



## Review Article

# Update on the Management of Non-obstetric Acute Abdomen in Pregnant Patients<sup>☆</sup>



Sebastián Barber-Millet,<sup>a,\*</sup> José Bueno Lledó,<sup>b</sup> Pablo Granero Castro,<sup>b</sup>  
 Inmaculada Gómez Gavara,<sup>b</sup> Neus Ballester Pla,<sup>b</sup> Rafael García Domínguez<sup>b</sup>

<sup>a</sup> Servicio de Cirugía, Hospital Francesc de Borja, Gandía, Spain

<sup>b</sup> Servicio de Cirugía, Hospital Universitari i Politècnic La Fe, Valencia, Spain

## ARTICLE INFO

## Article history:

Received 4 February 2015

Accepted 10 November 2015

Available online 18 May 2016

## Keywords:

Pregnancy

Acute abdomen

Appendicitis

Biliary pathology

Diagnosis

## A B S T R A C T

Acute abdomen is a rare entity in the pregnant patient, with an incidence of one in 500–635 patients. Its appearance requires a quick response and an early diagnosis to treat the underlying disease and prevent maternal and foetal morbidity. Imaging tests are essential, due to clinical and laboratory masking in this subgroup. Appendicitis and complicated biliary pathology are the most frequent causes of non-obstetric acute abdomen in the pregnant patient. The decision to operate, the timing, and the surgical approach are essential for a correct management of this pathology. The aim of this paper is to perform a review and update on the diagnosis and treatment of non-obstetric acute abdomen in pregnancy.

© 2015 AEC. Published by Elsevier España, S.L.U. All rights reserved.

## Actualización en el manejo del abdomen agudo no obstétrico en la paciente gestante

## R E S U M E N

En la paciente embarazada, el abdomen agudo es una entidad infrecuente, cuya incidencia es de una por cada 500-635 gestantes. Pero su aparición requiere una respuesta rápida y un diagnóstico temprano para tratar la enfermedad de base y evitar la morbimortalidad materno-fetal. Las pruebas de imagen son fundamentales para ello, dado el enmascaramiento clínico y analítico en estas pacientes. La apendicitis y la enfermedad biliar complicada son las causas más frecuentes de abdomen agudo no obstétrico. La decisión de intervenir, la elección del momento y la vía de abordaje son esenciales para un correcto manejo de esta dolencia. El objetivo de esta publicación es realizar una revisión y puesta al día sobre el diagnóstico y tratamiento del abdomen agudo de origen no obstétrico en la paciente gestante.

© 2015 AEC. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.

## Palabras clave:

Embarazo

Abdomen agudo

Apendicitis

Enfermedad biliar

Diagnóstico

<sup>☆</sup> Please cite this article as: Barber-Millet S, Bueno Lledó J, Granero Castro P, Gómez Gavara I, Ballester Pla N, García Domínguez R. Actualización en el manejo del abdomen agudo no obstétrico en la paciente gestante. Cir Esp. 2016;94:257–265.

\* Corresponding author.

E-mail address: [sebarmi@hotmail.com](mailto:sebarmi@hotmail.com) (S. Barber-Millet).

## Introduction

In pregnant patients with any type of condition requiring surgery that does not affect the well-being of the mother or foetus, it is commonly accepted that surgery should be postponed until after childbirth.<sup>1</sup> Some 0.2%–1% of expectant mothers, however, will require non-obstetric surgical interventions.<sup>2–4</sup> The incidence of acute abdomen during pregnancy is one out of every 500–635 pregnancies<sup>2</sup>; acute appendicitis and complicated biliary disease are the 2 most frequent surgical emergencies.<sup>3</sup>

Gestation causes anatomical and physiological variations to women's bodies, which can result in atypical clinical manifestations of acute abdomen. As the gestational period progresses, the uterus increases in size: it is considered intraabdominal in the 12th week and umbilical in the 20th. Consequently, this modifies the normal distribution of the surrounding intraabdominal organs. The expanding uterus makes it difficult to locate pain points and could disguise pain intensity.<sup>4</sup> The main physiological changes are summarised in Table 1.<sup>5</sup> Meanwhile, the high prevalence of nausea, vomiting and abdominal discomfort in obstetric populations, together with the habitual indecision as whether to perform imaging tests, create difficulties in the evaluation of these patients.<sup>2,4</sup>

The objective of this study is to review the most frequent causes of non-obstetric acute abdomen during pregnancy, with an emphasis on the diagnostic and therapeutic tools currently available. We conducted a bibliographic search of the literature in PubMed, using the keywords “acute abdomen”, “pregnancy”, “non-obstetric”, “imaging”, “diagnosis” and “treatment”, as well as several combinations of these terms. The definitive list of articles was chosen after having read the abstracts, at which time we selected those that were relevant for this review.

