ACUTE ABDOMEN DUE TO LUPUS PERITONITIS CASE REPORT

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Keywords: *lupus erythematous, acute abdomen, surgery*

Abstract: *Systemic lupus erythematosus is an autoimmune disease that produces multiorgan injuries. Evolution to serositis in this pathology is not a rarity, but the affection is pleural and pericardial. Peritoneal involvement is rare. Clinical manifestations in this localization frequently mime an acute abdomen, the differential diagnosis with other abdominal pathologies, not being an easy one. The history of systemic lupus erythematosus and tomographic examination have the role of guiding the diagnosis, but sometimes only the surgical approach can set the diagnosis.*

INTRODUCTION

Systemic lupus erythematosus is an autoimmune disease characterized by the production of antibodies with multisystemic damage. Among 10-30% of lupus patients have serositis, with pleural and pericardial damage being common. Peritoneal injury is a rare one and is called lupus peritonitis.

The lupus peritonitis is classified into two categories: acute (acute onset, good corticosteroid response), chronic (weak response to corticosteroid therapy, frequent association of immunosuppressive agents such as cyclophosphamide or azathioprine being required.(1)

The presence of intraperitoneal ascites fluid requires diagnosis of ascites and exclusion from hepatic or cardiac etiology, peritoneal carcinomatosis ascites, nephrotic syndrome, protein loss enteropathy or peritoneal tuberculosis.

Algic abdominal manifestations require the exclusion of an acute abdomen or framing in one of the types of acute abdomen.

The term acute surgical abdomen designates a broad group of abdominal disorders that are clinically manifested by pain (accompanied by local and general signs) and requiring emergency surgical treatment.

Acute medical abdomen - means abdominal disorders requiring non-surgical treatment.

The acute medical-surgical abdomen includes abdominal disorders that have medical treatment as the first indication, but which, depending on the development, may require surgery (e.g. acute pancreatitis).

False acute abdomen is defined as extra-abdominal disorders that emerge through abdominal pain, and can therefore simulate an acute abdomen (e.g. basal pleurisy, myocardial infarction, diabetic acidosis, porphyria, and saturnine colic).

Clinical diagnosis in lupus peritonitis is difficult, and imaging examinations are mandatory. Ultrasound does not bring much information, perhaps it may detect ascites.

Tomographic examination brings most information, the most common evidence highlighted on CT in such pathology are intestinal distention, focal or diffuse intestinal wall thickening or abnormal bowel wall enhancement or mesenteric oedema.

However, the rarity of a pathology of this type, as well as clinical and imaging signs, often not specific, require a surgical approach that, after exclusion of other conditions and abdominal biologic sampling (intraabdominal fluid, peritoneal tissue, intestinal fragments) diagnosis.

CASE REPORT

We present the case of a 50-year-old female patient with a personal history of systemic lupus erythematosus, recurrent Q fever, Sjogren syndrome, nephrotic syndrome, hypertension, mesangiocapillary glomerulonephritis, posthisterectomy status, patient presenting in the emergency room for abdominal pain. It is more pronounced at the level of the right iliac fossa and in the right flank.

The clinical examination reveals painfully abdomen spontaneous and at palpation in the right iliac fossa with signs of peritoneal irritation at this level (Blumberg sign +, Mandel sign +).

Laboratory analyzes WBC 16.93 / µL, Neutrophils 13.92 µL, 82.3%, Hgb 8.6 g / dl, urea 53 mg / dl, creatinine 1.2 mg / dl.

No other biochemical changes.

Abdominal X ray -multiple linear intraluminal gas shadow along small bowel.

Thoracic abdominal CT scan - pericardial fluid bladder of about 8 mm in size, thickened cortical kidney and perirenal fat imprint, conglomerate of jejunal loop in mesogastrum, and ileal loops in the right iliac fossa with thickened, edematized walls and air inclusions with central mood at the level of conglomerates, ascending colon and cecum with thick-walled.

After interdisciplinary consultation, admission was decided in the surgical service with the diagnosis of acute abdomen. Surgical intervention was performed by exploratory laparoscopy that highlights seropurulent fluid in large amounts (approximately 2l), vascular disorders of the venous infarction, adherential syndrome in the right iliac fossa.

Laparotomy, viscerolysis, liquid harvesting for bacteriological and cytology examination, lavage, drainage were performed. Evolution was favourable with the disappearance of abdominal pain, resumption of transit, normalization of biological samples except for renal samples. The patient was

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Article received on 16.04.2019 and accepted for publication on 03.06.2019
ACTA MEDICA TRANSILVANICA June 2019;24(2):61-63

discharged on the 8th day postoperatively.

