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Pictorial Eassy

Sonographic Findings in Perforated Appendicitis

Kummer Eva and Hansmann Anika^{2*}

Institute of Radiology and Nuclear Medicine, Triemli Hospital, Switzerland

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Pictorial Eassy

Perforated appendicitis is a common complication of acute appendicitis occurring in roughly 21% [1]. Especially in younger children, perforation occurs earlier and the rate of perforation is generally higher. Moreover, the presentation may be atypical and the right sided abdominal tenderness is often missing [1,2]. Rather than the typical ultrasonographic appearance of acute appendicitis with a swollen and dilated appendix, target sign and hyperechoic fatty infiltration, indirect signs are sought in the diagnosis of perforated appendicitis, for example abscess, free fluid with high echogenicity, adjacent thickened and dilated bowel loops and a misty appearance of the mesentery due to peritonitis.

A perityphlitic abscess (Figure 1) on ultrasound has a typical appearance of a hypoechoic mass in the right lower quadrant. Moreover, a septated abscess has the potential to be confused with an ovarian neoplasm in women (Figure 2). In children, the appendix can decompress with loss of integrity. Hence, generalized peritonism with diffuse dilatation of small bowel loops might be encountered. It is easily mistaken for gastroenteritis (Figure 3). A small amount of free fluid is frequently present (Figure 4,5).

Another sign of perforation is the circumferential loss of the sub mucosal layer of the appendix [3] and the presence of an appendicolith, which increases the rate of perforation in younger children [4].

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Corresponding author:

Hansmann Anika,

Institute of Radiology and Nuclear Medicine, Triemli Hospital, Switzerland Email:

Anika.Hansmann@triemli.zuerich.ch











Figure 2: A septated hypoechoic collection in the right iliac fossa in a 29-yearold female patient. Note the septations and the extension of the collection in the Douglas space.





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Figure 4: Free fluid and dilated small bowel loops in an 11-year-old boy.