## Diagnostic Imaging in Pregnant Patients With Acute Abdomen

Diagnostic problems in expectant mothers with acute abdomen are derived from the modifications in the baseline conditions of these patients, as previously stated. In addition to hyperthermia and functional leukocytosis, physical examination of the abdomen is made difficult by the progressive displacement of the intraabdominal organs with the expansion of the uterus, as occurs with the appendix.<sup>6</sup>

There is controversy about which diagnostic imaging test is ideal for pregnant patients with an acute abdomen. The risks and benefits of each of the methods should always be considered. There are 2 fundamental principles that should govern these cases. The first was coined by Cope in 1921: “Earlier diagnosis means better prognosis”.<sup>6</sup> The second states that the first option is to always select the method that exposes the foetus to the lowest possible dose of radiation.<sup>4</sup>

### Ultrasound

Due to both its efficacy and innocuity,<sup>3,7,8</sup> ultrasound is universally accepted as the technique of choice in pregnancy

**Table 1 – Physiological Changes During Pregnancy.<sup>5</sup>**

<i>Cardiovascular</i>
<ul style="list-style-type: none"> <li>• ↑ Blood volume</li> <li>• ↓ Diastolic pressure in 1st–2nd trimester</li> <li>• ↑ Venous pressure in legs</li> <li>• ↓ Vascular resistances</li> <li>• ↓ Oncotic pressure (oedemas)</li> </ul>
<i>Haematological</i>
<ul style="list-style-type: none"> <li>• Physiological dilutional anaemia</li> <li>• Leukocytosis with left deviation (15 000 mL)</li> <li>• Hypercoagulability</li> </ul>
<i>Respiratory</i>
<ul style="list-style-type: none"> <li>• Diaphragm elevation</li> <li>• Decreased residual volume</li> <li>• Decreased functional residual capacity</li> </ul>
<i>Gastrointestinal</i>
<ul style="list-style-type: none"> <li>• Nausea and vomiting</li> <li>• ↓ Gastric acidity</li> <li>• ↓ Intestinal motility</li> <li>• Gallstones</li> <li>• Alkaline phosphatases <math>\times 1.5</math></li> </ul>
<i>Urinary</i>
<ul style="list-style-type: none"> <li>• Urethral dilatation and vesicoureteral reflux</li> <li>• ↑ Renal plasma flow</li> <li>• ↓ Creatinine, urea, uric acid and amino acids</li> </ul>
<i>Endocrine</i>
<ul style="list-style-type: none"> <li>• ↑ Insulin resistance</li> <li>• ↓ Albuminaemia</li> <li>• ↑ Basal metabolism (20%)</li> </ul>

and is, therefore, the first radiological examination done. It also provides elevated sensitivity and specificity in cases of acute abdomen, especially cholecystitis and appendicitis.<sup>2,3</sup> Nonetheless, the efficacy of this test diminishes after week 32 because of the technical difficulties secondary to uterine growth. Moreover, appendiceal perforation can reduce the sensitivity of the test to 28.5%, which contrasts with the finding of non-complicated appendicitis (80.5%), or appendiceal adhesions (89%).<sup>9</sup> If a diagnosis cannot be reached with ultrasound, the following step is to order other diagnostic imaging studies.

### Magnetic Resonance Imaging

Magnetic resonance imaging (MRI) is an excellent diagnostic tool that presents a sensitivity and specificity of 91% and 85%, respectively.<sup>10</sup> Since the advent of this technique, many studies have been done on pregnant women and there have been no demonstrated adverse effects on foetuses.<sup>7,8,11–14</sup> Some authors have hypothesised about the noise, which could cause stress and excessive movement of the foetus, thereby affecting the quality of the images. This risk seem to be more theoretical than real.<sup>12,14,15</sup>

MRI surpasses some of the limitations of ultrasound, mainly those caused by the size of a pregnant uterus.<sup>8</sup> As for the use of intravenous contrast with gadolinium, even though there have been no reported adverse effects after its administration,<sup>13,14</sup> it is classified as category C by the US Food and Drug Administration, so its use should therefore be relegated to cases where it is considered essential and after

Download English Version:

<https://daneshyari.com/en/article/4255025>

Download Persian Version:

<https://daneshyari.com/article/4255025>

[Daneshyari.com](https://daneshyari.com)