approach with appropriate broad spectrum antibiotics, and specific treatment initiated based on the culture report, followed by splenectomy after appropriate vaccinations. Since the functional residual splenic tissue in massive splenic infarction is minimal, splenectomy is not expected to worsen the hyposplenic state postoperatively. The recommended indications for splenectomy in patients with massive splenic infarction are persistent upper abdominal pain, pressure symptoms of a large spleen, accidental rupture and the concern of potential risk of infection, or the presence of an abscess of the infarcted splenic tissue. Splenectomy could, however, pose special technical problems due to the size of the spleen and surrounding perisplenic inflammation. Dense adhesions are usually seen between the spleen, diaphragm, stomach and perinephric region. This makes laparoscopic splenectomy a relative contraindication. Dissection could be partly facilitated by decompressing the cystic mass intraoperatively by aspiration, while taking precaution to avoid spillage of splenic tissue into the peritoneal cavity, as we did in our second case.

In conclusion, massive splenic infarction is rare, and constituted approximately 3.8% of patients who required splenectomy for splenic sequestration in this large single institution study. All our three patients with massive splenic infarction were adults with persistent splenomegaly well into adulthood, making them liable to this complication. An elevated Hbf is an important risk factor that is significantly associated with massive splenic infarction. A potential complication of a massive infarcted spleen is splenic abscess. A high index of clinical suspicion supported by radiological evidence on ultrasound and CT scan would help early, prompt and appropriate management. Splenic aspiration may be warranted in some of these cases. These patients can be managed initially by conservative measures followed by splenectomy. The predominant indication for splenectomy would be persistent pain, pressure effects and the risk of infection of the infarcted splenic tissue.

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Uterine sarcoma: a rare cause of uterine inversion

To the Editor: We describe a case of uterine inversion associated with endometrial sarcoma. Initially, the patient was thought to have a cervical mass, as she developed severe bleeding and the mass protruded outside the vagina. A CT scan was done before examination under anesthesia, with findings of a large uterine mass. We performed a total abdominal hysterectomy and bilateral salpingo-oophorectomy. A completely inverted uterus was found during surgery. Histology showed adenosarcoma of the endometrium. The tumor was limited to the endometrium. At the 5-year follow up, there was no clinical or radiological evidence of recurrent disease. Uterine sarcoma should be suspected in uterine inversion diagnosed in a postmenopausal woman. Most cases of uterine inversion are obstetric related and encountered during the puerperium. Non-puerperal uterine inversion is estimated to account for just 17% of all cases of uterine inversion.1 Benign uterine pathology may present as uterine inversion (submucosal myoma is a good example).2 Rarely, uterine inversion may complicate the presentation of uterine sarcoma.3-12 The differential diagnosis of uterine inversion in a postmenopausal woman should include uterine pathology, particularly sarcoma.

A 76-year-old woman was ad-
mitted through the emergency department with postmenopausal bleeding and lower abdominal pain for six weeks prior to her presentation. She was obese with a BMI of 31. The patient was known to have high blood pressure and cardiomyopathy. A CT scan suggested a mass involving the upper vagina and surrounding the lower uterine segment and cervix with air also in the endometrial canal that may have represented endometritis, although extension from the endometrial canal into the cervix could not be excluded. The patient developed profuse vaginal bleeding and a 10-cm mass protruded outside the vagina. The on-call team managed her by applying a suture ligature around the pedicle, which controlled the bleeding. Examination under anesthesia was done and a huge mass in the vagina was found. The cervix could not be visualized and the uterus was enlarged. A biopsy was taken of the mass and histological examination indicated adenosarcoma of the endometrium. Total abdominal hysterectomy, a bilateral salpingo-oophorectomy and a bilateral pelvic lymphadenectomy were done. During laparotomy, a completely inverted uterus was found with a fungating necrotic mass expanding the vagina. The inverted uterus demonstrated the characteristic uterine dimple at the uterine fundus (Figure 1). The final histopathology was adenosarcoma of the endometrium with a clear margin (Figure 2). Postoperatively, the patient recovered well and follow-up, both clinically and by CT scan, showed no evidence of recurrence. The last CT scan in October 2009 (5 years from the diagnosis) showed no evidence of local or distant recurrence.

