Missed Abdominal Wall Abscess in a Child. Neglected Clinical Examination and Improper use of Ultrasonography?

Çocukta Karın Duvarı Absesi. Klinik Muayene ve Ultrasonografi Uygunsuz Kullanımı?

Abdominal Wall Abscess

Jagadish KK[1], Murthy AK[1], Anitha C[1], Shetty C[2]
[1]Department of Pediatrics, [2]Department of Radiology, JSS Medical College, JSS University, Mysore, India

Özet

Akut karın ağrısı çocuklarda birçok tanı ve yönetim sorunları oluşturmaktadır. Tam bir sonografik klink tanı için klinisyen tarafından ayrıntılı klinik muayene ve uygun rehberlere ihtiyaç vardır. Biz akut karın ağrısına neden olan tanısı yanlış konulmuş karın duvarı apseli, klinik muayene ve uygun rehber kullanılmamış bir çocuk olguyu sunduk.

Anahtar Kelimeler

Karın Ağrısı; Klinik Muayene; Tanı; Ultrasonografi

Abstract

Acute abdominal pain pose many diagnostic and management problems in children. There is need for a thorough clinical examination and proper guidance by clinician to the sonologist for the diagnosis. We report a child with acute abdominal pain due to abdominal wall abscess misdiagnosed because of lack of clinical acumen and improper use of ultrasonography.

Keywords

Abdominal Pain; Clinical Examination; Diagnosis; Ultrasonography

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Corresponding Author: Kalenahalli Jagadishkumar, JSS Medical College, JSS University, Mysore, 570004, India.
T.: +9844281859 F. +918212493819 E-Mail: jagdishmandya@gmail.com

Introduction

Abdominal pain is a common problem in children and pose a diagnostic dilemma(1). Ultrasonography has become a key diagnostic tool in acute pediatric abdominal pain(2). Eventhough many investigations have been introduced, clinical decision-making is very important. We report a 9 year old child with acute abdominal pain due to abdominal wall abscess misdiagnosed because of lack of clinical accumen and improper use of ultrasonography without clinicians guidance.

Case Report

9 year old female presented with abdominal pain since 5 days, fever and non bilious vomiting since 1 day. Abdominal pain was epigastric, intermittent, non radiating and not related to food. There was no bowel or bladder disturbances. Before presenting to us she was seen by surgeon/pediatric surgeon and diagnosed as acute gastritis/cholecystitis and two sonologists opined as normal abdominal sonography. On examination she was febrile(1010F), had no jaundice and was hydrated well. Abdominal examination revealed firm, tender, discrete swelling (1*1. 5cm)in the epigastrium just below the xyphisternum extending towards the right hypochondrium. Coughing/ movement of right chest wall aggravated the pain. Leg raising test(making the abdominal muscles tense) demonstrated that the swelling is not intraabdominal and Carnett's test was positive(increased tenderness). Other systemic examination was unremarkable. Investigations:-Hb11. 3g/dL, TLC 17400/mm3 (Neutrophils 83%, Lymphocytes17%), platelets 4. 08lakhs/mm3, sugar 110mg/dL, HIV negative, Mantoux test negative and normal chest X-ray. Ultrasound done within 24 hours by two different sonologists was opined as normalabdominal sonography. Again within 12 hours resident accompanied the child for sonography from a third sonologist. This time sonologist detected heterogenous lesion(abscess) measuring 3. 4*2cm noted with few hypoechoic areas just anterior to right rectus muscle in the epigastric region[Fig. 1]. Probably the sonologist would have missed the finding but for the pediatric resident who inform the sonologist of his clinical impression, guided regarding the correct placement of the probe and sonologist also agreed to that. Child was started on Inj Co-amoxiclav and ceftriaxone. Incission and drainage of pus was done and she was discharged after 5 days.

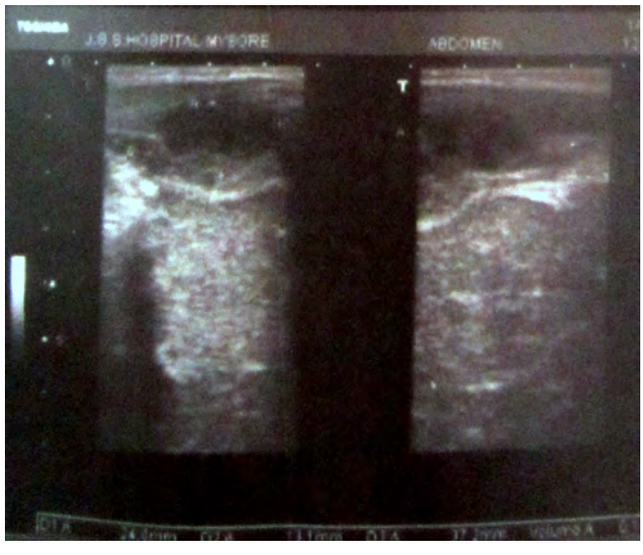


Fig 1. Abscess measuring 3. 4*2cm noted with few hypoechoic areas just anterior to right rectus muscle in the epigastric region.

