Case report

Perforated voluminous duodenal Burkitt lymphoma causing severe peritonitis , a case report

Abstract:

The management of duodenal malignant lymphoma presents challenges due to the presence of serious complications like obstruction, pancreatitis, and perforation. As a result, a combination of surgical measures and interdisciplinary procedures is necessary. We report a case of a 44 years old man suffering from abdominal pain and vomiting, CT images showed a voluminous intraperitoneal perforated tumour, intra operative exlopration showed that the origin of the tumour is duodenum , a resection was performed , patient died few hours after surgery, , histological and immunohistochemical findings confirmed the diagnostic of burkitt lymphoma . the primary treatment for gastrointestinal lymphomas remains chemotherapy, but in cases of duodenal lymphoma, a significant number of patients need surgery due to complicated presentations.

Introduction

Around 30-40% of extranodal lymphomas are primary gastrointestinal lymphomas, but they only make up 1-8% of all gastrointestinal cancers. Adenocarcinoma is the most common type of malignancy in the duodenum, while malignant lymphoma is only seen in 2% of cases [1]. Malignant gastrointestinal lymphomas increase the risk of serious and life-threatening complications such as stenosis and perforation, which can occur spontaneously due to tumour enlargement, chemotherapy, or irradiation [2]. Duodenal lymphoma is a rare but highly morbid type of gastrointestinal lymphoma, which can manifest as diffuse large B-cell lymphoma, mucosa-associated lymphoid tissue lymphoma, or Burkitt lymphoma [3]. It is often associated with complications like intestinal obstruction, jaundice, pancreatitis, and perforation, which increase the risk of peritoneal lymphomatous dissemination [1,4]. Emergency surgical interventions may be necessary to prevent massive bleeding or to address intestinal obstruction or perforation [3]. Here, we report a very rare case of lethal perforation of a duodenal Burkitt lymphoma.

Case report:

- Patient information:

A 44-year-old Moroccan male, previously fit and healthy presented with 5 days history of abdominal pain and vomitting, 3 days history of fever. He came to our emergency department for increase in the intensity of abdominal pain and vomiting over past 2 days.

- Clinical findings:

On examination he looked unwell and sweaty, with a temperature of 38.5°C and a pulse rate of 120 beats/min. The abdomen was tender . Blood investigations revealed total count of leukocytes 18400/mm3, haemoglobin : 8,6 g/dL, platelet count: 543 K/µL, c-reactive protein (CRP) was elevated (265mg/l).

- Diagnostic assessement:

CT scan abdomen showed a voluminous intraperitoneal mass with pneumoperitoneum and intraperitoneal fluid (figure1).

- Therapeutic intervention:

The patient underwent emergent operation. At laparotomy, 1L of infected fluid was found in the peritoneal cavity. A large perforated duodenal tumour was seen, a segmental resection was performed conserving pancreas with duodenostomy and a large peritoneum lavage (figure 2,3).

specimen was carefully examined by an expert pathologist, Giemsa staining demonstrated non hodgkin's lymphoma neoplastic lymphocytes infiltration. Immunohistochemical analysis revealed that lymphocytes expressed CD20, CD10, and BCL6, EBV/LMP-1 with Ki-67 proliferative fraction 100%, and c-myc translocation determined by FISH analysis which were diagnostic for BL (figure 4).

- Follow up and outcomes:

Patient died few hour after operation.

Discussion:

Due to the rarity of duodenal lymphoma, there is a lack of information on the appropriate treatment plans. The duodenum is a challenging area for surgery, so complete removal of the lymphoma is uncommon. Aggressive chemotherapy is not recommended due to the risk of perforation. Therefore, a multidisciplinary strategy was developed, which involved using rituximab and less intensive chemotherapy followed by radiotherapy. This approach was considered safe and effective [2].

Sarkhosh and al analyzed the use of surgery in the treatment of duodenal lymphoma in their study [3]. They reviewed a total of 23 cases, of which eight (35%) were treated with surgery alone, eight (35%) with surgery along with chemotherapy, five (22%) with chemotherapy only, and two (9%) with supportive care. The patients who underwent surgery were mostly in emergency situations such as obstruction (58%), perforation (33%), and hemorrhage (8%). Prior to immunochemotherapy, gastrojejunostomy was performed. Approximately 50% of perforations in gastrointestinal lymphomas occur during the initial presentation, while the other 50% occur after chemotherapy [5].

Gastrointestinal lymphoma-related perforation can lead to sepsis and/or peritoneal dissemination of the disease, which results in a high mortality rate of approximately 60% and a poor outcome [6,7].

The immunocompromised subtype of Burkitt lymphoma of the duodenum is exceptionally uncommon across all variants, and the current literature on this topic is very limited. Duodenal involvement in Burkitt lymphomas is believed to represent less than 1% of all cases due to the scarcity of cases available for study[8].

