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Acute epiploic appendagitis: Radiologic and clinical features of 12 patients

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ABSTRACT

PURPOSE: The aim of this work is to explain the clinical features and the imaging findings of primitive epiploic appendagitis in 12 patients.
MATERIALS AND METHODS: Twelve patients were examined in 2 University hospitals between January 2011 and June 2016. Their medical charts have been reviewed. Nine patients have undergone enhanced CT examination and only two among them, have had at first an abdominal ultrasound.
RESULTS: The age ranged between 36 and 65 years old. All the patients consulted for an acute abdominal pain in most of the cases in the left iliac fossa with no elevated body temperature nor a significant elevation of the inflammation markers. Ultrasound features showed a hyper-echoic mass surrounded by a hypo-echoic peripheral ring. CT scan images showed a fat ovoid lesion that corresponds to the inflamed Appendix epiploica with a peripheral hyper-attenuating rim and in some cases the central "dot sign" referring to the thrombosed vessel. Only 4 patients underwent surgery.
CONCLUSION: For its non-specific clinical presentation, that can mimic other surgical affections, and its rather non-operative treatment, the diagnosis of epiploic appendagitis is crucial. Ultrasound and especially CT scan imaging are necessary for an accurate diagnosis.

1. Introduction

The primitive epiploic appendagitis is caused by the inflammation, torsion or ischemia of an epiploic appendage, which is a small adipose protrusion arising from the serosal surface of the colon. It is a relatively rare cause of acute abdominal pain. Depending on its localization, it is frequently misdiagnosed as acute appendicitis or colon diverticulitis. Diagnosis confirmation can be obtained through ultrasound and computed tomography findings and thus additional unnecessary investigation or intervention can be avoided.

2. Patients and methods

Clinical records and CT pictures of 12 consecutive patients who have consulted in 2 University hospitals in Tunisia from January 2011 to June 2016 were reviewed.

The patients consulted the emergency department for an acute abdominal pain. Their complete history was obtained, a full clinical examination was obtained and a routine laboratory investigation was demanded for each.

Two patients have had abdominal ultrasonography and the whole group has undergone a CT examination.

The study was performed according to the World Medical Association Declaration of Helsinki. No informed consent was obtained from research subjects.

3. Results

The study includes 12 patients: 8 females and 4 males. The age ranges between 36 and 65 years old. The clinical examination and laboratory investigations findings are shown in the table (Table 1).

Abdominal ultrasound was performed in two patients. It showed in both cases an ovoid hyperechoic mass surrounded by a hypoechoic halo, hypovascular and incompressible under the probe (Fig. 1).

CT scan findings showed an ovoid mass lesion of fat density, surrounded by a dense rim in all cases (Figs. 2–4) .It was associated with a thickened peritoneal lining (Fig. 3) and a periappendageal fat stranding in cases(Figs. 2–4). In two cases, was noted a high attenuated central dot within the inflamed appendage (Figs. 1 and 2).The localization of the abnormalities corresponded

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Table 1
Clinical and biological carachteristics of the 12 patients.

patient	sex	Age	temperature	Nausea or vomiting	Site of pain	WBC count elements/mm3	CRP mg/l	surgery	clinical resolution delay (days)
P1	F	51	37.8	absent	Left iliac fossa	10 300	26		2
P 2	F	58	37.5	absent	Left iliac fossa	11 800	15		1
P 3	F	61	37	nausea	Right iliac fossa	9500	30		3
P 4	F	38	38	absent	Right iliac fossa	15000	25		5
P 5	M	47	37.5	absent	Left iliacfossa	12000	10		10
P 6	M	36	37	nausea	Left iliac fossa	10000	5		12
P7	F	46	37.5	vomiting	Right upper quadrant	7500	5		20
P 8	F	64	38.2	absent	hypogastric and right iliac fosa	10600	20	laparoscopic resection and appendicectomy	
P 9	F	65	37	absent	Left iliac fossa	10280	38.4		3
P 10	M	54	38	nausea	right flank	140230	18	laparoscopic resection and appendicectomy	
p 11	M	53	37	absent	Right iliac fossa	10100		Mc burney epiploic resection and appendicectomy	
p 12	F	47	37	absent	Right iliac fossa	7000		laparoscopic resection and appendicectomy	

