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CE - MEDICAL ILLUSTRATION

Splenic herniation after laparoscopic nephrectomy

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Case report

A 59-year-old woman with a history of chronic obstructive pulmonary disease who had required multiple intubations and a history of renal cell carcinoma 2-year status post-laparoscopic left nephrectomy was transferred to this hospital for first and second degree burns. The patient, while on 4 l of home oxygen, was attempting to simultaneously drive and smoke, when her marijuana cigarette ignited her home oxygen, causing injuries on her face and right hand. The patient initially presented to another hospital where she was emergently intubated and transferred via medical flight to this hospital. On arrival, the patient was found to be sedated and intubated with bilateral second degree facial burns, swelling of the right eye, multiple singed nasal hairs, right wrist first degree burns with small blisters, bilateral wheezing on pulmonary examination, and a palpable mass within the left upper quadrant adjacent to a well-healed nephrectomy scar.

Given the mechanism of injury, extensive burns, bilateral wheezing, and a palpable mass within the left upper quadrant, computed tomography of the head, cervical spine, chest, abdomen, and pelvis with intravenous contrast material was obtained and demonstrated herniation of the spleen and colon through the left lateral tenth and eleventh intercostal space, but without evidence of rib fractures, inflammation, or incarceration (Fig. 1). Seen as well was the right, but not left, kidney (Fig. 2). Throughout the hospitalization, the patient underwent numerous surgical debridements in the operating room, was extubated, and discharged home with visiting nursing services. With respect to the splenic herniation, no intervention was undertaken.

Discussion

Laparoscopic nephrectomy is becoming increasingly more common and is associated with a variety of known complications, which often produce clinical and diagnostic dilemmas for both emergency department and internal medicine physicians [1]. In a series of 185 patients, 30 patients (6 %) experienced a variety of complications ranging from difficulty with surgical access to intraoperative-associated or postoperative-related complications [2]. Access-related complications included the herniations at the trocar site, development of abdominal wall hematomas and direct trocar injuries to the kidneys, while intraoperative complications included vascular injuries, splenic lacerations, and the development of pneumothoraces [2]. Postoperative complications, on the other hand, included the development of ileus, duodenal ulcers, enterocutaneous fistulas, congestive heart failure, atrial fibrillation, myocardial infarction, urinary retention, pneumonias, pulmonary emboli, and nerve injuries [2]. While splenic herniation has been described in the setting of blunt trauma, to our knowledge, it has not been described after laparoscopic nephrectomy [3]. In the absence of reliable history, herniation of the abdominal viscera may cause clinical and diagnostic uncertainty, and must be differentiated from common soft tissue masses including subcutaneous

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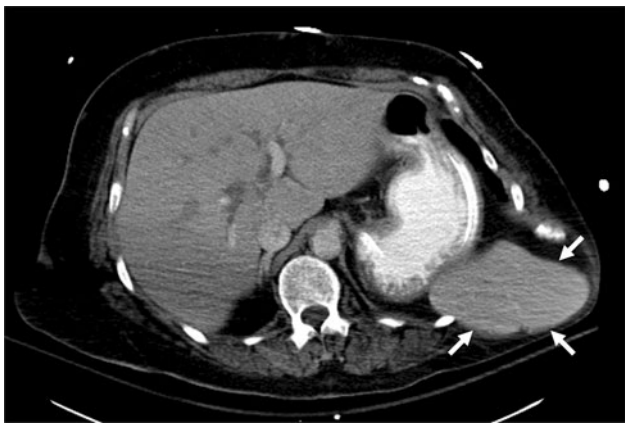

Fig. 1 Axial contrast enhanced computed tomographic image in soft tissue windows demonstrating the herniation of spleen through the tenth and eleventh intercostal space without evidence of inflammation or incarceration (*arrows*)

lipomas. More often than not, subcutaneous lipomas appear as multiple, lobulated, rubbery masses, with 80 % of them measuring less than 5 cm in size [4]. If there is a clinical uncertainty, however, ultrasonography may be obtained, which, in the setting of subcutaneous lipomas, often demonstrates well-encapsulated, well-circumscribed masses, which are isoechoic or hypoechoic to muscle [5, 6]. This case demonstrates a previously undocumented long-term complication of laparoscopic nephrectomy and emphasizes the important diagnostic considerations for the physicians in setting of prior nephrectomy.

Conflict of interest None.

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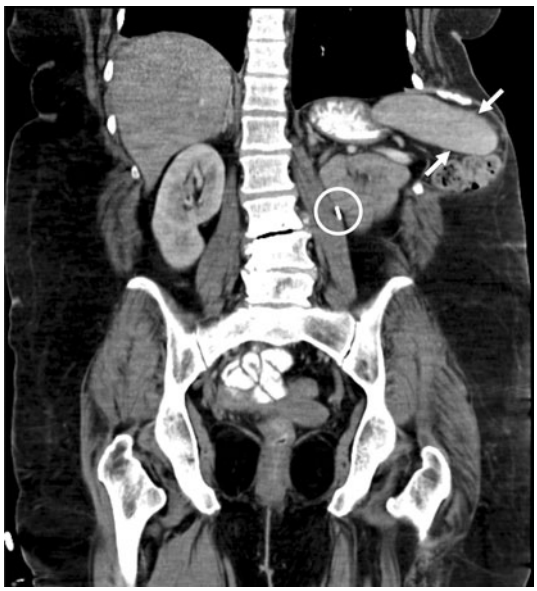

Fig. 2 Coronal contrast enhanced computed tomographic image in soft tissue windows demonstrating the herniation of spleen (*arrows*) and small bowel through the tenth and eleventh intercostal space as well as an absent left kidney with surgical clip (*circle*), consistent with prior laparoscopic nephrectomy

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