



Asian Forum (MSK)

SY11-2

## MR imaging of necrotizing fasciitis

Wilfred Peh

Diagnostic Radiology, Khoo Teck Puat Hospital, Singapore

Necrotizing fasciitis is a life-threatening soft tissue infection of bacterial origin that involves mainly the deep fascia. This rapidly-progressive necrosis may require urgent surgical debridement. As early clinical recognition is often problematic, MR imaging has an important role in diagnosis. Knowledge of fascial anatomy is important, in particular structures such as the membranous layer of the superficial fascia, and the peripheral and intermuscular layers of the deep fascia. The key MR imaging features of necrotizing fasciitis are: fluid accumulation within the deep fascia especially the intermuscular layer, deep fascial thickening >3mm, and extensive deep fascial multi-compartment involvement. Contrast enhancement is variable and if present, corresponds to areas of deep fascial T2-hyperintensity. There may be associated reactive muscle edema. Pitfalls in diagnosis include clinical and/or radiological mimickers such as cellulitis, infective myositis/ pyomyositis, trauma and inflammatory fasciitis. Sometimes, conditions such as cellulitis and infective myositis may co-exist with necrotizing fasciitis. In summary, MR imaging has a useful role in the early diagnosis of necrotizing fasciitis, enabling timely and appropriate clinical management.

*Keywords: Fascial infection, Musculoskeletal infection, necrotizing fasciitis, soft tissue infection*