Non-puerperal uterine inversion is an extremely rare disease, accounting for only one sixth of all cases of inversion. Takeno et al. reported that the frequency of nonpuerperal uterine inversion with endometrial carcinoma was 6.8% (71.6% were leiomyomas, 13.6% were sarcoma, and 8.0% were idiopathic). It is extremely difficult to preoperatively diagnose nonpuerperal uterine inversion, and the diagnosis is often made at time of surgery. Particularly in postmenopausal women, uterine inversion with corpus malignancy can be misdiagnosed as a cervical malignancy. Furthermore, it has been described that the symptoms
associated with a nonpuerperal uterine inversion were vaginal bleeding, vaginal tumor, lower abdominal pain, menorrhagia and urinary disturbance. Including our cases, none of the reported cases were in shock, which is sometimes associated with puerperal uterine inversion.

Uterine inversion is suspected when a tumor is palpable in the vagina, but the uterine fundus is not palpable by a pelvic examination. In the present case, extruded tumor was observed in the vagina, but a pelvic examination failed to identify uterine inversion. MRI has been shown to be a useful diagnostic tool since it can examine the characteristic image of the uterine cavity and a thickened and inverted uterine fundus on a sagittal image and a ‘bulls eye’ configuration on an axial image are signs indicative of uterine inversion. Our case was diagnosed by CT scan, but inversion was not suspected by CT. The diagnosis of uterine inversion was made during the surgical procedure.

The etiological factors of this combination include (a) sudden extrusion of a tumor from the uterus, (b) thin uterine wall, (c) dilatation of the uterine cervix, (d) tumor size, (e) thickness of the tumor pedicle and (f) tumor attachment site. In our case, as the tumor with its pedicle attached to the uterine muscle became progressively relaxed at the point of pedicle attachment, the cervix dilated and the tumor extruded into the vagina, resulting in uterine inversion. When a rapidly growing tumor exhibits signs indicative of myoma delivery, patients should be treated as having not only uterine sarcoma, but also uterine inversion.

Ehrlich et al. reported that the abdominal approach is the best and least hazardous treatment for uterine inversion caused by uterine sarcoma. Since patients with this disease are less likely to suffer shock, there is enough time to perform tests such as MRI to deliver an accurate preoperative diagnosis. However, in our case the severe vaginal bleeding and mass protruded outside the vulva, which made surgical intervention life saving. At present, surgery and/or chemotherapy have been recommended for the treatment of uterine inversion caused by sarcoma, but the standard therapy has not yet been established. Therefore, treatment options for this combination should be studied in the future.

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Lead intoxication mimicking a malignancy

To the Editor: A 51-year-old male presented to the hospital with a 3-month history of low to moderate grade fever, fatigue, weight loss and upper abdominal pain. Clinical examination was unremarkable except mild pallor. Investigations revealed low hemoglobin (9.8 g/dL) with normal blood counts and elevated transaminase levels (SGOT: 345U/L, SGPT: 123 U/L). Other biochemical parameters were normal. Blood and urine cultures were sterile. CT of the abdomen revealed pericholecystic fluid, favoring a diagnosis of chronic cholecystitis with acute exacerbation. He underwent laparoscopic cholecystectomy along with a wedge biopsy of liver. Liver biopsy showed only fatty change. In view of no response to broad-spectrum oral antibiotics he was further investigated. Contrast-enhanced CT of the chest showed bilateral parenchymal infiltrates with mediastinal lymphadenopathy. During the course of investigation he started developing pancytopenia. The presence of mediastinal nodes and cytopenias raised a suspicion of lymphoma with marrow involvement. A trial of naproxen further