Author's response to reviews

Title: Spontaneous idiopathic pneumoperitoneum presenting as acute abdomen: a case report

Authors:

Michail Pitiakoudis (mpitiak@med.duth.gr)
Petros Zezos (zezosp@hol.gr)
Anastasia Oikonomou (aoikonom@med.duth.gr)
Michail Kirmanidis (mpitiak@med.duth.gr)
Georgios Kouklakis (gkouklak@med.duth.gr)
Constantinos Simopoulos (simop@med.duth.gr)

Version: 3 Date: 18 October 2010

Author's response to reviews: see over
Author's response to reviews

Title: Spontaneous idiopathic pneumoperitoneum presenting as acute abdomen: a case report” [MS: 5574082983849281],

Authors:
Michail Pitiakoudis
Petros Zezos (zezosp@hol.gr)
Anastasia Oikonomou
Michail Kirmanidis
Georgios Kouklakis
Constantinos Simopoulos

Version: 2 Date: 28 September 2010
Author's response to reviews: see over

Thank you for consideration of our manuscript for publication in your journal. We have reviewed the above manuscript according to your reviewer's comments.
ABSTRACT
Case Presentation
Should read “Emergency laparotomy...”
Change made as indicated by the reviewer.

Emergency laparotomy was performed but no identifiable cause was found.

INTRODUCTION
This is a very under-referenced section of the manuscript. Almost each line contains a factual statement that is not referenced. Please reference all statement correctly.
Change made as indicated by the reviewer.

Pneumoperitoneum (PP) is the result of a gastrointestinal (GI) tract perforation in over 90% of cases [1]. Perforation of the stomach or duodenum due to
peptic ulcer is considered the most common cause of PP. Pneumoperitoneum can also be the result of a diverticular rupture or of an abdominal trauma [1]. It commonly presents with signs and symptoms of peritonitis, while subphrenic free gas in an upright chest x-ray is the most common radiological finding. Pneumoperitoneum in most cases requires urgent surgical exploration and intervention [1].

CASE PRESENTATION
Paragraph 1: Should read "A 69-year-old female presented at our..."
Change made as indicated by the reviewer.
A 69-year-old Greek female patient presented at... Paragraph 3: Should read "An emergency laparotomy..."
Change made as indicated by the reviewer.
An emergency laparotomy was performed for a suspected perforation in the upper GI tract.
End Paragraph 3: Should read "...by placing a double-lumen drain."
Change made as indicated by the reviewer.
.... the operation was completed by placing a double-lumen drain.

DISCUSSION
A paragraph has been added. (2nd reviewer’s suggestion).

The first sentence needs to be rewritten is makes no sense.
Change made as indicated by the reviewer.
The etiology of PP and the clinical signs determine its mode of treatment, surgical or not.

Paragraph 1: please reference the last line.
Change made as indicated by the reviewer.
...while in cases of non-surgical PPs with mild symptoms and without any signs of peritonitis, conservative treatment is indicated [2].
A detailed history and physical examination….

Moreover, modern technology with multi-detector CT (MDCT) is highly accurate for predicting the site of gastrointestinal tract perforations [12,13].

Finally, in other cases other unknown factors may be the cause of idiopathic PP [1].

Currently, laparoscopic exploration instead of laparotomy…

A thorough history and physical examination combined with the appropriate laboratory tests and radiologic techniques, are useful tools in identifying patients with non-surgical PP and avoiding unnecessary operations.

Quality of written English: Acceptable

Declaration of competing interests:
I declare that I have no competing interests.
2nd reviewer’s report

Title: Spontaneous idiopathic pneumoperitoneum presented as acute abdomen:
a case report

Version: 1 Date: 2 September 2010

Reviewer: Taimur Saleem

Which of the following following best describes what type of case report
this is?: New associations or variations in disease processes
Has the case been reported coherently?: Yes
Is the case report authentic?: Yes
Is the case report ethical?: Yes
Is there any missing information that you think must be added before
publication?: Yes
Is this case worth reporting?: Yes
Is the case report persuasive?: Yes
Does the case report have explanatory value?: Yes
Does the case report have diagnostic value?: Yes
Will the case report make a difference to clinical practice?: No
Is the anonymity of the patient protected?: Yes

Comments to authors:
Thank you for giving me the opportunity to review this case report. The authors have
described an interesting and rare case whereby extensive work-up failed to identify a cause
of the pneumoperitoneum.
The case is well presented and scientifically accurate. However, language corrections are
needed at several places throughout the manuscripts. I have pointed out many of these in
my detailed comments below. This case should be published after making the following
revisions to the manuscript.

