Immunhistochemical analysis of sensory nerve endings in the triangular fibrocartilage complex in humans

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Objectives

to analyze type and pattern of sensory nerve endings in human TFCC

Methods

✓Dissection of TFCC from 11 human cadaver wrists

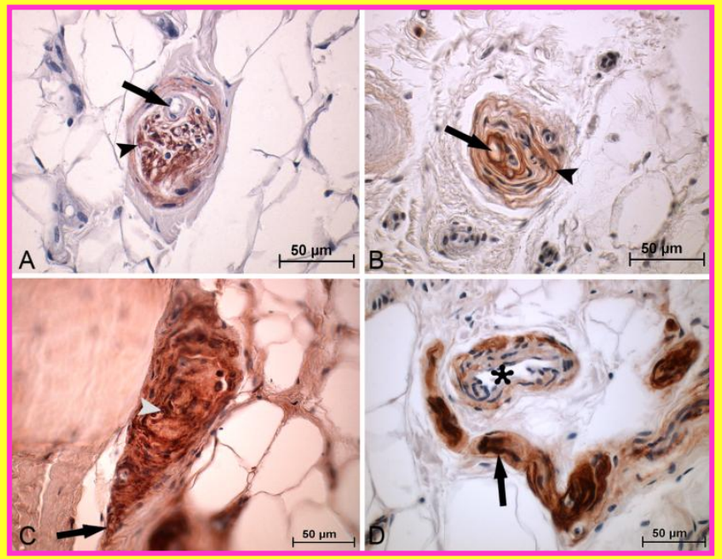
✓determination of sensory corpuscles

✓Total cell count/section at 5 levels, respectively

✓according Freeman and Wyke's classification, modified by Hagert

✓Immunhistochemistry with S-100 protein, neurotrophin receptor p75, protein gene product 9,5

Ruffini (type I)

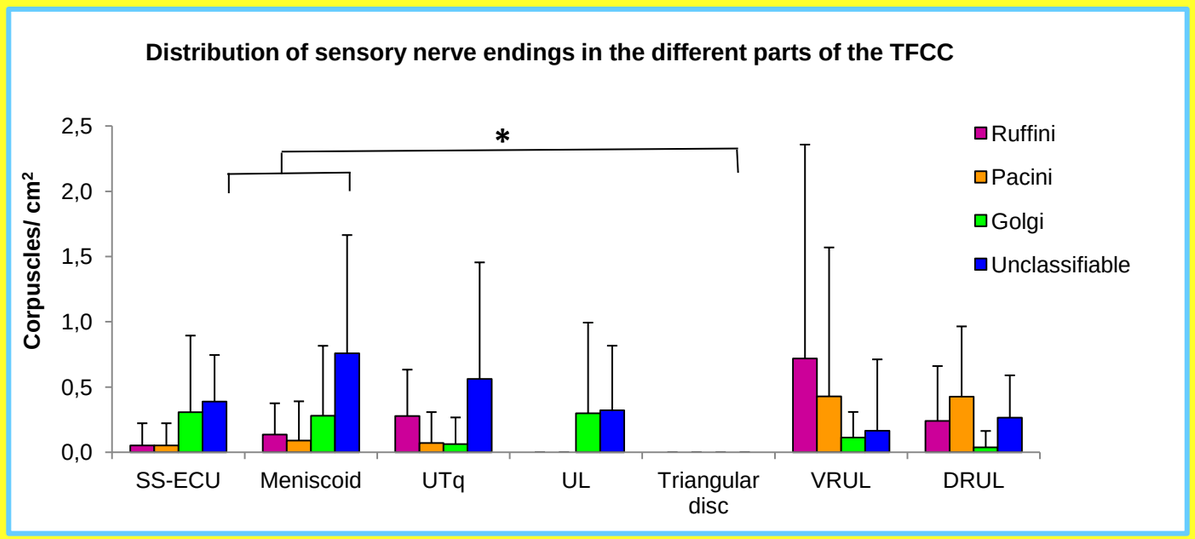


Pacini (type II)

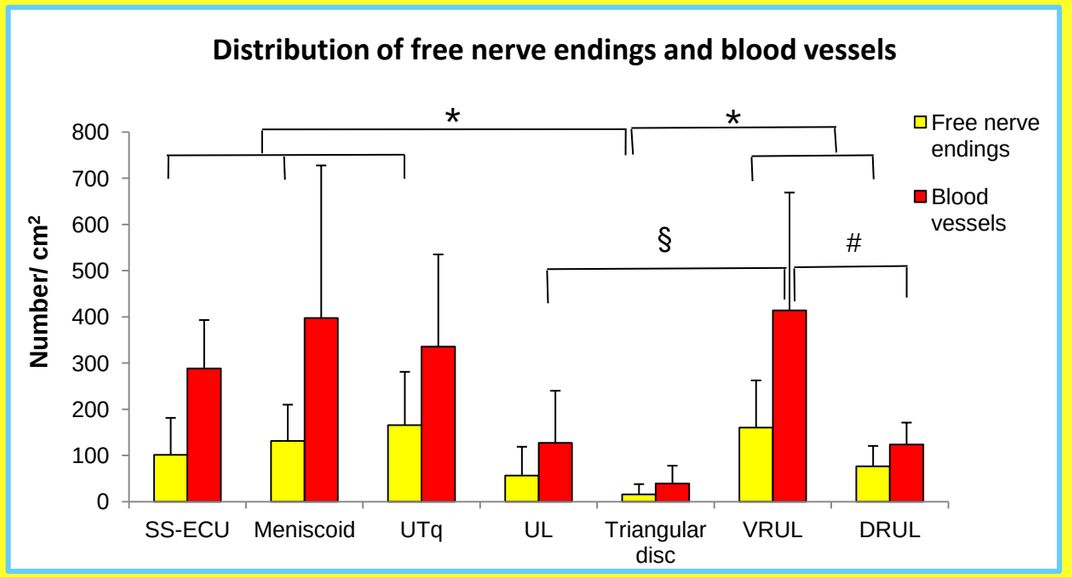
Golgi (type III)

Free nerve endings (type IV)

Results



* p=0.002, Unclassifiable corpuscles



* p<0.001, Free nerve endings and blood vessels
§ p=0.002 Blood vessels
# p=0.001 Blood vessels

Conclusions

Free nerve endings were the predominant receptor type, indicating that nociception has great importance in wrist proprioception. The triangular disc is rarely innervated, which implies less proprioceptive functions of the TFCC, rather static functions.