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Case Report / Приказ болесника

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Diagnostically missed accessory spleen. The less known advantage of laparoscopy in the management of ITP

Дијагностички непрепозната акцесорна слезина. Мање позната предност лапароскопије у третману ИТП

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SUMMARY

Introduction Accessory spleen represents an ectopic spleen tissue separated from the body of the spleen, with the percentage share of 10–15% in a population.

Case outline In our paper we present a female patient in which immune thrombocytopenic purpura was diagnosed 12 years ago and, after a failed initial treatment, it was decided by a hematologist to perform a laparoscopic splenectomy. The mentioned operation was carried out in a safe and efficient manner wherein the accessory spleen was detected and removed intraoperatively. The operative and postoperative course passed without any complications. The definitive histopathological findings confirmed previously set hematological diagnosis.

Conclusion The laparoscopic approach is a superior modality in terms of diagnostic and therapeutic procedures when it comes to surgical removal of the accessory spleen. Taking into consideration the advantages of this approach presented and proven in literature, even in the case of diagnostically or intraoperatively overlooked accessory spleen or de novo discovered after the operation, there should be no dilemma which surgical approach should be applied.

Keywords: spleen; accessory spleen; laparoscopy; splenectomy

САЖЕТАК

Увод Акцесорна слезина представља ектопично ткиво одвојено од тела слезине, са процентуалном заступљеношћу од 10–15% у популацији.

Приказ болесника У нашем раду представљамо пацијента женског пола код које је пре 12 година дијагностикована имунолошка тромбоцитопенијска пурпура, те након неуспеле иницијалне терапије од стране хематолога донета одлука да се уради лапароскопска спленектомија. Поменута операција је изведена на сигуран и ефикасан начин при чему је интраоперативно детектована и уклоњена акцесорна слезина. Оперативни и постоперативни ток су протекли без компликација. Дефинитивни хистопатолошки налаз је потврдио претходно постављену хематолошку дијагнозу.

Закључак Лапароскопски приступ представља супериоран модалитет у дијагностичком и у терапијском смислу када је у питању хируршко уклањање акцесорне слезине. Узимајући у обзир до сада литературно презентоване и доказане предности овог приступа, чак и у случају дијагностички и/или интраоперативно превиђене акцесорне слезине или де ново откривене након операције не треба да постоји дилема који хируршки приступ треба применити.

Кључне речи: слезина; акцесорна слезина; лапароскопија; спленектомија

INTRODUCTION

Accessory spleen (AS), also known as splenikul or splenul, represents the inherited focal point of the spleen tissue which is separated from the main body of the spleen. It occurs because of that splenic buds do not merge during the organogenesis [1]. AS is represented by 10 - 15% in the general population. In most cases, their dimension is 1–2 cm. The most frequent localization of AS is the posteromedial side of spleen, spleen hilus, then the tail of the pancreas, gastrocolic ligament, large omentum [2].

Diagnostics, or intraoperative detection and surgical removal of the AS is of particular importance in the case of hematological diseases of the spleen. Otherwise, they may grow

and lead to a recurrence of the hematological disease for which the patient is subjected to splenectomy [3].

Splenikuluses are mainly verified as an incidental finding or are accidentally detected as part of the diagnostic procedures for other diseases. The initial diagnostics are ultrasound (UZ) of the abdomen, computerized tomography (CT), and nuclear magnetic resonance (NMR) [4].

Surgical removal of AS is the only curative treatment modality. As the laparoscopic splenectomy has become the gold standard in the treatment of most diseases of the spleen, it certainly should be given preference over the traditional surgical approach for the treatment of AS. In addition, laparoscopic splenectomy is a diagnostic and therapeutic option with many benefits [1, 5].

The aim of our work is to present a case in which the laparoscopic splenectomy was a diagnostic tool, in addition to the therapeutic effect, superior comparing to preoperative imaging diagnostics for the detection of the accessory spleen in immune thrombocytopenic purpura (ITP).

