

Intestinal Perforation in Patients Undergoing Chemotherapy for Acute Myeloblastic Leukaemia: Report of Two Cases

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Abstract

Case Report

Acute leukaemias are a group of rare diseases characterised by the invasion of the bone marrow by a clone of abnormal and immature cells known as blasts. Spontaneous perforation of the gastrointestinal tract is an uncommon but life-threatening complication of systemic chemotherapy for haemopathies. We present the case of two patients; a 21-year-old man and a 40 years old women diagnosed with acute myeloblastic leukaemia by myelogram and immunophenotyping, who presented with peritonitis due to intestinal perforation, 8 and 14 days after induction of cytarabine-based chemotherapy. These 2 patients were treated in our department with urgent surgery and had a good clinical outcome.

Keywords: Leukaemia, Perforation, Peritonitis, Haemopathy, Chemotherapy, Cytarabine.

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INTRODUCTION

Acute leukaemia is a malignant haemopathy characterized by proliferation of the bone marrow by > 20% of more or less immature cells called blasts, with passage into the bloodstream and sometimes invasion of haematopoietic organs.

The chemotherapy used in treating patients with leukemia, while destroying leukemic cells, also makes the patient more susceptible to bleeding and infection of which sepsis is a frequent cause of death [1]. Support for the patient during the aplastic phase of induction has improved survival greatly [2]. spontaneous gastrointestinal perforation during or after cytotoxic chemotherapy for acute myeloid leukaemia is rarely reported [3]. The perforation can occur at anypoint in the GI tract including the stomach and intestine [4, 8].

Early diagnosis with surgical intervention is essential to improve the chances of survival [9].

MATERIELS AND METHODES

CASE PRESENTATION

Clinical Observations :

First Case :

Patient aged 21, history of H.Pylori gastritis untreated for 3 years. who presented with a rapidly

worsening anaemic syndrome, with no haemorrhagic or infectious syndrome.

Blood count: haemoglobin 5.4, platelets 14,000, white blood cells 34,000 including 20% immature cells. Myelogram shows appearance compatible with lymphoblasts, completed with immunophenotyping.

The diagnosis of acute myeloid leukaemia was made on the following grounds, and cytarabine-based treatment was initiated.

20 days later, the patient presented to emergency with generalised abdominal pain and vomiting. On clinical examination, there was generalised abdominal contracture.

Biology: blood count Shows a haemoglobin at 12.3 g/dl leukocytes: 18600/mm³, platelets 31,000/ mm³.

X-ray of the abdomen shows pneumoperitoneum.

After transfusion of 10 platelets, the patient was admitted to the operating room with emergency laparotomy.

Investigation revealed extensive stercoral peritonitis over an intestinal perforation on a 5-

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centimetre omental necrosis located 1.9v metre from Treitz's angle.

After abundant washing with warm saline, the necrotic part was resected with a double-barrel ileostomy and drainage.

The patient was subsequently admitted to the intensive care unit and then to surgery and the post-operative course was straightforward. Continuity was restored 3 months later.



Figure 1: Intra intraoperative image showing grelic perforation as well as the stigmata of generalized peritonitis



Figure 2: Necrosed and detached grelic segment of the intestine responsible for peritonitis

Second Case:

49-year-old woman with no notable pathological history, followed by hematology for acute myeloid leukemia. under cytarabine-based induction chemotherapy. Admitted to emergency with acute

abdominal pain. Clinical examination reveals generalised abdominal defence.

Biology: the blood count shows; haemoglobin 9,1 g/dl leukocytes: 6550/mm³, platelets 130.000/ mm³.

Abdominal CT scan revealed pneumoperitoneum with a moderate amount of peritoneal effusion.

The patient was admitted to the operating room. On exploration stercoral peritonitis on a jejunal perforation located 1.5 metres from the duodenojejunal angle, with a punctiform perforation located 30 centimetres downstream of the first perforation.

After abundant washing with warm saline solution, the jejunal perforation was resected and a double stoma was performed. The procedure was completed by a large drainage of the peritoneal cavity.

The post-operative course was straightforward and the patient was discharged at 6 days post-operatively with subsequent follow-up consultations.