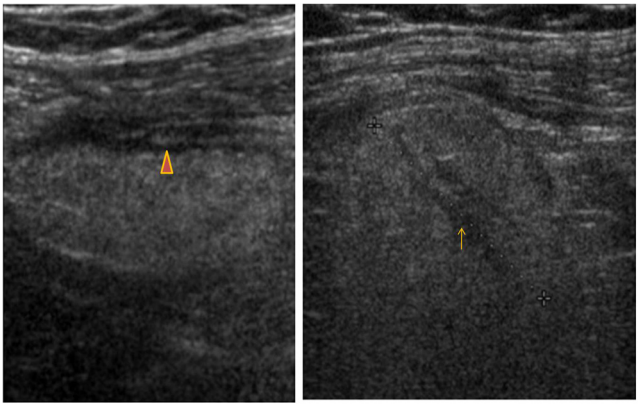

Fig. 1. Ultrasoud images (using a high frequency probe): A hyperechoic mass surrounded by a hypoechoic rim (head arrow) with a hypoechoic central element "the dot sign" (arrow).

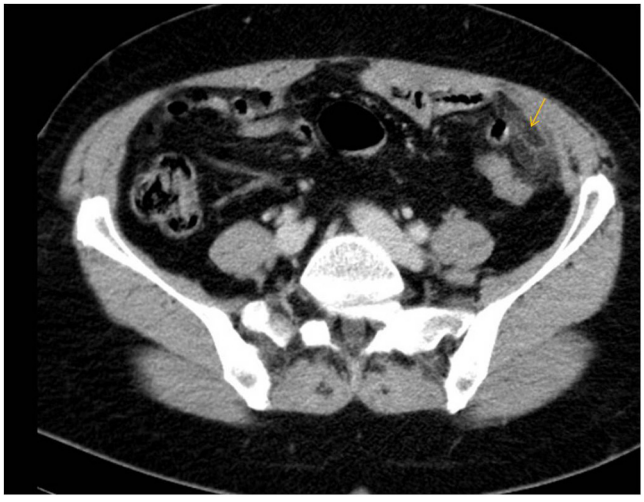

Fig. 2. Axial CT scan showing an ovoid fat density mass surrounded by a hyperattenuating ring (arrow) situated on the anti-mesenteric side of the descendant colon with adjacent fat stranding.

Fig. 3. axial CT Image showing the ovoid fat lesion with the hyper-attenuating peripheral rim. Note the associated localized colon wall thickening (arrow). There is an associated localized peritoneum thickening (head arrow).

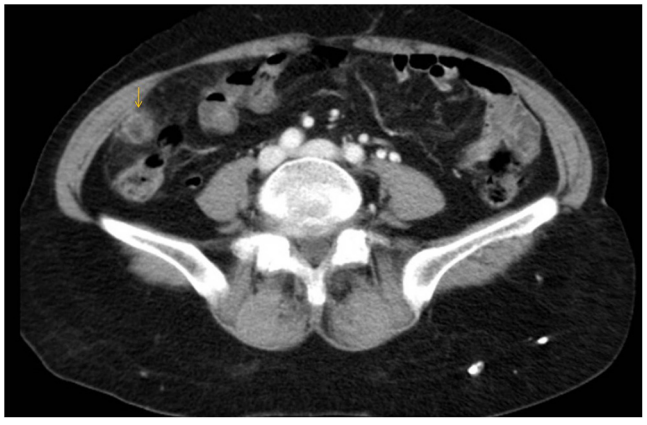

Fig. 4. CT scan image showing a mass that abuts the caecum with an ill defined hyperattenuting surrounding ring (arrow).

to the site of pain in all cases: attached to the sigmoid colon (n = 6), to the caecum (n = 5) and to the right hepatic flexure (n = 1).

Only 4 patients underwent surgery with a laparoscopic approach in three of them. Intraoperative findings were a central fatty core surrounded by inflammation with an average size 5, 3 cm in length (limits: 4–7 cm). Resection of the infarcted epiploic appendage was performed (Fig. 5).

In non surgical treatment, complete resolution was observed within 4–20 days (average = 7 days) and without any complication.