical specimen if existed or report that such an information is missed, especially in cases of possible neurovascular entrapment.

## **REFERENCES**

1. Antonopoulos I, Tsikouris G, Chrysikos D, Asouhidou I, Paraskevas G, Troupis T. Aberrant accessory abductor digiti minimi manus muscle: a rare anatomical variation. *Folia Morphol* (Warsz). 2023, doi: 10.5603/FM.a2023.0015
2. Georgiev GP. Hypothenar muscles-A popular object of anatomy and surgery and some misdescriptions. *Clin Anat*. 2020;33(3):326. doi: 10.1002/ca.23537.

3. Georgiev GP, Jelev L, Surchev L. Undescribed variant muscle-"deep abductor-flexor" of the little finger, in relation to ulnar nerve compression at the wrist. *Ann Anat.* 2007;189(3):276-282. doi: 10.1016/j.aanat.2006.11.003.
4. Georgiev GP. Re: Wang CK, Ng CY. Accessory flexor carpi ulnaris: a rare cause of distal ulnar nerve compression. *J Hand Surg Eur.* 2021, 46: 197-9. *J Hand Surg Eur Vol.* 2021;46(9):1014-1015. doi: 10.1177/17531934211003791.
5. May CA. Long Abductor Digiti Minimi Muscle: Variation of the Hypothenar Muscles and Clinical Consequences. *Clin Anat.* 2020;33(5):643-645. doi: 10.1002/ca.23472.