

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 1-143

Error Assessment of Ultrasonographic Evaluation on Measuring Skin and Subcutaneous thickness - Case serial

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Commonly, ultrasonographic techniques are first used to assess various musculoskeletal disease in clinical fields. When evaluating patients with ultrasonography, we first approach to skin and subcutaneous tissue. Then, we can get information about skin and subcutaneous thickness through applying sono probe. However, in this situation, unexpected pressure may be offered by examiner. Skin and subcutaneous tissue will be pushed by this pressure, so, the measurements may have a chance to be underestimated. As a result, there can be a critical misinterpretation due to the method of application a probe. To analyze this problem, we compared several sonographic measurement with applying ultrasound transmission gel only or applying additional gel pad can be applied on before application of probe.

10 out-patients who visited our clinic were evaluated by ultrasonography. Outcomes were consisted with direct depth for measurements of skin thickness and subcutaneous thickness with applying ultrasound transmission gel only and applying additional gel pad. The examination was held at same location : above 10cm and below 10cm of elbow or knee level of each patients. And two clinical practitioner whose major is rehabilitation medicine, participated in this analysis, therefore, each patients took this examination 2 times repeat. Table 1. and Figure 1. shows the example of ultrasonographic examination.

There was no significant difference in measurements of skin thickness and subcutaneous thickness with applying ultrasound transmission gel only and applying additional gel pad. Also, there was no clear difference in results between two clinical practitioner.

We reports that there is no significant difference in skin and subcutaneous thickness between applying ultrasound transmission gel only and applying additional gel pad. This findings suggest that it is not necessary to consider the possibility of misestimation due to pressure when measuring skin and subcutaneous thickness with using ultrasound transmission gel in conventional way.

Table 1. Example of comparing the result of skin and subcutaneous thickness with applying ultrasound transmission gel only or additional gel pad

	with ultrasound transmission gel apply (0.5cm distance from skin)		with additional gel pad apply (2cm distance from skin)	
	1 st measurement	2 nd measurement	1 st measurement	2 nd measurement
skin thickness above knee 10cm	0.19cm		0.19cm	
skin thickness below knee 10cm	0.91cm		0.91cm	
subcutaneous thickness above knee 10cm	0.19cm		0.19cm	
subcutaneous thickness below knee 10cm	0.91cm		0.91cm	

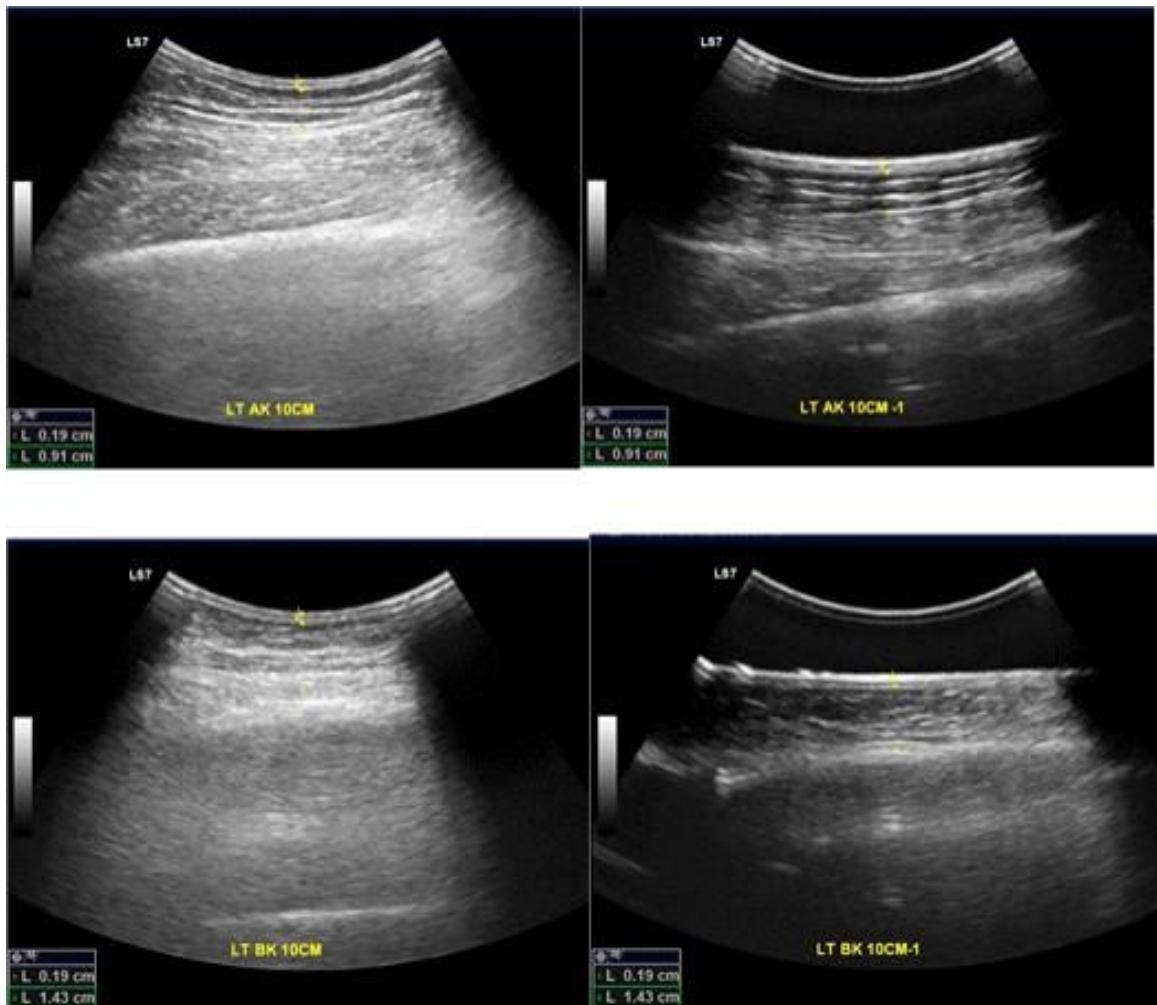


Fig. 1 Example of skin and subcutaneous thickness measured by ultrasonography