



SONOGRAPHIC FINDINGS IN STRAIN INJURY OF GASTROCNEMIUS MUSCLE AND RECTUS ABDOMINIS MUSCLE — CASE REPORTS —

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Muscle strain is one of the most common injuries in middle-aged human population and occurs both in sport and in normal life activity. The mechanism of injury involves passive overstretching during simultaneous active contraction of the muscle. Muscles of the complex architecture are predisposed to the strain. The damage usually involves the intrasubstance tear localized in the region of musculotendinous junction and may be confirmed using sonography which is commonly applied as the first step of diagnostic imaging.

Case 1

The 34 years old tennis coach felt the acute pain in the right calf while playing. The calf was swollen and palpably painful. The patient suffered from acute pain in the middle part of the calf during attempt of plantarflexion.

Fig. 1

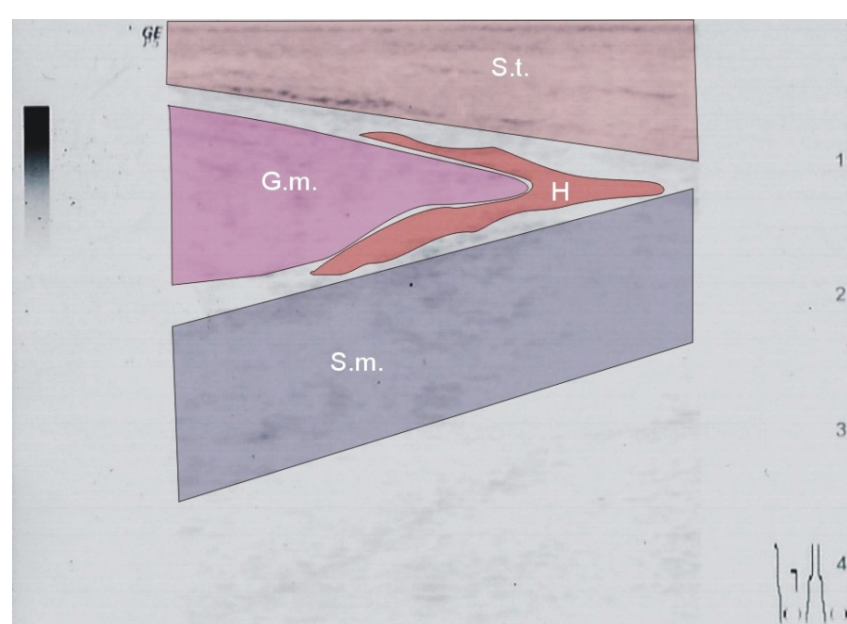
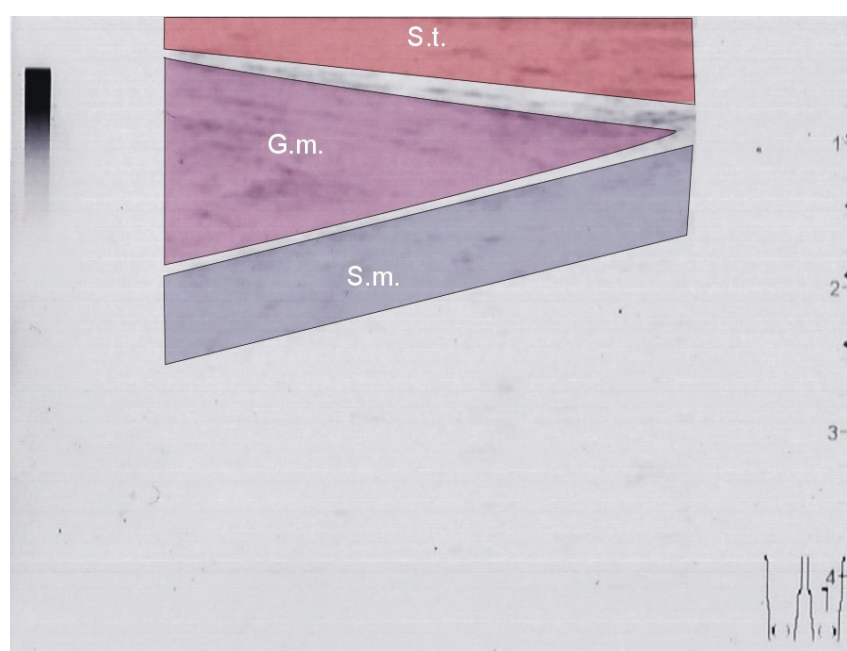
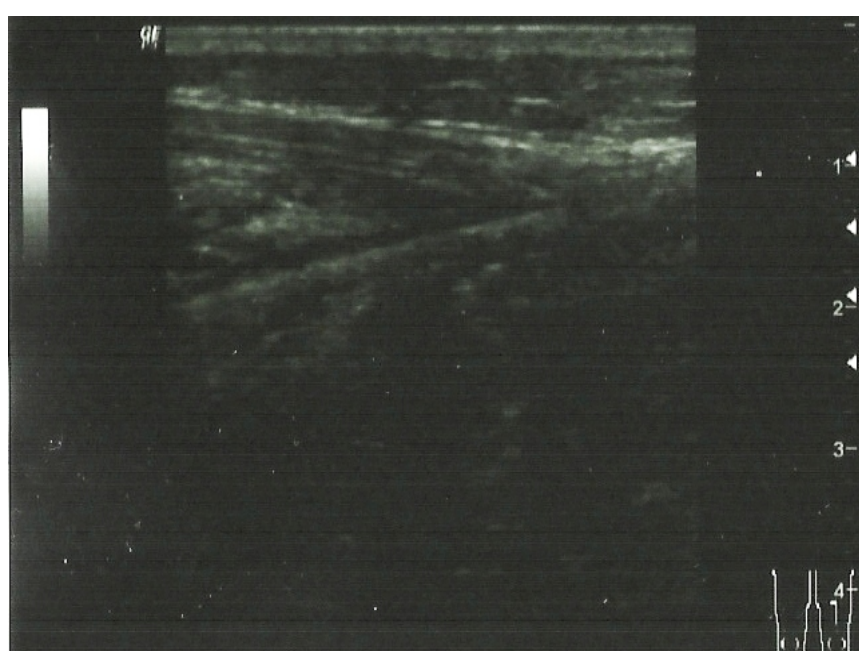


