



## Case report

## Unnoticed biloma due to liver puncture after Veress needle insertion



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## HIGHLIGHTS

- Laparoscopic pneumoperitoneum is still a technique associated to complications.
- Veress needle may injury biliary conducts during entry that can be unnoticed due to absence of bleeding.
- Safety tests are recommended in order to reduce complications.
- Should unnoticed biloma happens, laparoscopic approach is safe and effective.

## ARTICLE INFO

## Article history:

Received 9 June 2015

Received in revised form

27 July 2015

Accepted 27 July 2015

## Keywords:

Laparoscopy

Pneumoperitoneum

Cholecystectomy

Peroperative complications

Cholecystectomy

## ABSTRACT

Laparoscopic surgery has become more widespread in the last years. Creating the pneumoperitoneum is the first surgical procedure but it is still responsible for many of the adverse events described in this field. Until now, liver puncture producing a delayed biloma has not been described.

We present a case where a biloma was developed after liver puncture by the Veress needle, during a laparoscopic procedure, and detected on the 3rd day. It was detected by CT scan and treated by laparoscopy.

Biloma due to Veress needle is a new entity in the context of adverse events related to Veress needle insertion, which needs a high suspicious index. We recommend to do Palmer's test and to check the insertion and to look for possible lesions below with the camera in order to minimize incidence of such injuries.

Should this happen, laparoscopic or percutaneous drainage are both suitable alternatives to solve this complication.

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## 1. Introduction

Laparoscopy is a common procedure nowadays. Complications associated with laparoscopy are often still related to entry. Different adverse events have been described as injury to the bowel, bladder, major abdominal vessels and anterior abdominal-wall vessels. Nevertheless delayed biloma due to liver puncture has never been described.

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## 2. Case report

A laparoscopic cholecystectomy was performed in a 54-year-old woman using the American approach. Veress needle (VN) was inserted at the left upper quadrant with no adverse events observed; pressure profile test [1] was performed, recording pressures of less than 10 mm Hg, indicating likely correct intraperitoneal placement. Visualization of VN was achieved and no injury was detected. On the 3rd day she complained of diffuse abdominal pain, had tachycardia and fever 39 °C. Blood test showed 16.300 x10<sup>9</sup>/L leucocytes, 132 g/L hemoglobin and CRP 292 mg/L. A CT (computed tomography) scan showed a 13 × 4 cm collection all over the left lobe of the liver, free liquid over the gastroesplenic ligament and surrounding the spleen. A discontinuity of the liver



**Image 1.** 13 × 4 cm collection all over the left lobe of the liver and free liquid over the gastroesplenic ligament and surrounding the spleen. A discontinuity of the liver capsule can also be seen.

capsule was appreciated suggesting liver injury due to Veress needle (Image 1).

An exploratory laparoscopy was performed finding a biloma all over the left lobe, matching the CT scan with no liquids or collections around the surgery site. We washed out and left a drain, as the perforation was already sealed. The patient was discharged on the 5th day with no other adverse events.

### 3. Discussion

The creation of the pneumoperitoneum is the first necessary step in laparoscopic surgery. Complications related to entry can even be life threatening and include bowel, major abdominal vessel and anterior abdominal wall vessel perforation [1–5]. Anyway these complications are not that common, being the incidence of bowel perforation reported as being 1.8 per 1000 cases, and the incidence of major abdominal vessel and anterior abdominal wall vessel perforation reported as being 0.9 per 1000 cases [1]. Although Perunovic et al. [5] liver capsule injury has been reported in up to 8.32% of patients no case of delayed biloma was described.

The left subcostal closed approach has been proved to be a safe and effective method for creating a pneumoperitoneum [6]. The pressure profile test, pressures of less than 10 mm Hg indicating correct intraperitoneal placement, has showed a sensitivity of 99% and specificity of 75%, therefore is recommended to assure a correct placement of the VN [7].

Should unnoticed biloma happen, laparoscopic drainage can solve it without complications. If available, percutaneous drainage of bilomas has been described too and could be another possibility.

As conclusion, unnoticed biloma due to Veress needle is a new

entity in the context of adverse events related to VN insertion, which needs a high suspicious index. It should be part of the differential diagnosis in patients not doing well in the first days after a laparoscopic procedure where VN was placed at the left upper quadrant. We recommend the pressure profile test as well as checking the insertion and looking for possible lesions below with the camera in order to minimize incidence of such injuries. Should this happen, laparoscopic or percutaneous drainage are suitable alternatives to solve this complication.

### Conflicts of interest

No conflicts of interest.

### Sources of funding

No sources of funding.

### Ethical approval

The ethical approval was given by our ethics comit e.

### Author contribution

JJSS and CPRP performed the surgery.  
JJSS, JRR and JCG wrote and translated the paper.  
JPR revised the whole work.

### Guarantor

I, JUAN JOSE SEGURA SAMPEDRO.  
I do accept full responsibility.

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