

# Laparoscopic splenectomy of a wandering spleen with coincidental enormous splenomegaly

## Laparoskopische Splenektomie einer Wandermilz bei ausgeprägter Splenomegalie

### Abstract

Ectopy of the spleen also referred to as wandering spleen is a rare condition and preferentially treated by laparoscopic splenopexy. However, in complicated cases with torsion and consecutive infarction of the spleen splenectomy is required. Performing the splenectomy of a wandering spleen laparoscopically has already been reported as a save therapeutic option. However, open splenectomy is usually preferred in case of massive splenomegaly for both, wandering and regular localized spleen. In this case report we describe a laparoscopic technique as alternative for conventional splenectomy in the case of a huge wandering spleen.

**Keywords:** wandering spleen, splenomegaly, laparoscopic splenectomy

### Zusammenfassung

Ektopie der Milz, auch Wandermilz genannt, ist ein seltenes Krankheitsbild. Die Therapie der Wahl ist in der Regel die laparoskopische Splenopexie. Dennoch kann in komplizierten Fällen mit Torsion und konsekutiver Infarzierung der Milz eine Splenektomie indiziert sein. Die laparoskopische Splenektomie der Wandermilz wurde bereits als sichere Therapie beschrieben. Bei ausgeprägter Splenomegalie ist jedoch in aller Regel sowohl für die regulär lokalisierte Milz als auch für die Wandermilz die konventionelle Splenektomie die Therapie der Wahl. Dieser Fallbericht beschreibt eine laparoskopische Technik als Alternative zur konventionellen Splenektomie bei einer Patientin mit Wandermilz und gleichzeitig bestehender ausgeprägter Splenomegalie.

**Schlüsselwörter:** Wandermilz, Splenomegalie, laparoskopische Splenektomie

### Introduction

Wandering spleen is a rare condition predominantly found in young women. The aetiology remains unclear [1], [2]. Clinically, patients may be asymptomatic or symptomatic, whereupon symptomatic patients often suffer from abdominal disorders of chronic or acute character [1], [3]. A notable complication of the wandering spleen is torsion of the elongated spleen vessels with consecutive infarction of the spleen. This event may lead to an acute abdomen [4]. Today standard therapeutic strategy is the laparoscopic splenopexy to avoid splenectomy and consecutive postsplenectomy complications like overwhelming postsplenectomy sepsis [2], [5]. Anyway, torsion of wandering spleen with subsequent infarction usually requires splenectomy, which can be performed open or laparoscopically, whereas the open-surgery approach is preferred

in case of pronounced splenomegaly. In this case report we present a 35-year-old woman that was diagnosed with a huge wandering spleen including torsion of the elongated splenic vein. Despite the splenomegaly and the ectopy of the spleen, she underwent laparoscopic splenectomy without any complications. This interesting case report presents the opportunity for laparoscopic splenectomy also in case of splenomegaly and coincidental ectopy of the spleen as a save alternative therapeutic option to the conventional open-surgery approach.

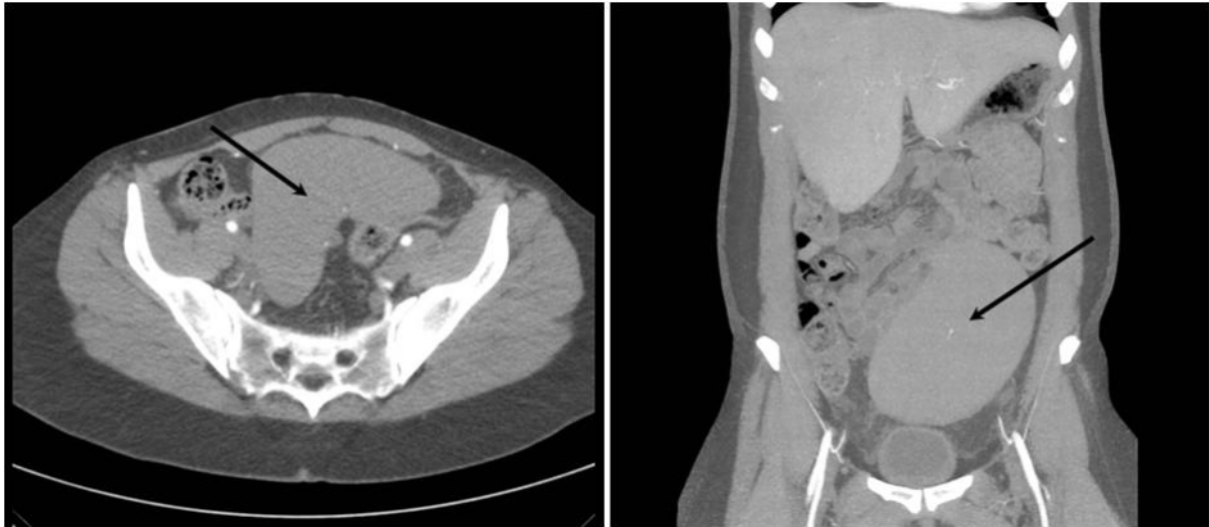
### Case report

A 35-year-old woman (Jehova's witness) presented in November 2010 in our surgical clinic with pain of the lower abdomen. Anamnestically a wandering spleen was