Title - Spontaneous idiopathic pneumoperitoneum presented as acute abdomen:
a case report. "Presented" should be written as "presenting"
The title of the article has been changed as the reviewer indicates.
“Spontaneous idiopathic pneumoperitoneum presenting as acute abdomen: a
case report”
Abstract - Case presentation: It is mentioned that the patient had acute abdominal pain but no findings of physical examination have been mentioned. Did she have guarding, rebound, tenderness in any specific quadrant or diffusely? Please mention significant negatives or positives from the history. It would be appropriate since the authors themselves mention this point in the conclusion: "A thorough history and physical examination together with laboratory tests and radiologic techniques are useful tools to identify patients with non-surgical PP avoiding thus unnecessary operations". An abstract should be self explanatory and should stand as an independent summary of the manuscript. Therefore, I would advise expanding it a bit to incorporate important details from the case.

Changes made as indicated by the reviewer.

Abstract

Introduction: Pneumoperitoneum is most commonly the result of a visceral perforation and usually presents with signs of acute peritonitis requiring an urgent surgical intervention. Non-surgical spontaneous pneumoperitoneum, not associated with a perforated viscus, is an uncommon entity related with intra-thoracic, intra-abdominal, gynecologic, iatrogenic, and other miscellaneous causes and is usually managed conservatively. Idiopathic spontaneous pneumoperitoneum is an even more rare condition from which both perforation of an intra-abdominal viscus and other known causes of free intraperitoneal gas have been excluded.

Case presentation: We present the case of an idiopathic spontaneous pneumoperitoneum. A 69-year-old Greek woman presented with acute abdominal pain, fever, vomiting. Diffuse abdominal tenderness on deep palpation without any other signs of peritonitis were found during physical examination, while laboratory investigations revealed leukocytosis and intraperitoneal air below the diaphragm bilaterally. Her past medical history was unremarkable except for previous cholecystectomy and appendectomy.
The patient did not take any medication and she was not a smoker or an alcohol consumer.

**Emergency** laparotomy was performed but no identifiable cause was found. A remarkable improvement was noticed and the patient was discharged on the 7th postoperative day although the cause of pneumoperitoneum remained obscure.

Conclusion: The causes of spontaneous pneumoperitoneum, the diagnostic management and the surgical dilemmas for emergent operation are discussed.

A thorough history and physical examination combined with the appropriate laboratory tests and radiologic techniques, are useful tools in identifying patients with non-surgical PP and avoiding unnecessary operations.

Introduction - "Pneumoperitoneum can also be the result of a diverticulum rupture or of an abdominal trauma". Revise this sentence with following changes:

"diverticular rupture or of abdominal trauma"

**Change made as indicated by the reviewer.**

Pneumoperitoneum can also be the result of a **diverticular rupture or of an abdominal trauma [1]**.

"It is commonly presented with signs and symptoms of peritonitis" - revise to write: "it commonly presents with signs and symptoms of peritonitis"

**Changes made as indicated by the reviewer.**

**It commonly presents with signs and symptoms of peritonitis,**...

“spontaneous, SP” - remove comma after spontaneous

**Changes made as indicated by the reviewer.**

… is called “spontaneous SP” or “non-surgical”..

I would suggest moving the different types of spontaneous SP to the discussion section rather than explaining in the introduction. It may cause reader to lose focus on idiopathic spontaneous SP which this case is actually about.
Discussion

Spontaneous pneumoperitoneum is associated with intra-thoracic, intra-abdominal, gynecologic, iatrogenic, or other miscellaneous causes [1,2]. SP has been attributed to several thoracic causes, such as traumas (including barotraumas), pneumothorax or bronchoperitoneal fistulas [1]. SP can be accompanied with pneumomediastenum or pneumopericardium, especially in patients who are on mechanical aspiration and positive end-expiration pressure (PEEP) [1]. Scuba diving and pulmonary sepsis are extremely rare causes that can cause SP. Pneumatosis cystoides intestinalis (PCI) is the most common abdominal cause of nonsurgical pneumoperitoneum [1]. Emphysematous cholecystitis, spontaneous bacterial peritonitis, ruptured hepatic abscess and perforated pyometra in women, are rare causes of SP [1]. In women, pneumoperitoneum after rough sexual intercourse or following Jacuzzi usage has also been reported, since the air can also be transmitted to peritoneal cavity through vagina and saplings [1]. Laparoscopic or endoscopic procedures (colonoscopy) may cause iatrogenic SP [1].

