



## Splenocolic Fistula: A Rare Complication of Splenic Lymphoma

Navarro Barles A<sup>1\*</sup>, Martínez López MP<sup>2</sup>, Morales Tugues C<sup>1</sup>, Moreno Fernández F<sup>1</sup>, Homs Farré E<sup>3</sup>, Sánchez Marín A<sup>1</sup> and Del Castillo Déjardin D<sup>4\*</sup>

<sup>1</sup>Department of Surgery, Colorectal Surgery Unit, Hospital Universitari Sant Joan, IISPV, "Rovira i Virgili" University, Reus, Spain

<sup>2</sup>Department of Surgery, Abdominal Wall Surgery Unit, Hospital Universitari Vall d'Hebron, Barcelona, Spain

<sup>3</sup>Department of Surgery, Endocrine Surgery Unit, Hospital Universitari Sant Joan, IISPV, "Rovira i Virgili" University, Reus, Spain

<sup>4</sup>Department of Surgery, Bariatric and Metabolic Surgery Service, University Hospital of Sant Joan, IISPV, "Rovira i Virgili" University, Reus, Spain

### Abstract

A fistula is an abnormal communication between two different surfaces and is relatively frequent in the gastrointestinal tract, originating in the digestive system. We present an unusual case of splenocolic fistula after diffuse large B-cell non-Hodgkin splenic lymphoma and a review of its diagnosis, management and prognosis.

**Keywords:** Splenocolic fistula; Splenic lymphoma; CT; MRI

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#### \*Correspondence:

Del Castillo Déjardin Daniel,  
Department of Surgery, Head of  
Bariatric and Metabolic Surgery  
Service, University Hospital of Sant  
Joan, IISPV, "Rovira i Virgili" University,  
Reus, Tarragona, Spain,  
Navarro Barles Ana, Colorectal Surgery  
Unit, University Hospital of Sant Joan,  
IISPV, "Rovira i Virgili" University, Reus,  
Tarragona, Spain,

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### Introduction

A fistula is an abnormal communication between two different surfaces. Fistulas that affect the gastrointestinal tract are relatively frequent [1]. The most common causes of fistulization are gastrointestinal inflammatory processes such as Crohn's disease, complex diverticular disease or malignancy [2]. Other causes are surgical procedures, radiation, non-surgical injuries and foreign bodies [3].

We report an unusual case of splenocolic fistula secondary to non-Hodgkin lymphoma with colon and splenic involvement.

### Case Presentation

A 40-year-old male recently diagnosed in his country of origin with a splenic mass of 154 mm × 103 mm × 180 mm associated with bilateral adrenal nodules compatible with Diffuse Large B-Cell Lymphoma of germinal center (DLBCL), positive to BCL and CD20 and negative to CD10, CD3, CD5 and MUM1, according to a fine-needle aspiration splenic biopsy.

With non-active treatment he presented to our emergency room complaining of swelling and pain in the abdomen, drenching night sweats, anorexia, weight loss and fatigue.

Physical examination showed a swollen abdomen and a mass occupying the left hemiabdomen without signs of an acute abdomen. Laboratory samples showed white blood cells  $13.85 \times 10^3/\mu\text{L}$  ( $N < 11 \times 10^3/\mu\text{L}$ ) and C-reactive protein 37.33 mg/dL ( $N < 0.3 \text{ ng/dL}$ ). An abdominal Computed Tomography (CT) scan showed an important central splenic abscess with a thickened colon (Figure 1).

The patient was admitted to oncology to complete the study by Magnetic Resonance Imaging (MRI) and a PET scan, which confirmed a significant central splenic necrosis with air content compatible with a splenocolic fistula. After the first 24 h the patient's clinical condition worsened with increasing abdominal pain, fever, and hemodynamic instability. General Surgery was therefore consulted and an urgent surgical intervention was decided.

A laparotomy was performed and revealed splenomegaly with an important central necrosis, a thickened colonic splenic angle and a colosplenic fistula (Figure 2). Splenectomy, distal pancreatectomy and segmental resection of the affected colon with end colostomy were undertaken.