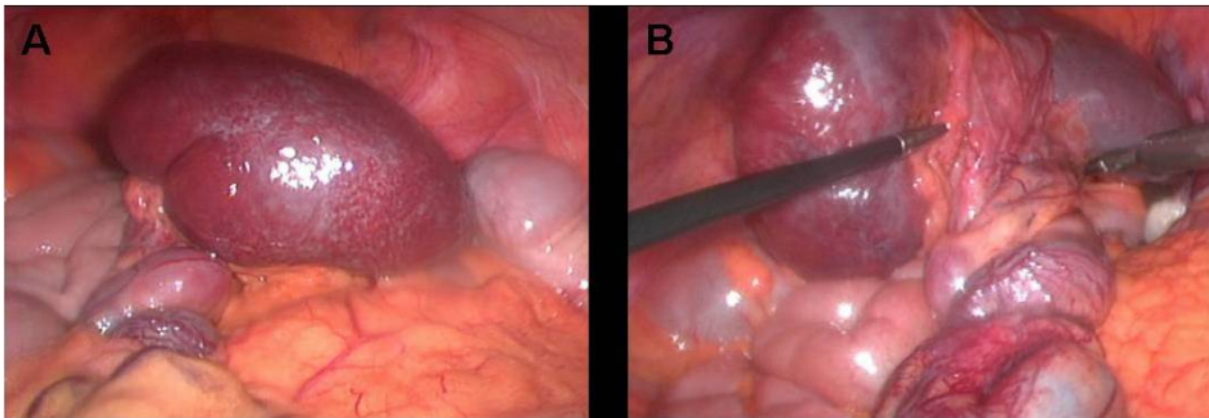
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**Figure 1:** Computed tomography of the abdomen revealed the huge wandering spleen (black arrows) cranial of the urinary bladder in the lesser pelvis.



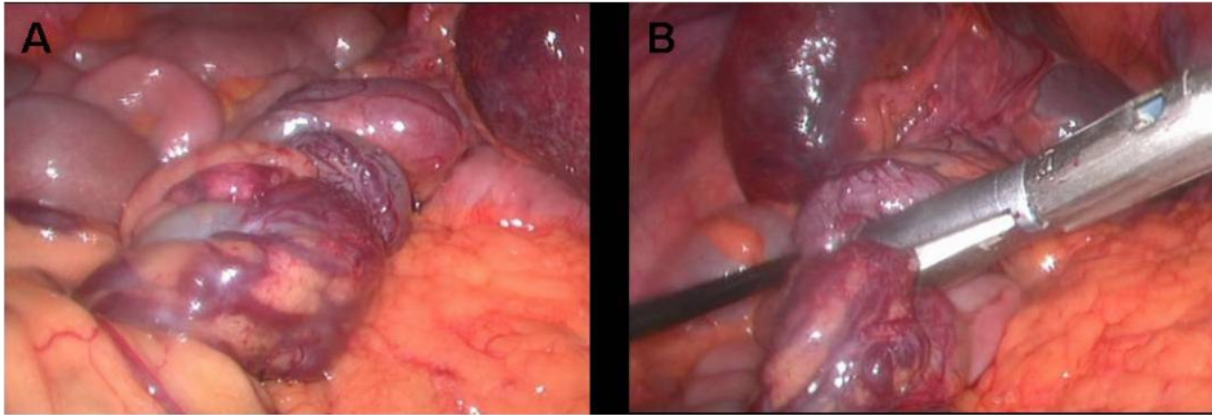
**Figure 2:** Intraabdominally the huge spleen was found in the lesser pelvis.

known for years with intermittent abdominal disorders. To this point the patient has always refused a surgical treatment. Except for an uncomplicated sectio no concomitant diseases or previous surgeries were known. Furthermore, the patient was not under long-term medication. Routine laboratory values were normal except for elevated C-reactive protein (CRP) and lowered potassium. After admission to our hospital we performed a sonography followed by a computed tomography of the abdomen which revealed a pronounced splenomegaly with ectopy cranial of the urinary bladder and torsion of the splenic vein (Figure 1). Because of recurring, progressive abdominal pain and radiological splenomegaly with torsion of the splenic vessels we decided on a splenectomy. In absence of any contraindications the procedure was planned laparoscopically and started with a mini-laparotomy left subcostal to insert the camera trocar and subsequently inserting two further trocars. Intraabdominally the huge spleen was found in the lesser pelvis (Figure 2) with torsion of the splenic vessels (Figure 3A). Detorsion of the spleen following stapled transection of splenic vessels was performed (Figure 3B). Subsequently the spleen was placed in an inserted large extraction bag (Figure 4A). Inside the extraction bag the spleen was fragmented into