Figure no. 1. Abdominal X ray

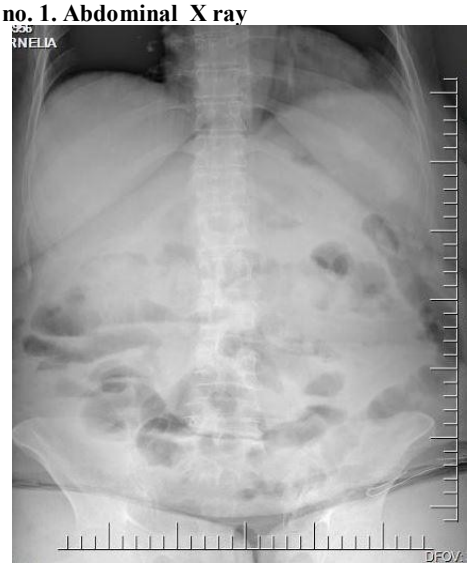


Figure no. 2. CT scan- pericardial fluid and right iliac fossa intestinal conglomerates

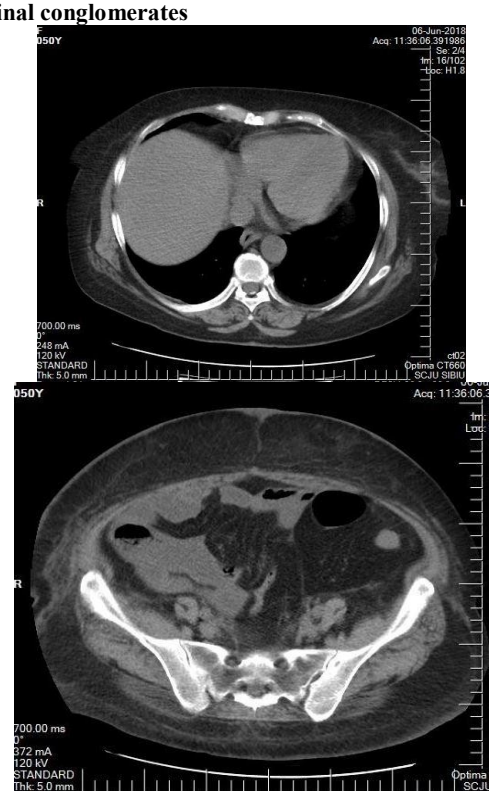
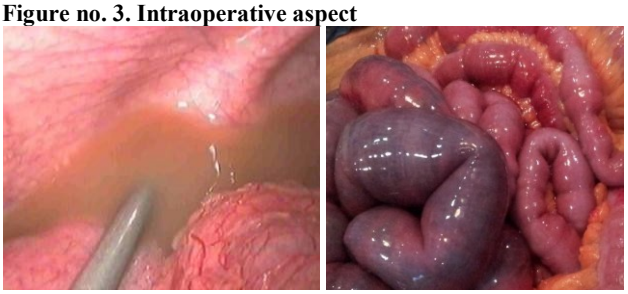


Figure no. 3. Intraoperative aspect



The result of the cytological and bacteriological examination of peritoneal fluid - no germ growth on culture media, numerous red blood cells, polymorphonuclear leukocytes and lymphocytes.

DISCUSSIONS

Lupus peritonitis is a serious condition that can mimic acute surgical abdomen. In this case the clinical symptomatology, as well as imaging raises the suspicion of an appendicular plastron, in which an exclusion diagnosis is required. Due to immunosuppressive therapy, an altered immune response, the exclusion of other abdominal pathologies is difficult to perform, and it is preferred that when opting for a surgical approach this is done in the laparoscopic approach.

Inflammation of the pleural and pericardial serous membranes is relatively frequent in lupus but, peritoneal serositis with ascites is rare.

The mechanism of production in lupus peritonitis is controversial and still insufficiently elucidated.

The main pathophysiology appears to be the formation of immune complexes.(2) TNF α and interleukins IL-6, IL 1β seem to play a role in the development of this pathology.

The occurrence of ascites in these cases is explained by peritoneal inflammation due to immune complexes. Mononuclear and polymorfonuclear cells migrate at the peritoneal level with the production of IL 6.IL 6 increases vascular permeability by ascites. Clinical manifestations in such a condition are nonspecific.(3,4,5)

The association of the elements listed above with the infiltration of mononuclear and polynuclear leukocytes around the vessels of the peritoneum and intestinal vessels (the right vessels in the Dwight arcade) determines vasculitis. Vasculitis associated with the formation of IgG deposits and immune complexes appears to be the unanimously accepted mechanism in lupus peritonitis.(6)

Inflammatory vasculitis due to the formation of immune complexes that will aggregate and determine vascular microtromboas is another physiologically accepted mechanism. Both types of microvasculopathy can activate each other reciprocally, the result will lead to aggravate the cascades of vasculitis and thrombosis.(7,8,9)