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Written consent to publish all shown material was obtained from the patient

CASE REPORT

We are introducing the female patient aged 26 years, in which the diagnostics were performed and the primary diagnosis was set by the hematologist. Specifically, the patient was diagnosed with ITP 12 years ago. Since then she was treated and controlled by the hematologist. Primary medication (e.g. cortico-steroid, an immunomodulatory) therapy did not result in the expected therapeutic response. Accordingly, the consultative decision on surgical treatment was made by hematologist and surgeon. The laparoscopic splenectomy was to be done.

Upon receipt to the clinic, the patient undergoes the preoperative CT of the abdomen, where the spleen of normal size was seen, with a diameter of 110 mm in the craniocaudal direction. The patient was set on an operating table in the right lateral position. After adequate preoperative preparation under general endotracheal anesthesia, initially, an artificial pneumoperitoneum was created by the usage of the Veress needle. A port for the laparoscope was placed infraumbilicaly, and after introducing the camera with (30 °) folded angle, the other working ports were placed in typical locations for the operation. The inspection of the abdomen did not indicate any anomalies. During the mobilization of the spleen, in the direct vicinity to the hilus, an accessory spleen of about 1cm in diameter was identified intraoperatively (Figure 2), which has not been seen at the previous diagnostics. With the use of the bipolar electrosurgical device (LigaSure), it was entirely removed. After that we started the liberation and complete mobilization of the spleen by cutting of splenic ligaments and of short gastric vessels, also with the use of the LigaSure. Hilus of the spleen was taken care of by endovascular stapler with vascular fed (Figure 3). After the management of vascular structures of the hilus, the spleen was completely released and placed into a polythene bag for extraction within which we performed instrumental destruction of the spleen and it was completely removed from the abdomen in fragments (Figure 4). A silicone abdominal drain was placed in the left subphrenic space, the gas was sucked out and operative incisions were reconstructed by anatomical layers. The prepared accessory spleen was removed entirely from the stomach (Figure 5) and, with the other fragments of the spleen, was sent for definitive histopathological (PH) verification.

The operative and postoperative course passed with no complications. The abdominal drain was removed during the second postoperative day, the patient was released from the clinic 3 days after surgery with prescribed antibiotic prophylaxis and mandatory postsplenectomy immunization according to the current literature guidelines and according to the guidelines for the prevention of postsplenectomy infections [6, 7].

One month after the operation, a control abdominal ultrasound showed normal findings, as well as NMR which was performed 6 months after the surgery. The patient is still in the process of regular controls and monitoring by the hematologist.

Definitive PH findings of the revised spleen tissue confirmed that there were changes that indicated immune thrombocytopenic purpura.

DISCUSSION

Accessory spleen represents ectopic splenic tissue that is separated from the spleen. AS occurs because of that splenic buds placed in dorsal mesogastrium do not merge during the fifth week of embryonic organogenesis [1]. The most common localization of splenikulum is near the hilum and vascular pedicles of the spleen, the tail of the pancreas, then left testicle or ovary due to splenogonadal fusion. It oftenly can be found in the large or small omentum, mesentery of the small intestine, along the greate curvature of the stomach, in Douglas's space and so on [2, 8, 9].

In the case that we present, AS was positioned near the hilum of the spleen.

Regarding the size and number, AS generally are smaller than 2 cm, rarely can be up to 4 cm big, and everything bigger than this represents a rare occurrence. Generally, only one accessory spleen occurs, two are very rare occurrences, and a larger number is very rare [4].

AS generally is discovered as an incidental finding in the framework of various diagnostic tests that rely on the ultrasound, CT, NMR, abdominal scintigraphy and others. Even though previously mentioned modern diagnostic methods are in use, a number of AS remain diagnostically unrecognized [4, 8].