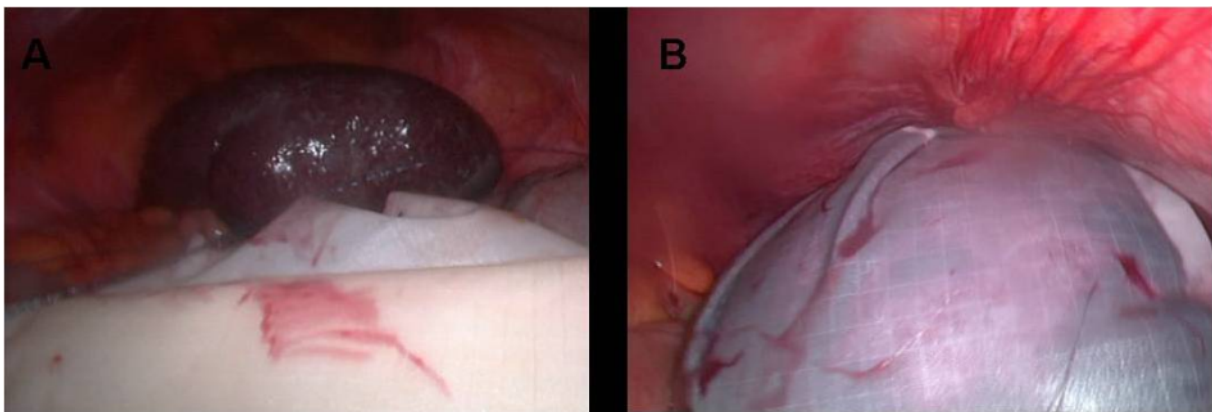
small pieces and the extraction bag was recovered using a small cut of the sectio cicatrice (Figure 4B). Histopathological analyses of the resected spleen revealed no pathological findings. After recovering from surgery the patient received all recommended vaccinations and was discharged 6 days after surgery without any complications.

## Discussion and conclusion

Splenectomy can be performed open or laparoscopic, whereas laparoscopic splenectomy of the regular localized spleen is preferred because of minimal invasiveness, shorter operation and hospitalization time [6], [7]. For ectopic spleen therapeutically splenopexy is preferred to avoid the risk of postsplenectomy sepsis. The laparoscopic splenopexy can be considered as a save surgical procedure [5]. In contrast splenectomy is necessary if an infarcted spleen due to vessel torsion is diagnosed. There are only a few authors reporting a laparoscopic splenectomy of a wandering spleen [8], [9], [10], [11], [12], [13]. The laparoscopic approach allows to confirm the diagnosis and provides the possibility to decide about splenopexy



**Figure 3:** The CT graphical assumed torsion of the splenic vessels could be confirmed (A) and the laparoscopic abscission of the vessels was performed (B).



**Figure 4:** A large extraction bag was inserted (A). Following fragmenting the spleen into small pieces, the extraction bag was recovered using a 3 cm long cut of the sectio cicatrice (B).

or splenectomy depending on viability of the spleen following detorsion [8]. In the above described case we were confronted with both, a splenomegaly and ectopy of the spleen. Having no contraindications for a minimal-invasive approach, we performed a laparoscopic splenectomy of the wandering spleen, in which intrabdominal fragmentation of the spleen was necessary because of massive splenomegaly. The surgery and the postoperative recovery were uneventful. In this case the laparoscopic approach was preferred because an open splenectomy would have required a long incision due to the elongated vessels. With this report and our described technique we want to suggest that laparoscopic splenectomy is a save therapeutic option to treat a wandering spleen with all advantage of minimal-invasive surgery, also in case of pronounced splenomegaly.

## Notes

## Competing interests

The authors declare that they have no competing interests.

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**Please cite as**

Lemke J, Scheele J, Juchems M, Henne-Bruns D, Brockschmidt C. Laparoscopic splenectomy of a wandering spleen with coincidental enormous splenomegaly. *GMS Interdiscip Plast Reconstr Surg DGPW*. 2012;1:Doc14. DOI: 10.3205/iprs000014, URN: urn:nbn:de:0183-iprs0000147

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**Published:** 2012-12-03

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