Psoas abscess ten years after ipsilateral nephrectomy for pyonephrosis

L. DI MARCO, V. SCIASCIA, R. SALMI, A. MANFREDINI, C. COCUZZA, M. BERGHENTI

SUMMARY: Psoas abscess ten years after ipsilateral nephrectomy for pyonephrosis.

L. DI MARCO, V. SCIASCIA, R. SALMI, A. MANFREDINI, C. COCUZZA, M. BERGHENTI

Pyogenic abscess of the psoas muscle is a rare disease. The Authors report a recently observed case which developed 10 years after ipsilateral nephrectomy for pyonephrosis, reviewing the pertinent literature. The culture of the pus extracted only reproduced Proteus mirabilis. The relation between psoas abscess and nephrectomy is unclear. To make diagnosis is important to consider this condition in differential diagnosis in presence of fever and flank tenderness in a nephrectomized patient.

KEY WORDS: Psoas abscess - Nephrectomy - Proteus mirabilis.

A 77-year-old female was referred to the emergency service in our hospital with a five days history of abdominal pain, nausea, fever, difficulty in walking and general deterioration of health. Medical history was significant for hypertension. Surgical history revealed a cholecystectomy, a left mastectomy and 10 years ago a right nephrectomy for pyonephrosis.

Physical examination revealed a corpulent woman in moderate abdominal distress; temperature was 38.5°C, blood pressure 130/60 mmHg, heart rate 100 bpm and respiratory rate 22/min. She had a severe right flank tenderness pain that became more severe by deep palpation and when she extended the leg. Right thigh was swollen in comparison to the other. The laboratory tests showed a moderate WBC (13000), an increase of ESR and fibrinogen (817), an Hg of 9.6, a C-reactive protein of 29.48. Results of other blood tests were normal. Chest X-ray and abdominal plain film were normal. Abdominal ultrasonography (US) was not significant while superficial tissues US in right groin and right iliac region showed the presence of an extensive abscess. At computed tomography (CT) the abscess extended from the right posterior pararenal region along the psoas muscle to the root of right thigh, extending in the retroperitoneal space to the right paravertebral muscles.
At surgery three incisions were respectively performed in the right groin region, in the right iliac region and in the site of the previous laparotomy for nephrectomy. Pus (1500 cc) was drained and three drainages were placed. A culture was prepared from the pus and only yielded Proteus mirabilis.

The patient was subjected to a triple intravenous antibiotic treatment (meropenem, clindamycin and metronidazole). Symptoms totally disappeared after a week and drainages were removed. The patient was discharged well 10 days later and is now subjectively well.

Discussion and conclusion

Pyogenic abscess of the psoas muscle is a rare disease. The annual worldwide incidence is estimated at only 12 cases for years (1). PA may be "primary" when the psoas muscle is the focus of infection or "secondary" as occurring by direct spread from underlying infections from the intestinal bowel disease (Crohn and ulcerative colitis), appendicitis, diverticulitis, colonic neoplasms to perirenal infections, pyonephrosis, pyelonephritis, tuberculosis and postoperative complications (2, 3). Common responsible microorganisms are Staphylococcus aureus, Escherichia coli, Proteus mirabilis, Klebsiella pneumoniae, Pseudomonas aeruginosa, Bacteroides fragilis and Serratia marcescens (4).

Diagnosis is difficult because the clinical findings are various and unspecific, usually including fever and flank pain. Routine laboratory findings and conventional radiographic examinations are often inconclusive. US examination is the first choice in PA identification but only CT is helpful in determining the extension of inflammation (5-8).

Treatment consists of percutaneously drainage of the small abscess with a US-guided tube or surgically with short skin incisions in the extended abscesses. It is also necessary to prepare a culture from the liquid extracted for starting an appropriate antibiotic treatment.

After a review of the literature we confirm that there is a founded relation between the nephrectomy and PA. Knobel et al. (9) reported a case of PA 3 years after ipsilateral nephrectomy for nephrolithiasis with pyonephrosis. The Authors didn't found any relationship between PA and nephrectomy and considered primary origin of the PA. Van Heesewijk et al. (10) described a PA developing 21 years after nephrectomy for pyonephrosis. He explained the involvement of the psoas muscle from a residual local infections focus. Tu

In conclusion the development of PA postoperatively is however unclear. Reaction against silk sutures, fractured tissue or stone fragments left behind at the time of surgery may account for the development of PA (14-16). Postoperative local hematoma may be a good media for growing bacteria which could have spread from other sources in the body hematogenously. The reason of late detection of PA could be due to the smaller size of the abscess in early postoperative period as well as due to patients whether being asymptomatic or with vague non-specific symptoms for longer periods after surgery. Immune status of the patient and "dormancy" of the infecting organism can also be considered (17, 18).

The key to making diagnosis is to consider PA in differential diagnosis in an ipsilateral nephrectomized patient with flank tenderness and fever. With suspicion of PA and the improved diagnostic tools it is possible achieve a better preoperative management plan.
Psoas abscess ten years after ipsilateral nephrectomy for pyonephrosis