Fig. 2



Sonography revealed incomplete rupture of musculotendinous junction of the medial head of left gastrocnemius muscle with retraction of muscle fibers and hypoechoic haematoma (Fig. 1). The calcaneal tendon, lateral head of gastrocnemius, and soleus muscle were normal. Sonography of the opposite leg showed normal appearance of medial head of the right gastrocnemius muscle (Fig. 2).

Case 2

The 30 years old recreational soccer player underwent sonography for diagnosis of the pain in the right groin which appeared after rapid rising to kick the ball.

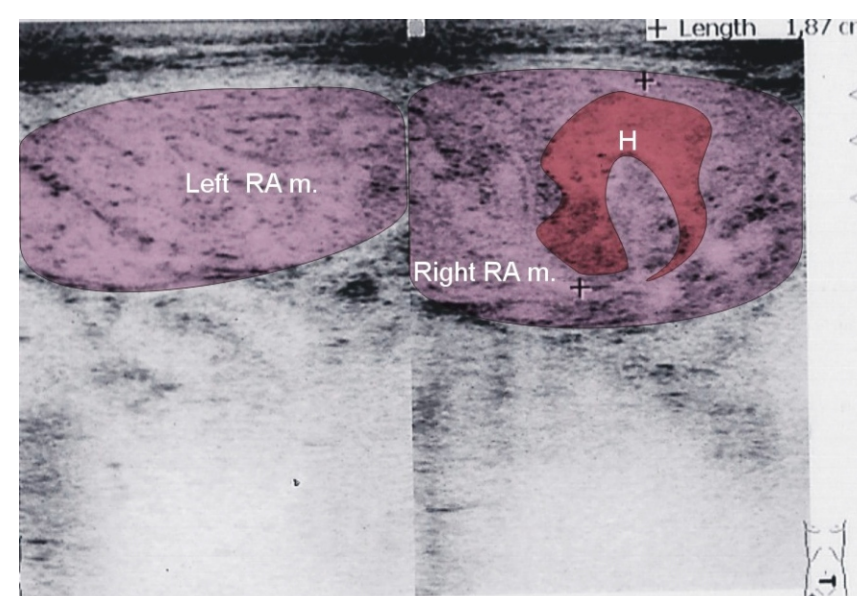
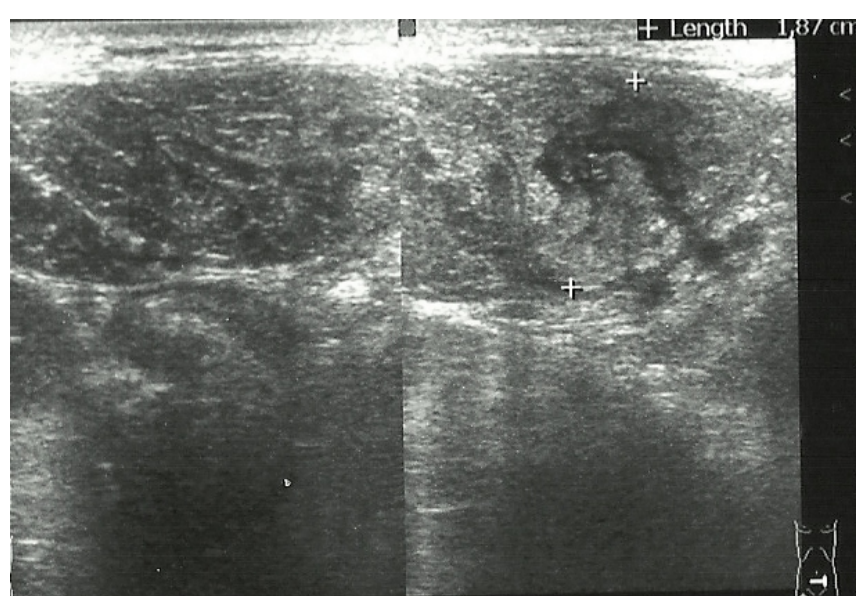


Fig. 3

Sonography did not confirm the inguinal hernia suggested by physician but revealed retraction of muscle fibers in the lower segment of the right rectus abdominis muscle and the hypoechoic irregular space corresponding to haematoma (Fig. 3). The area of damage was localized inside the muscle and was surrounded by tissue of normal sonographic appearance. The right rectus abdominis sheath and the proximal part of the rectus femoris muscle were undamaged.

The strain injury of the medial head of gastrocnemius muscle called “the tennis calf” is rarely observed in tennis players but may occur during climbing, walking upstairs or running. Injury of abdominal muscles may result from direct blows or rapid trunk rotation as well as alternative flexion and extension.