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Intestinal perforation that developed after chemotherapy in a patient diagnosed with non-Hodgkin lymphoma: A case report and review of literature

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ABSTRACT

INTRODUCTION: Non-Hodgkin Lymphomas (NHL) appear with the malign transformation of mature lymphocytes. Intestinal perforations are one of the most well-known complications of NHLs. In this review, a 29-year-old male patient who was diagnosed with NHL with gastrointestinal involvement that developed intestinal perforation after chemotherapy is presented.

PRESENTATION OF CASE: A 29-year-old male patient who received systemic chemotherapy in another healthcare center due to Major B-Cell Lymphoma was examined because he had stomachache after the treatment. The patient was urgently taken to operation. In the exploration, there were partly mass lesions in all small intestine segments. It was determined that one of the lesion was perforated. Small intestine resection was applied. The pathology report on resection material was reported as High Grade Major B-Cell Lymphoma.

DISCUSSION: In the treatment of Lymphoma with intestinal B-Cells, there is no consensus because this disease is rarely observed. Perforation may appear as a complication of the chemotherapy. Depending on the steroids given to the patient, perforation may develop, and the clinical symptoms may be masked.

CONCLUSION: It must be born in mind that there may be intestinal involvement in patients diagnosed with NHL, and intestinal perforation may develop due to chemotherapy.

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1. Introduction

Non-Hodgkin Lymphomas (NHL) appear with the malign transformation of mature lymphocytes. Gastrointestinal NHLs are the most frequent extranodal lymphomas. B-Cell lymphoma is more frequent than T-cell lymphoma, and Diffused Large-Cell B-Cell Lymphoma is the most frequent sub-type [1]. Intestinal perforations are one of the most well-known complications of NHLs. Ono et al. [2] reported that the reasons of perforation in patients who receive chemotherapy treatment were fast tumor necrosis, tumor lysis, and tissue impairment due to excessive granulation based on chemotherapy. Vaidya et al. [3] reported that the most widespread perforation area is the small intestines, and the most frequent perforation is observed in Diffused Major B-Cell sub-type. In this review, a patient who was diagnosed with NHL with gastroin-

testinal involvement that developed intestinal perforation after chemotherapy is presented. This work is reported in line with the SCARE criteria [4].

2. Presentation of case

A 29-year-old male patient who received systemic chemotherapy in another healthcare center due to Major B-Cell Lymphoma was examined because he had stomach ache after the treatment. In the follow-ups, the stomach-ache continued and increased, and therefore, the patient was sent to us on his 3rd day of hospitalization. The patient was taken to Emergency Service. In his medical history, it was observed that the patient was diagnosed with NHL diagnosis 6 months ago, and received R-COP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone) treatment whose 4th Session was completed 2 weeks ago. Aside from these, there were no additional background data in his family and resume. In physical examination, there was widespread sensitivity and defense in the stomach. The WBC was $7000 \times 10^3/\mu\text{L}$, and small intestine-type air-liquid leveling was observed in standing direct abdominal graphics. In the CT on the abdomen, it was observed that there was widespread liquid and

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Fig. 1. Intestinal perforation site.

air in the stomach. For this reason, the patient was urgently taken to operation by general surgery specialist. In the exploration, it was observed that there was widespread intestinal content in the abdomen. There were partly mass lesions in all small intestine segments. It was determined that one of the lesions was perforated in a distance of 75 cm to ileocecal valve (Fig. 1). Small intestine resection to include these two lesions was applied. The patient was observed as stable in terms of clinical and laboratory values in the postoperative period, and was discharged with recommendations on the postoperative 5th day. The follow-up and treatment of the patient is still continued by us including a hematology specialist without any problems. The pathology report on the resection material was reported as High Grade Major B-Cell Lymphoma. Written informed consent was obtained from the patient and from his first degree relatives for publication of this case and involving images.

3. Discussion

In the treatment of Lymphoma with intestinal B-Cells, there is no consensus because this disease is rarely observed. The majority of patients with intestinal lymphoma generally respond well to medical treatment. However, several complications like obstruction, perforation, fistula or bleeding may require that surgical treatment is added [5,6]. Most of the time, chemotherapy, surgery and in some cases, radio-therapy combinations are applied. The frequency of perforation due to intestinal lymphoma was reported as 1–25%. There might appear small intestine perforation spontaneously or as a chemotherapy complication [7–12]. In a previous study, a period of 37 years was investigated, and it was determined that perforation developed in 9% of the patients with gastrointestinal lymphoma, and perforation developed after chemotherapy in 55% of these patients [3]. Depending on the steroids given to the patient, perforation may develop, and the clinical symptoms may be masked [13]. In our case, the patient was followed-up in another healthcare center for 3 days due to stomachache; however, since there were no acute abdomen symptoms in the patient, perforation was not suspected. When the patient was sent to our clinic, perforation was suspected, and the pre-diagnosis was confirmed with Computerized Tomography. Although perforation is a well-known complication of chemotherapy, delays in the diag-

nosis have opened the road to debates on the role of the elective surgery before chemotherapy in patients with NHL, which is known as intestine involvement. Zinzani et al. [14] applied surgical resection before chemotherapy to 32 patients with intestinal lymphoma, and reported better results in terms of survival. Ibrahim et al. [15] applied surgical resection before chemotherapy in 66 patients, and reported that there were no significant differences in terms of survival rates.

Considering that mortality and morbidity may increase in patients who develop perforation, and longer hospitalization durations may be required, and assessing the results like the decrease in the comfort of the patient and possible ostomy after urgent surgery, we believe that applying elective surgery in selected patients in localized diseases will be proper in terms of event-free survival and cost-effective results although there are no significant differences in terms of survival rates. More clinical studies are needed in this field.

4. Conclusion

It must be born in mind that there may be intestinal involvement in patients diagnosed with NHL, and intestinal perforation may develop due to chemotherapy. In order to decrease mortality and morbidity, the required tests and treatment must be applied in an urgent manner in case there is clinical suspicion. On the other hand, we believe that it will be more beneficial to consider elective surgery for each patient separately before chemotherapy and apply it on selected patients.

Conflicts of interest

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Ethical approval

None.

Consent

Written informed consent was obtained from the patient's and his first degree relatives for publication of this case and involving images.

Author contribution

CT, BT, OKB, contributed in the study concept, data acquisition and data analysis. CT and OA contributed in the data analysis. CT, MY, SA, SB wrote the paper. All authors read and approved the final version of the submitted manuscript.

Guarantor

Cihad Tatar.

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