Discussion

Acute abdominal pain is a common problem in children and it may herald a surgical or medical emergency(1). The most difficult challenge is making a timely diagnosis so that treatment can be initiated and morbidity prevented. The abdominal wall as a source of pain has received little attention and overlooking can result in a expensive and dangerous error in evaluation(3). Abdominal pain clinically falls into three types: intraabdominal pain(visceral), abdominal wall pain(parietal) and referred pain. Visceral pain usually is dull, poorly localized, and felt in the midline. Parietal pain usually is sharp, intense, discrete, localized and coughing or movement can aggravate it(1). In fact our child had classical findings of parietal pain. , but because it was epigastic it lead to the erroneous diagnosis. Primary infection of the abdominal wall is rare and can have symptoms mimicking those of an acute abdomen(4). Abdominal wall lesions frequently present as palpable masses and often mimic intra-abdominal conditions(5). Physical findings in the abdominal wall pathologies have low specificity and often a clinically suspected intra-abdominal lump proves to be in the abdominal wall(5). Clinical examination plays a key role in determining which children should undergo immediate surgical consultation for appendicectomy and who should undergo further diagnostic evaluation, including diagnostic imaging(6). However, the importance of clinical examination have become submerged beneath lot of investigations now a days. Carnett's test is a useful clinical test for differentiating abdominal wall pain from intra-abdominal pain(3). If tenderness is unchanged or increased when abdominal muscles are tensed [by straight-leg-raising or head raising maneuver in the supine position while the examiner's hand touches the painful site] (positive Carnett's sign), the abdominal wall is the likely origin of pain. In contrast true visceral sources of pain are associated with less tenderness. Carnett's test has a sensitivity of 81% and a specificity of 88%. This suggests that clinical methods are sufficient to diagnose abdominal wall pain in most cases and carnett's test saves numerous unnecessary and often unpleasant investigations(7). Out of 120 acute abdominal pain cases, 23 of 24 patients with a positive Carnett's sign had a normal laparotomy(8). In our case also diagnosis was missed because of not eliciting the carnett sign and the presence of a tiny mass near xyphisterum. Usually when a child presents with fever, vomiting and pain abdomen clinician think mainly acute appendicitis & cholecystitis and tries to look for tenderness in the umbilicus /right iliac fossa/right hypochondrium not near xyphisternum. In our case fever is mainly due to abdominal wall abscess and probably because of epigastric tendeness, acute gastritis & cholecystitis diagnosis was made initially. Ultrasound is usually the initial diagnostic imaging modality in cases of palpable abdominal masses to determine their nature, and their localization, either intra-abdominally or in the abdominal wal(9). Computed tomography or MRI may be used for additional characterization(9). Ultrasound can establish its presence, primary origin, size, extent and effect on the surrounding structures. Ultrasound is simple, quick, painless, noninvasive, without ionising radiation and side effects(10).

The outcome of ultrasound findings has a significant bearing on the management of the patient and choice of subsequent radiological investigations, if needed(10). With the introduction of high-frequency, high-resolution probes. , recognition of different layers of the abdominal wall is now possible on USG examinations(5). However, since the abdominal wall is a superficial structure, a mass within it can be easily overlooked if a water-path is not used to increase the distance between the transducer surface and the skin(10). Ultrasound examinations were done to evaluate clinically palpable abdominal masses in 125 Children and in 15 patients, the clinically palpable masses were actually anterior abdominal wall abscesses or hernias(10). However, since ultrasonography is operator dependent, the expertise of the sonologist would also be contributory to the outcome(10). Before subjecting the case for sonography clinician should guide the sonologist about the differential diagnosis so that sonologist can select the appropriate probe/transducer/machine. Unless specified about the abdominal wall pathology sonologist may not use high frequeny sonography and miss the abdominal wall lesion, same situation occured in our case also. First two sonologists missed the diagnosis by not using high frequeny machines and appropriate transducers. Third sonologist could diagnose, as the resident who accompanied the child could throw the light on the clinical findings and even the third sonologist accepted this fact. To conclude acute abdomen can be managed ethically in a fruitful way by good clinical examination, guiding the sonologist about the differential diagnosis and what to look for in a given patient thereby avoiding unnecessary, dangerous invasive investigations and laparotomies.

Competing interests

The authors declare that they have no competing interests.

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