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## Subcapsular hematoma of the liver due to intercostal anesthetic blockage after cholecystectomy: case report

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**SUMMARY:** Subcapsular hematoma of the liver due to intercostal anesthetic blockage after cholecystectomy: case report.

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*The subcapsular hematoma of the liver (SHL) are the results of injuries such as liver needle biopsy, liver trauma, pregnancy illnesses, parasitic diseases and others. The approach of these lesions depends on the various clinical presentations of subcapsular hematoma of the liver because it may be small with minimal clinical repercussion, managed only by ultrasound observation. In some situations the SHL may present large dimensions with hemodynamic instability.*

*A case of subcapsular hematoma of the liver secondary to anesthetic intercostal blockade to control the postoperative pain after cholecystectomy is reported. A 34-year-old woman was submitted to intercostal anesthetic blockage after cholecystectomy for treatment of cholelithiasis. The blockage evolved with pain in right flank followed of mucocutaneous pallor and fall of the haematocrit and hemoglobin levels. At re-laparotomy, subcapsular hematoma of the liver was proven and tamponed with compresses. The patient had good postoperative evolution being discharged from hospital, after removing the compresses.*

*In conclusion, the intercostal anesthetic blockage, as any other medical procedure, is not exempt of complications. Therefore, it must be carried through in well selected cases; Anyway nowadays, there are efficient drugs for the control of postoperative pain.*

**RIASSUNTO:** Ematoma subcapsulare del fegato da blocco anestetico intercostale dopo colecistectomia: case report.

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*L'ematoma subcapsulare del fegato (ESF) è conseguenza di lesioni causate da biopsia epatica, traumi del fegato, malattie della gravidanza, malattie parassitarie ed altre. L'approccio a queste lesioni dipende dalle manifestazioni cliniche, che possono essere sfumate; in questi casi la diagnosi è ultrasonografica. ESF più voluminosi possono manifestarsi con alterazioni emodinamiche.*

*È qui descritto un caso di ESF causato da un blocco anestetico intercostale per il controllo del dolore post-colecistectomia. La paziente, di 34 anni, è stata sottoposta a blocco anestetico intercostale dopo colecistectomia. Dopo il blocco, la paziente ha manifestato dolori nel fianco destro, pallore e diminuzione dei livelli di ematocrito e di emoglobina. Alla laparotomia è stato osservato un ESF e realizzata una emostasia con compresse chirurgiche. La paziente ha avuto un esito soddisfacente ed è stata dimessa dopo la rimozione delle compresse.*

*In conclusione, il blocco anestetico intercostale, come qualsiasi altro procedimento medico, non è esente da complicazioni e deve essere realizzato in casi specifici, perché esistono metodi efficaci alternativi meno invasivi per il controllo del dolore.*

**KEY WORDS:** Liver - Subcapsular hematoma - Intercostal anesthesia - Surgery.  
 Fegato - Ematoma subcapsulare - Anestesia intercostale - Chirurgia.

## Introduction

The subcapsular and intrahepatic hematomas of the liver are lesions usually caused by traumas for liver biopsy, penetrating or blunt traumas of the liver or pregnant diseases as HEELP syndrome and eclampsia (1-7). The approach of these lesions depends on the various clinical presentations of the hematoma because it may be small with minimal clinical repercussion, managed only by ultrasound observation. In some situations the SHL may present larger dimensions with hemodynamic instability. In this case, aggressive treatments are necessary

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as arterial embolization, hepatic artery ligation or hepatectomy (1, 4, 7-9).

The aim of this report is to describe a case of SHL due to puncture for intercostal anesthetic blockade after open cholecystectomy and to discuss the various causes of the SHL and also the modalities of the treatment.

## Case report

A 34-years-old woman underwent open cholecystectomy for calculous cholecystitis. At the end of surgery, the anesthesiologist made an intercostal anesthetic blockade with bupivacaine 0,25% for control of the post-operative pain. Thus, it was released a puncture in the 8<sup>th</sup> intercostal space at the axillary medium line level. On the 2<sup>nd</sup> post-operative day the patient began to complain about abdominal pain in right flank. The physical examination revealed cutaneo-mucose paleness and abdominal pain in right flank on palpation. The blood cell test showed 22% hematocrit and 7,6 g/L hemoglobin, respectively. The patient received 3 units of blood cell concentrates and she was reoperated on for surgical revision.

Surgery showed blood in the subhepatic and subphrenic spaces, and a large SHL in segment VII with active bleeding. Liver package with compresses, peritoneal lavage and tubular drainage of the subphrenic space were carried out. At the end of surgery, a small skin hematoma by puncture for anesthetic intercostal blockade was observed in the same anatomic topography of the SHL (Fig. 1).

In the post-operative time the patient was led to intensive care unit where she received blood concentrates, frozen plasma, and large spectrum antibiotics. Computed tomography showed a hyperdense image in segments VI and VII of the liver corresponding the SHL (Fig. 2).

The patient has a good evolution and in the 4<sup>th</sup> postoperative day she was submitted the relaparotomy for retrieval of compresses and drain.

She had a good clinical evolution and she was discharged seven days after surgery in good conditions.

## Discussion

The SHLs are uncommon lesions usually due to needle biopsies, blunt traumas and pregnant diseases like HELLP syndrome and eclampsia (1-7). The physiopathology of SHL in the pregnancy isn't clearly understood; some authors have suggested that the SHL are caused by periportal hemorrhage necrosis and hypertension, being convulsions and vomits predisponents factors of rupture of the Glisson's capsule (6). In the majority of cases, the SHL have small diameter and are asymptomatic and often diagnosed incidentally by ultrasounds (3, 5).

Others diseases and medical procedures may be implicated to the development of SHL as fascioliasis, shock wave extracorporeal renal lithotripsy and cardiac resuscitation massage (8, 10). In the present case, it is logical to think that the SHL had been caused by the puncture for anesthetic blockade. It is the first case of this etiology described in the literature.

Giants SHL may provoke hemodynamic instability



Fig. 1 - Skin hematoma by puncture for anesthetic intercostal blockade was observed in the same anatomic topography of the SHL.



Fig. 2 - CT scan showing hyperdense image in segments VI and VII of the liver corresponding the SHL.

and in several cases it may be treated by hepatic artery embolization, percutaneous drainage or hepatectomy. The SHL may occur also in patients submitted to liver transplantation (7, 9, 11).

In our case, the surgical strategy was the tamponade of SHL by three compresses plus peritoneal drainage with the program of a new laparotomy for retrieval of the compresses and assessment of the SHL. The patient had a good post-operative evolution without the necessity of a more aggressive approach.

## Conclusion

The SHLs are lesions caused by liver trauma that may require conservative or aggressive approaches depending on the clinical characteristics and evolution. The intercostal anesthetic blockade must be released in selected patients by experienced anesthesiologists to avoid iatrogenic complications such as SHL.

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