Intestinal damage in the case presented can be explained by intestinal vasculitis associated with lupus. The acute form of entero-mesenteric vasculitis primarily affects the small intestine, the chronic form affects the colon. Macroscopically, the appearance of vasculitis varies from segmental edema to ulceration, gangrene and perforation. Microscopically, there are evidences of fibrinoid necrosis, submucosa edema, leukocytoclasis on the vascular wall, and in the muscular layer, intravascular fibrin thrombus and hemorrhage around the small veins.(10)

D-dimer dosage, European consensus lupus activity measurement (ECLAM) and SLE disease activity index (SLEDAI) scores may be more useful for screening and evaluating patients with intestinal impairment in systemic lupus erythematosus.(11,12)

Specialty literature does not describe very many cases of lupus peritonitis with acute abdomen like manifestations. Accessing Pub Med and Google Scholar we obtained approximately 4500 articles describing the possibility of associating acute abdomen with lupus, the number of reports for the past year being 9 including other acute abdomen types than the irritative one (occlusive, vascular).

The prognosis of lupus peritonitis is usually good, current therapeutic strategies include non steroidal anti-

inflammatory drugs and corticosteroids. Refractory cases requires immunesupressors or surgical approach.

CONCLUSIONS

Combination of erythematous lupus with peritonitis is a rare one, but when coexisting, it can mimic an acute surgical abdomen. A differential diagnosis of accuracy requires anamnestic, clinical and imaging data, sometimes even surgical approaches to exclude other pathologies.

Most systemic lupus erythematosus gastrointestinal complications are caused by vasculitis and immune complex deposition. Early diagnosis and timely treatment are critical to improve the prognosis.

REFERENCES

1. Liu R, Zhang L, Gao S, et al. Gastrointestinal symptom due to lupus peritonitis: a rare form of onset of SLE. Int J Clin Exp Med. 2014;7(12):5917-20. Published 2014 Dec 15.
2. Pott J H, Amate N A, Teixeira MA, Provenza JR. Ascites due to lupus peritonitis: a rare form of onset of systemic lupus erythematosus. Rev Bras Reumatol. 2012 Jan-Feb;52(1):116-9.
3. Tian XP, Zhang XA. Gastrointestinal involvement in systemic lupus erythematosus: Insight into pathogenesis, diagnosis and treatment. World J Gastroenterol. 2010;16:2971-2977.
4. Lee CK, Ahn MS, Lee EY, Shin JH, Cho YS, Ha HK, Yoo B, Moon HB. Acute abdominal pain in systemic lupus erythematosus: focus on lupus enteritis (gastrointestinal vasculitis) Ann Rheum Dis. 2002;61:547-550.
5. Veny A, Seguí J.Acute abdomen in a 36-year-old woman with systemic lupus erythematous of 12 year duration Med Clin (Barc). 1996 Nov 23;107(18):711-6.
6. Nishimoto N, Kishimoto T. Interleukin 6: from bench to bedside. Nat Clin Pract Rheumatol. 2006 Nov;2(11):619-26.
7. Cervera R, Espinosa G, Cordero A, Oltra MR, Unzurrunzaga A, Rossiñol T, Plaza J, Bucciarelli S, Ramos-Casals M, Ingelmo M, et al. Intestinal involvement secondary to the antiphospholipid syndrome (APS): clinical and immunologic characteristics of 97 patients: comparison of classic and catastrophic APS. Semin Arthritis Rheum. 2007;36:287-296.
8. Helliwell TR, Flook D, Whitworth J, Day DW. Arteritis and venulitis in systemic lupus erythematosus resulting in massive lower intestinal haemorrhage. Histopathology. 1985;9:1103-1113.
9. Kwok SK, Seo SH, Ju JH, Park KS, Yoon CH, Kim WU, Min JK, Park SH, Cho CS, Kim HY. Lupus enteritis: clinical characteristics, risk factor for relapse and association with anti-endothelial cell antibody. Lupus. 2007;16:803-809.
10. Ju JH, Min JK, Jung CK, Oh SN, Kwok SK, Kang KY, Park KS, Ko HJ, Yoon CH, Park SH, et al. Lupus mesenteric vasculitis can cause acute abdominal pain in patients with SLE. Nat Rev Rheumatol. 2009;5:273–281
11. Yuan SW, Li H, Chen DY, Qiu Q, Lian F, Zhan ZP, Liang LQ, Xu HS, Yang XY. Associated factors for the occurrence of lupus enteritis Zhonghua Yi Xue Za Zhi. 2013 Apr 16;93(15):1162-4.
12. Medina F, Ayala A, Jara LJ, Becerra M, Miranda JM, Fraga A, et al. Acute abdomen in systemic lupus erythematosus: the importance of early laparotomy. Am J Med. 1997;103:100-5.