Hematological disorders of the spleen, namely immune thrombocytopenic purpura (ITP) represents approximately 65% of all indications for splenectomy. These are the patients among which the AS is the most common finding during the diagnostic tests [10]. Detection of AT in haematological patients demands the utmost caution and is of great importance because of the fact that it is very important to detect it and perform a surgical removal, or otherwise, it can grow, therefore to take over the function of the spleen, which leads to disease recurrence [5 ,11].

In our case, despite the diagnostics conducted by hematologists, as well as preoperative imaging diagnostics, the AS was not detected, but we verified it intraoperatively.

Splenectomy represents the only modality of treatment in hematology patients. In the case of trauma or benign diseases of the spleen in which splenectomy is indicated, accessory spleen should be preserved and left in the abdomen [1, 8].

Laparoscopic splenectomy is the gold standard in the treatment of hematological diseases of the spleen, undoubtedly with all known benefits that are carried by minimally invasive surgical approach. In one of the recent studies, the superiority of it was confirmed, not only in terms of surgical treatment, but also in terms of diagnostics. Namely, Koshenkov et al have published and presented a study in which the results showed that the intraoperative detection of AS during laparoscopic splenectomy was 100%, while that number in pre-operative CT diagnosis was 12.5% [5].

In the case of a diagnostically and intraoperatively overlooked AS, which is detected during the control diagnostic testing, a laparoscopic approach is repeated surgery certainly should be preferred due to validated greater sensitivity and specificity in the AS detection. Besides, one should take into account possible postoperative complications related to the healing of the incision wound in the classical approach, then faster recovery and finally, a cosmetic effect which that surely should not be ignored [12, 13, 14].

Accessory spleen, mainly as an incidental finding, is in most diagnosed in hematological diseases of the spleen, which are the most frequently encountered as an indication for splenectomy. Using cameras with optical zoom from 20 - 30 times, a laparoscopic approach represents superior, efficient and safe modality of detection and of treatment with extremely rare oversight and low complication rate. In cases where splenikul gets overlooked intraoperatively, at reoperation one should not have any dilemma about the approach, in view of the proven benefits of minimally invasive, compared to the classical surgical approach.

Conflict of interest: None declared.

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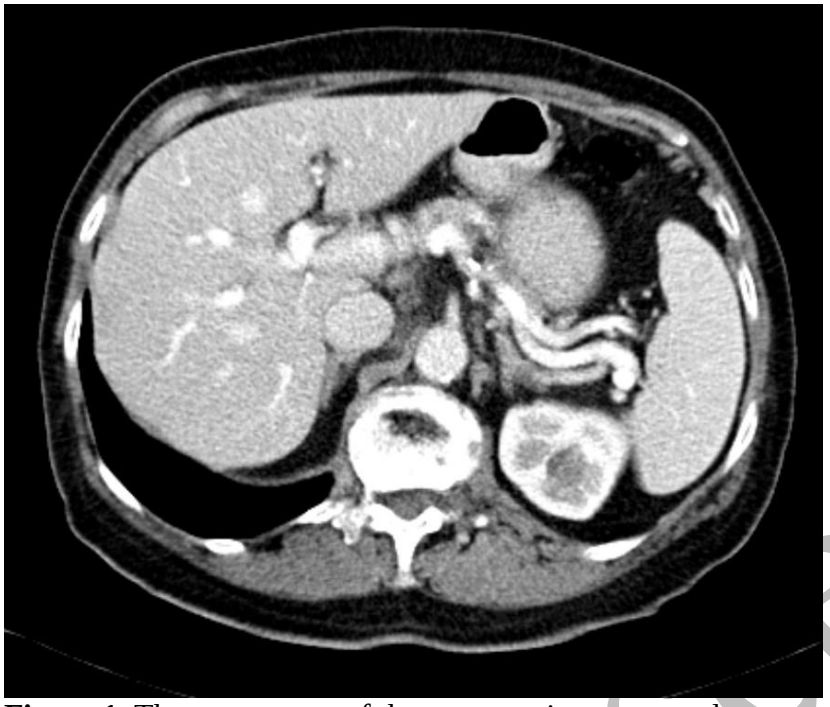