A histologic examination showed a 150 mm × 130 mm splenic large B-cell lymphoma (CD20+)



Figure 1: CT scan image of the splenic abscess with a thickened colon.

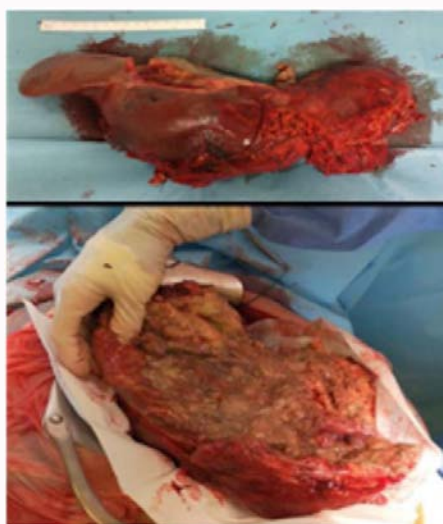


Figure 2: Macroscopic image of the spleen after splenectomy.

fibrocongestion and splenic necrosis, severe exacerbated chronic perisplenitis, colon with transmural infiltration of large B-cells and pancreatic tissue with severe exacerbated chronic inflammation.

The patient was attended to initially in the Intensive Care Unit (ICU), where he received antibiotic treatment with meropenem, linezolid and fluconazole. After clinical and hemodynamic stabilization specific oncological treatment was started with R-CHOP.

The patient was discharged on the 30<sup>th</sup> postoperative day after minor complications such as paralytic ileus, hyperkalemia, and surgical wound infection.

## Discussion

Fistulization between the colon and spleen is a rare condition; in published cases it is usually secondary to benign inflammatory diseases such as Crohn's disease or a gastrointestinal tract malignant neoplasm [4,5]. Due to the aggressiveness of the DLBCL with splenic involvement fistulas to different organs, such as stomach, colon or bronchi have been described. Harris et al. published a series with 10 patients with splenic DLBCL in which 9 presented involvement of the splenic capsular margin and 7 patients presented progression to neighboring organs [6].

The etiology of these fistulas varies. On the one hand, it has been reported to appear after chemotherapy because the treatment administered to these patients causes rapid cell apoptosis that does not allow tissue regeneration of the stroma of the infiltrated organ.

Palmowski et al. reported that the combination of treatments such as monoclonal antibodies together with chemotherapy can enhance this effect [7]. However, in a large study of the effect of CHOP chemotherapy (cyclophosphamide, doxorubicin, vincristine, prednisone) no statistically significant differences were found in the formation of entero-splenic fistula [8].

On the other hand, fistulas can be formed because of malignancy. Radial extension and destruction of normal tissue may extend to the nearby organs thus creating the abnormal connection [9]. When this occurs, the risk of bleeding or infection increases. This effect was observed in our patient for whom there was an involvement of the colon that leads to a fistula and associated sepsis. When this condition is suspected, definitive diagnosis, must be based on imaging, especially by CT scan with oral and intravenous contrast through which the extension of the primary disease, the fistulous tract and the invasion of neighboring organs can be located [9-11]. Other tests that can help the diagnosis are a water-soluble contrast enema or a fibrocolonoscopy which will allow a biopsy if necessary. In the present case, the CT scan showed a splenic abscess and the PET scan confirmed the fistula.

Treatment requires a multidisciplinary approach to the primary disease with targeted chemotherapy, although when a complicated malignant fistula is formed, as in the present case, a splenectomy and segmental resection of the affected organ is necessary [12]. Nevertheless, we must always consider the baseline state of the patient and the surgical and anesthetic risk, since several cases have been reported in which the treatment of choice was chemotherapy when the fistula was not complicated [13].

## Conclusion

Splenicocolic fistula secondary to DLBCL is rare. Diagnosis may be difficult since symptoms are non-specific. CT imaging with oral and intravenous contrast is required for diagnosis and may be accompanied by other diagnostic tests if the results are not conclusive; the treatment of choice is fundamentally surgical, although each case must be individualized.

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