Acute appendicitis mimicking necrotizing fasciitis of the abdominal wall

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Background
Acute appendicitis is one of the most common surgical diseases. Complications such as abscess formation or concomitant peritonitis are possible. However, perforation through the abdominal wall causing a spreading cellulitis rarely occurs. This case report describes a rare complication of a perforated appendicitis necrotizing the abdominal wall and its surgical management.

Methods
A 58-year-old female patient presented with a one-week history of severe abdominal pain accompanied by rapidly spreading erythema and crepitation of the lower abdomen (image 1). On admission the patient was in septic shock with massively elevated inflammatory markers. The symptoms were consistent with the ones of a necrotizing fasciitis. CT-scan showed large soft tissue infection with air-fluid levels spreading throughout the lower abdominal wall (image 2).

Conclusion
Even though perforated appendicitis as aetiology of a spreading cellulitis of the abdominal wall is very rarely seen, an intraabdominal cause shall be ruled out when facing an abdominal soft tissue infection. The distinction between a rapidly spreading cellulitis with gas-forming abscess and the early onset of a life-threatening necrotizing fasciitis is often difficult. As shown in our case, final confirmation or exclusion of the diagnosis of necrotizing fasciitis can only be done during surgical exploration with histological and microbiological work up.

Results
Due to the patient’s serious condition she was taken to the operating theatre immediately. First, diagnostic laparoscopy was performed to evaluate for a potentially intraabdominal origin of the abdominal wall infection. It revealed an ileocaecal area adherent to the abdominal wall without any signs of an intraabdominal infection.

Postoperatively, the septic patient was admitted to the intensive care unit with multiorgan dysfunction including acute kidney and liver failure as well as septic encephalopathy. Antibiotic treatment with intravenous broad-spectrum antibiotics was started. After multiple further debridements of necrotic subcutaneous tissue, the defect in the muscular layers of the abdominal wall measured 7x7cm (image 4). A perforated appendicitis was identified as the source of the infectious process. Remarkably, the fascia of the abdominal wall was not at all involved in the infectious process.

Conclusion
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References
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