Usually; Burkitt lymphoma is common in patients with AIDS, when treating immunocompromised patients with chronic abdominal symptoms, especially those with complications such as bleeding or occult positive testing, there should be a high level of suspicion for lymphomas. Early intervention with endoscopy and biopsy can aid in the identification of these conditions, leading to improved outcomes for patients [9,10].

when treating gastrointestinal lymphoma; Takagishi et al recommend a multidisciplinary approach with this regimen: first, rituximab alone, followed by less intensive chemotherapy without vincristine, when the patient's health improves and the mass size decreases, complete chemotherapy may be administered. If the lymphoma remains localized, consolidation radiotherapy is effective in eliminating any remaining mass [2].

Chemotherapy response rates are very high and effective for the disease, so treatment of lymphomas should largely be medical. Therefore, for these patients, surgical intervention should only be used for diagnosis or relieving emergency situations, such as obstruction, perforation, or bleeding. Extensive bowel resections should be avoided [11].

Conclusion:

Treatment of burkitt lymphoma is largely medical however surgery can be the only solution for complicated cases .The management of perforation should be surgical, Treatment decisions can be challenging for duodenal lymphoma due to its rarity. The histology of these tumors is comparable to other lymphomas in the small bowel. The use of minimally invasive techniques for biopsies and treatment of complex cases has led to a reduced role for surgery in managing duodenal lymphoma.

Patient perspective : The procedure of surgery was explained to the patient with all advantages and possible complications. He agreed on the procedure and informed consent was taken from her

Ethics approval : not applicable

Consent of patient : Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Registration of research studies: Our paper is a case report; no registration was done for it.

Provenance and peer review

Not commissioned, externally peer-reviewed

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Figures:

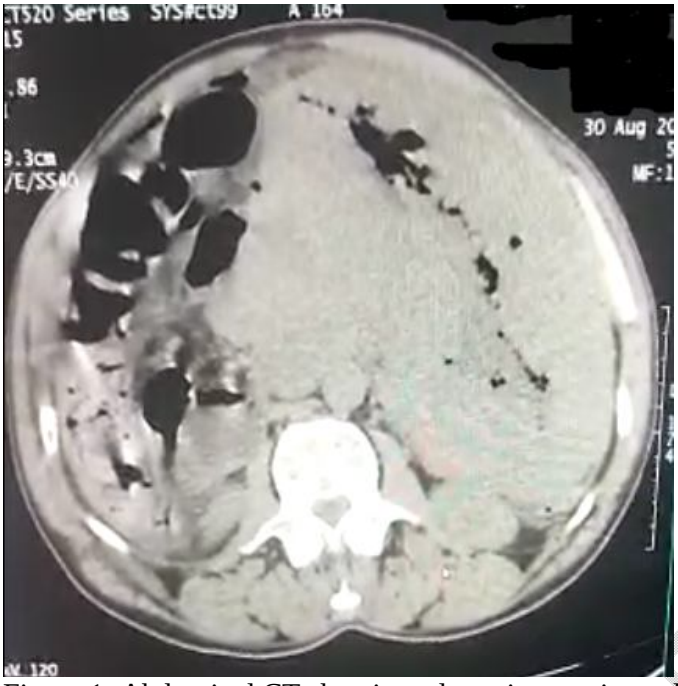

Figure 1: Abdominal CT showing a large intraperitoneal tumour with pneumoperitoneum

