

통증 및 근골격재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

P 1-102

Assessment of real thickness of plantar fascia using ultrasound

Jaeki Ahn ^{1†}, Jun Hyeong Song ^{1*}

Sanggye Paik Hospital, Inje University, Department of Rehabilitation Medicine¹

Background

Plantar fascia (PF) thickness measured by ultrasound is the length from anterior edge of inferior calcaneal border vertically to superficial aspect (=lower margin) of PF. True insertion site of PF tend to locate posterior to the anterior edge. Therefore, the conventional values can be different from its real thickness. The aim of this study was to compare the PF thickness measured by conventional method to its real thickness.

Methods

99 feet of 50 healthy adults without foot pain were measured. Unlike conventional method measuring PF thickness from the anterior edge (conventional thickness group=CT), subjects were assessed by detecting thickness from upper margin of plantar fascia (real thickness group=RT) (Figure 1). These parameters were measured in long and short axis views when the fascia was in relax. The same process was done when plantar fascia was in stretched position.

Results

In relaxed feet, CT and RT values were obtained in long and short axis views. CT values were significantly larger than RT values ($p<0.05$) in long axis views (CT: $3.6\pm 0.7\text{mm}$ vs RT: $2.8\pm 0.5\text{mm}$). Also, CT values were significantly larger in short axis views (CT: $3.4\pm 0.7\text{mm}$ vs RT: $2.8\pm 0.6\text{mm}$). There was no significant difference between CT and RT values in accordance with axis of ultrasound. Also, effect of stretching PF on its thickness was evaluated. CT values were significantly larger when PF was stretched (Rest: $3.6\pm 0.7\text{mm}$ vs Stretched: $3.8\pm 0.7\text{mm}$)($p<0.05$). However, stretching PF did not affect RT values, which means it's more constant than CT values.

Conclusion

Conventional method for measuring PF thickness is widely accepted. However, this method can be disorienting as it cannot reflect the real thickness of PF. In this study, RT values were constant regardless of patient's foot position or ultrasound views. New method for detecting thickness by using other anatomical landmark is considerable.

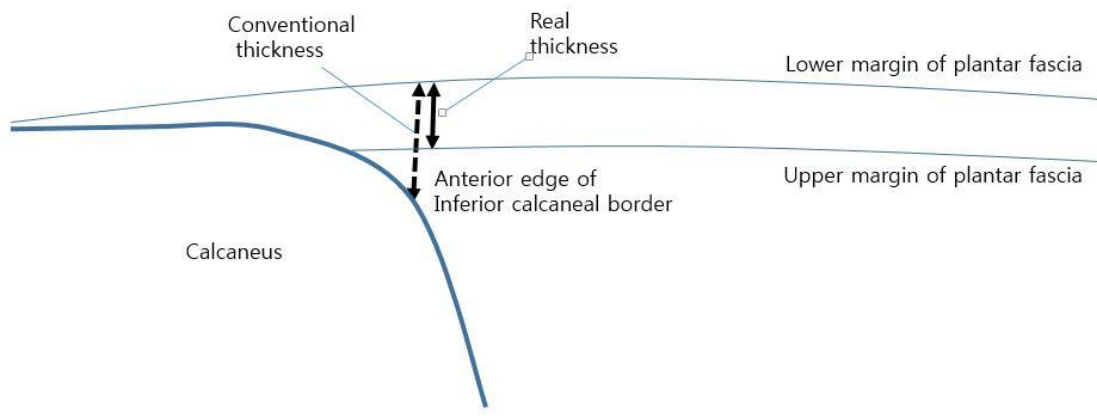


Fig 1. Schematic drawing of measuring plantar fascia thickness