Case presentation:
“An 69-year-old female patient was presented at our emergency department (ED) with acute onset of abdominal pain and vomiting, which had started two hours before”. Please rephrase. Write “was presented” as “presented”. Write “with acute onset of abdominal pain and vomiting which had started two hours before” as with a two hour history of abdominal pain and vomiting.

A 69-year-old Greek female patient presented at our emergency department (ED) with a two hour history of abdominal pain and vomiting.
"Her past medical history was unremarkable except for previous cholecystectomy and appendectomy many years before". 

Changes made as indicated by the reviewer.

Her past medical history was unremarkable except for previous cholecystectomy and appendectomy.

"at deep palpation" should be rewritten as on deep palpitation

Changes made as indicated by the reviewer.

....diffuse abdominal tenderness on deep palpation without any other signs of peritonitis.

"polymorhonuclear leucocytosis" - the spellings of polymorphonuclear need correction

Changes made as indicated by the reviewer.

...was unremarkable except for polymorphonuclear leukocytosis...

Discussion

"The etiology of PP and the clinical signs determine its treatment, surgical or not". 

Changes made as indicated by the reviewer.

The etiology of PP and the clinical signs determine its mode of treatment, surgical or not.

"avoiding thus unnecessary laparotomies" - rewrite as thus avoiding unnecessary laparotomies

Changes made as indicated by the reviewer.

....thus avoiding unnecessary laparotomies [2].

"but abdominal CT is a more sensitive method for diagnosing PP and indentifying the cause of "acute abdomen". please correct the spellings of the word identifying

Changes made as indicated by the reviewer.

....abdominal CT is a more sensitive method for diagnosing PP and identifying the cause...
"It has been proposed that in some cases with idiopathic PP, a subclinical small visceral perforation should occur permitting only the leakage of air and not of bowel contents" - should occur should be replaced with may have occurred

Changes made as indicated by the reviewer.

It has been proposed that in some cases with idiopathic PP, a subclinical small visceral perforation may have occurred permitting only the leakage of air and not....

Why wasn’t laparoscopic exploration attempted in this patient for initial evaluation instead of proceeding directly to an open laparotomy, especially if the patient had no prior significant history?

We report a patient who underwent an urgent laparotomy because she had compelling evidence for a surgical PP (acute abdomen). A minority of PP cases is considered idiopathic, but many of them undergo surgical exploration.

What is the usual non-diagnostic rate of laparotomy for spontaneous pneumoperitoneum. This is clinically useful information for readers I think.

Changes made as indicated by the reviewer.

van Gelder et al. reported six patients with pneumoperitoneum and clinical signs of acute abdomen that underwent exploratory laparotomy which did not reveal any intra-abdominal pathology [5]. Chandler et al. reported a laparotomy rate of 28% on non-surgical PP [14]. Mularski et al. in a review found 196 reported cases of nonsurgical pneumoperitoneum, of which 45 underwent surgical exploration without evidence of perforated viscus [15]. Furthermore, Mularski et al. reported that 11 out of 36 miscellaneous or idiopathic cases of nonsurgical PP (31%) underwent surgical exploration [15].

Conclusion

Please rephrase the following lines to make it clearer and add punctuations as necessary, "A thorough history and physical examination together with laboratory tests and radiologic
techniques, classic and/or modern, are useful tools to identify patients with non-surgical PP avoiding thus unnecessary operations”.

Changes made as indicated by the reviewer.

A thorough history and physical examination combined with the appropriate laboratory tests and radiologic techniques, are useful tools in identifying patients with non-surgical PP and avoiding unnecessary operations.

Quality of written English: Needs some language corrections before being published

Declaration of competing interests:
I declare that I have no competing interests.

We look forward for your comments.

Best regards,

Petros Zezos, MD