

MSK Ultrasound Clinical Case Study

Radial collateral ligament tear



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Graduated with a degree in radiography from Newcastle University in 2009 and completed a post-graduate diploma in Medical Ultrasound at Queensland University of Technology (QUT) in 2013. Aaron has a special interest in MSK ultrasound borne out of a passion for sport.

Introduction

A 29-year-old female patient presented with pain in the first metacarpophalangeal joint (MCP) following a hyperextension injury.

Case Study

An ultrasound examination was performed on the Canon Aplio i800 / Prism Edition system using a 22 MHz ultra-high frequency hockey stick transducer (PLI-2002BT). A full thickness tear of the radial collateral ligament (RCL) and an avulsion fracture of the first metacarpal joint were visualized. Ultrasound findings also suggested a partial thickness tear of the ulnar collateral ligament (UCL).



Figure 1 Imaging of the MCP Joint clearly demonstrates fluid emanating from the joint.



Figure 2 Imaging of the UCL shows an echogenic area at the distal portion of the ligament. Findings are suggestive of a partial tear.



Figure 3 Imaging of the RCL of the thumb shows a 2.5 mm echogenic area at the proximal portion of the ligament suggestive of an avulsion fracture.

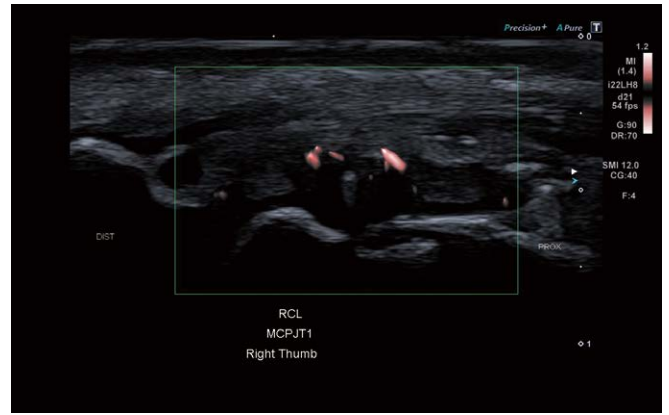
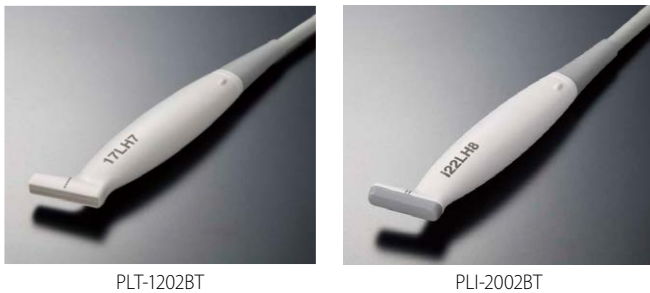


Figure 4 Superb Micro-vascular Imaging (SMI) of the RCL shows increased vascularity.



PLT-1202BT

PLI-2002BT

Figure 5 The 17 MHz and the 22 MHz hockey stick transducers available on the Aplio i-series.

Discussion

The ulnar and radial collateral ligaments are the two main supporting structures that traverse the metacarpophalangeal (MCP) joint of the thumb. Forced adduction is the most common cause of injury to the RCL, while forced abduction movements are the cause of most acute injuries to the UCL. The damage sustained to both ligaments were clearly demonstrated in this hyperflexion case.

Canon provides two available high frequency hockey sticks on the Aplio i800 / Prism Edition. These are the 17 MHz (PLT-1202BT) and 22 MHz (PLI-2002BT). Both hockey sticks have a very fine footprint allowing easy access for imaging superficial areas in hard-to-reach anatomical places.

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MCSUS0016EA 2021-11 CMSC/Produced in Japan

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The clinical results described in this paper are the experience of the author.
Results may vary due to clinical setting, patient presentation and other factors.

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