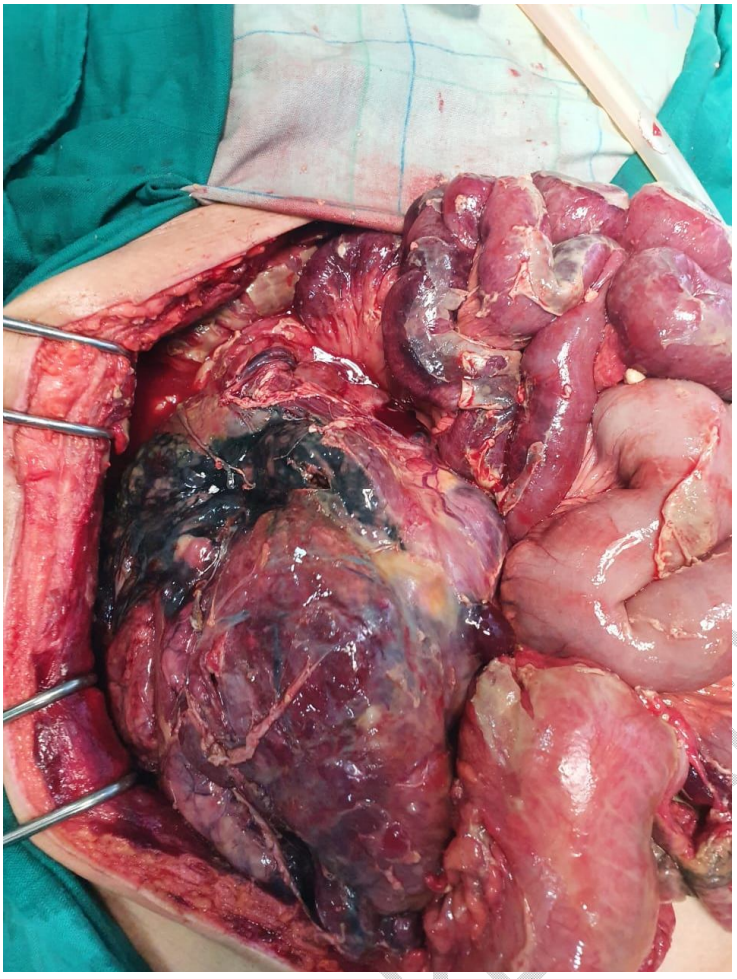

Figure 2: intraoperative image showing perforated lymphoma with peritonitis

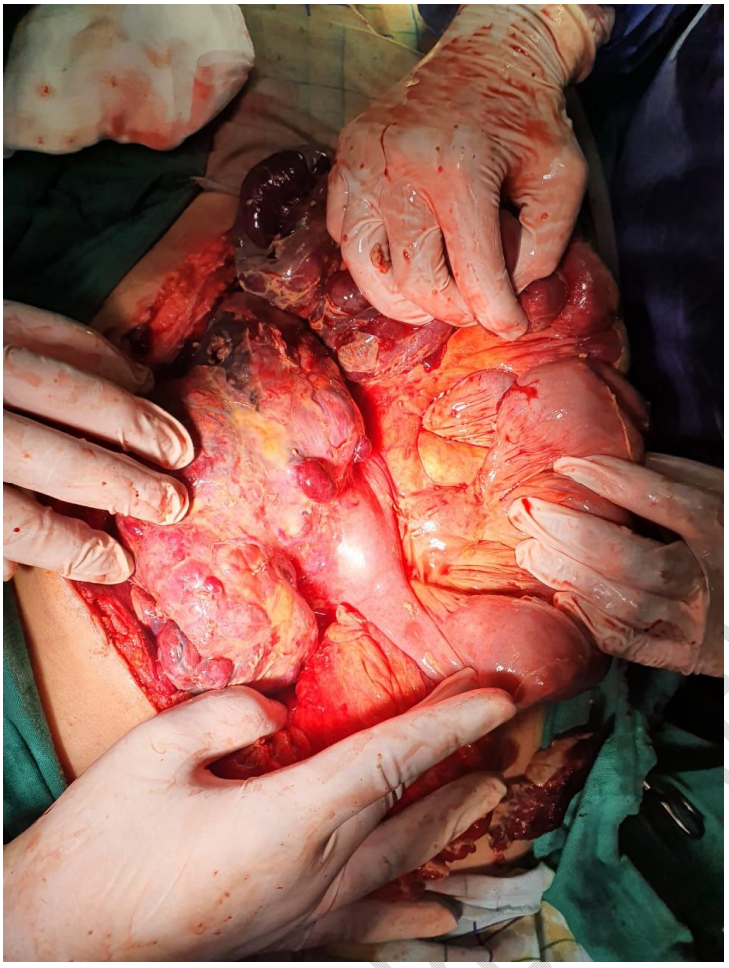

Figure 3: intraoperative image showing duodenal lymphoma

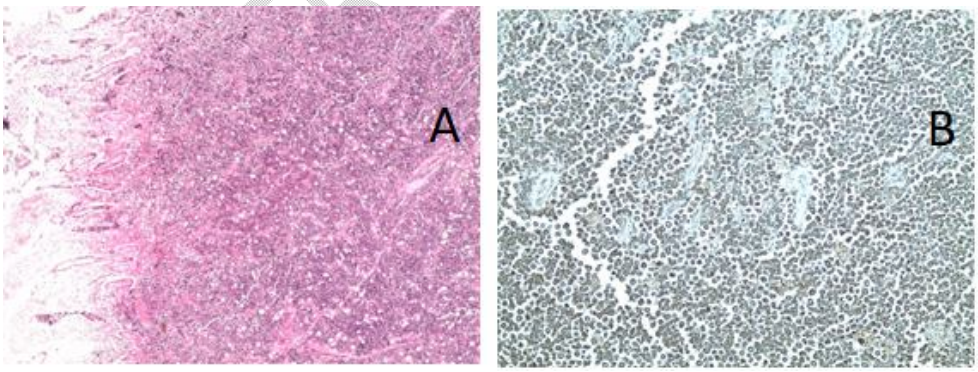

Figure 4: pathological finding : A : neoplasic lymphocytes infiltration , B : expression of CMYC