Figure 1. The appearance of the preoperative computed tomography examination

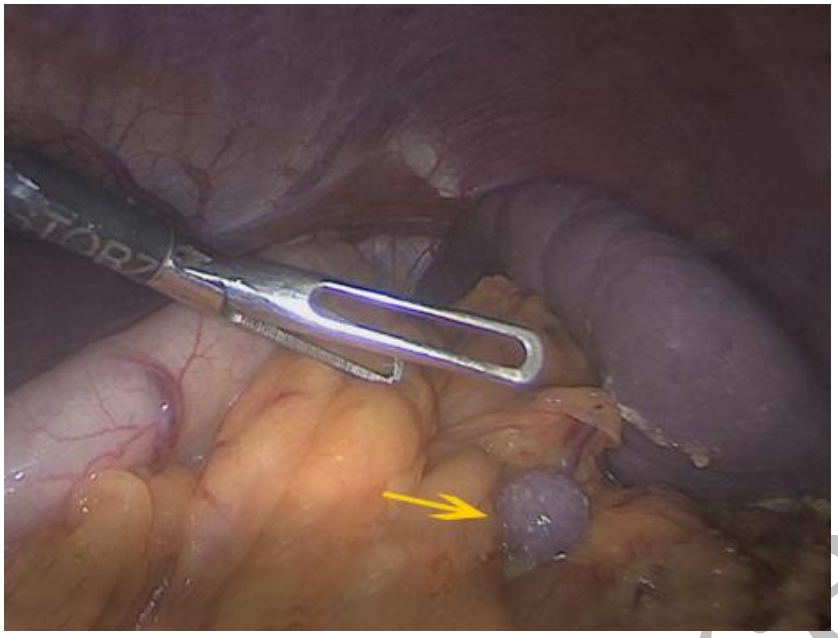

Figure 2. The appearance of the accessory spleen identified intraoperatively

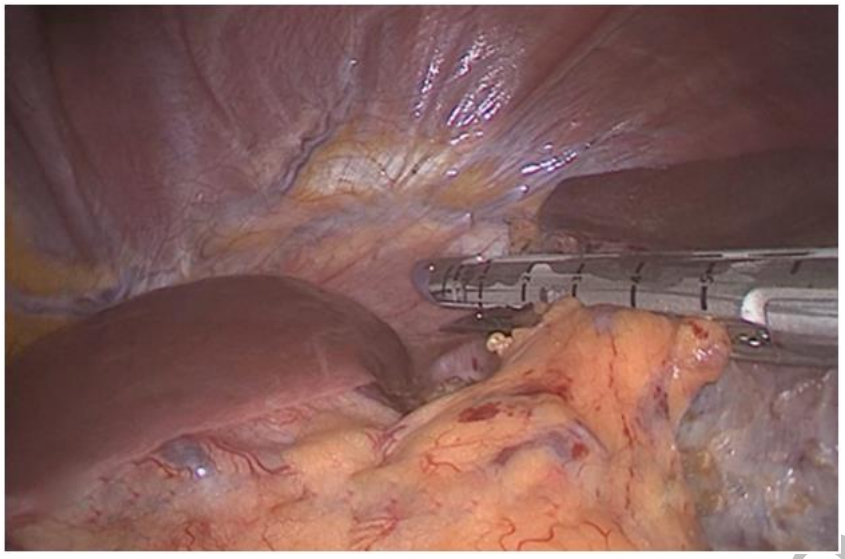

Figure 3. The appearance of the endo-stapler used for hilum of the spleen

Figure 4. The appearance of the spleen removed from the abdomen in fragments

Figure 5. Image of the accessory spleen specimen

