Ileocecal intussusception as a first presentation of Burkitt's lymphoma with multi-organ involvement

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Abstract

A 2-year-old boy was diagnosed with ileocecal intussusception and underwent surgical treatment and appendectomy. Appendix histopathology revealed lymphoid cells with hyperchromatic nuclei, high mitotic activity, and starry sky appearance. The patient was diagnosed with Burkitt's lymphoma, which involves many organs, such as the appendix, liver, kidney, and bone marrow.

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ABSTRACT

A 2-year-old boy was diagnosed with ileocecal intussusception and underwent surgical treatment and appendectomy. Appendix histopathology revealed lymphoid cells with hyperchromatic nuclei, high mitotic activity, and starry sky appearance. The patient was diagnosed with Burkitt's lymphoma, which involves many organs, such as the appendix, liver, kidney, and bone marrow.

Keywords: Burkitt lymphoma, Intussusception, child.

CASE PRESENTATION

A 2-year-old boy with no known past medical history presented to the pediatric surgery department with abdominal pain, abdominal distention and vomiting since three days ago. The patient was diagnosed with ileocecal intussusception and underwent surgical treatment with intussusception reduction and appendectomy.

In histopathological examination of appendix specimens, serosal layer show an infiltrative neoplastic growth formed of sheets of small to medium sized lymphoid cells with hyperchromatic nuclei, high mitotic activity, and starry sky appearance (Figure 1A). The immunohistochemistry (IHC) analysis of the samples revealed positive Ki-67 expression in about 95% of tumoral cells (Figure 1B), negative terminal deoxynucleotidyl transferase (TdT) expression (Figure 1C), and diffuse positive CD20 expression in tumoral cells (Figure 1D).

For further evaluation, the patient underwent abdominopelvic computed tomography (CT) scan and bone marrow biopsy and aspiration. As a result, several hypodense hepatic lesions with a maximum diameter 7mm in the hepatic segment II (Red arrow in Figure 2A) and hypodense lesion in upper pole of left kidney (Blue arrow in Figure 2B) have been discovered. The flow cytometry of bone marrow aspirate showed positivity for CD10 (24%), CD19 (100%), CD20 (100%). Finally, the patient was diagnosed with Burkitt's lymphoma, which involve multi-organs, such as appendix, liver, kidney, and bone marrow.

Burkitt's lymphoma is a very aggressive B-cell lymphoma that is more common in boys and has a peak incidence at age 6 years.[1] According to world health organization (WHO) classification, Burkitt's lymphoma is divided into three classes based on clinical features: endemic, sporadic, and immunodeficiency-associated.[1,2] The abdomen is the most commonly involved location in sporadic burkitt's lymphoma.[1] In Children, abdominal pain had various causes, such as intussusception. 10% of patients with intussusception have a pathologic cause, such as Burkitt's lymphoma, despite the fact that the majority of them are idiopathic.[3] As a conclusion, we should be aware of Burkitt's lymphoma in childs with intussusception and keep in mind that Burkitt's lymphoma might have many extra-nodal involvements.

AUTHOR CONTRIBUTIONS

ZF was involved in patient clinical care. MN and MRZR were involve in literature review, initial manuscript writing, and revision of the manuscript.

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CONFLICT OF INTEREST

The authors declare that there was conflict no of interest

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy

REFERENCES

1. Molyneux EM, Rochford R, Griffin B, Newton R, Jackson G, Menon G, et al. Burkitt's lymphoma. Lancet Lond Engl. 2012 Mar 31;379(9822):1234–44.

2. Roschewski M, Staudt LM, Wilson WH. Burkitt's Lymphoma. N Engl J Med. 2022 Sep 22;387(12):1111–22.

3. Wang SM, Huang FC, Wu CH, Ko SF, Lee SY, Hsiao CC. Ileocecal Burkitt's lymphoma presenting as ileocolic intussusception with appendiceal invagination and acute appendicitis. J Formos Med Assoc Taiwan Yi Zhi. 2010 Jun;109(6):476–9.