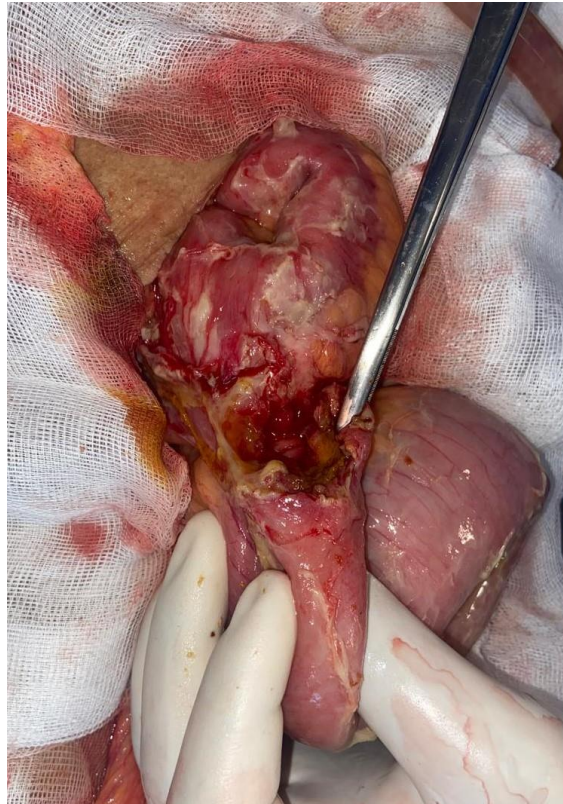


Figure 3: Intraoperative image showing grelic perforation in the 2nd patient

DISCUSSION

Spontaneous gastrointestinal perforation is a potentially lethal complication of anti acute myeloid leukemia chemotherapy, few cases of gastrointestinal perforation secondary to systemic chemotherapy have been reported in the literature [5, 8].

Chemotherapy and corticosteroids are directly involved, as they are widely used in patients with acute myeloid leukaemia and other haemopathies such as lymphomas.

In cases of lymphoma affecting the gastrointestinal tract, treatment with invasive chemotherapy may causes tumour necrosis with associated perforation as a possible complication [10, 12].

The morbidity and mortality of a gastrointestinal perforation are high if a serious illness occurs at the same time as the perforation and if the

patient is elderly or immunocompromised [13, 15]. In patients with leukaemia, complications are exacerbated by the toxicity of chemotherapy, Diagnosis is often delayed because symptoms are often masked and attenuated by steroids.

Gastrointestinal perforation may go undetected until the state of shock following generalised peritonitis, The delay between the onset of symptoms caused by perforation and the time of surgery can affect the outcome; the longer the diagnosis, the worse the prognosis. Preoperative shock is also a poor prognostic factor for these patients [9].

In the case of our 2 patients, the time interval between the onset of symptoms and the time of the operation was almost 72 hours for the first patient and 24 hours for the 2nd patient. In both patients there was generalised peritonitis and both patients required a stay in the intensive care unit post-operatively.

Early diagnosis of intestinal perforation in patients with leukaemia during systemic chemotherapy is therefore essential, as it determines the patient's vital prognosis.

Simple closure is preferable, and a more radical procedure, such as gastrectomy, would likely add to the operative morbidity and mortality associated with surgery. The excellent outcome of surgical intervention is attributed to an early diagnosis, prompt exploration, and selective operative procedures [9]. In our 2 patients, the necrotic part of the small intestine was resected with a double ileal stoma. The first patient benefited from the restoration of continuity, the 2nd patient will be scheduled within 2 months.

All patients with acute leukaemia who are receiving chemotherapy and corticosteroids, who present with epigastralgia, abdominal pain or any other sign suggesting a surgical emergency must be carefully examined and even checked for perforation, to avoid any delay in diagnosis, which could worsen the prognosis.

CONCLUSION

Although uncommon, intestinal perforation in patients with acute leukemia is a serious complication that can be life-threatening in the short term. Any abdominal pain, in a leukemia patient undergoing chemotherapy, must attract full attention and benefit from sufficient clinical examination and additional exploration to make the diagnosis as quickly as possible and treat the patient in time.

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