CASE REPORT: BURKITT LYMPHOMA

Abstract: This article analyzes the case of Burkitt lymphoma, an unusual type of lymphoma, which is very aggressive in its reactions, originating from the immune system cells, having as biological mark, the translocation involves immunoglobulin and c – MYC genes. Of the patients affected by Burkitt lymphoma, half of them are under the age of 40 and one third affect people between the ages of 15 and 40. The study also analyzes the case of a 25-year-old male patient who was admitted to Santa Casa de Montes Claros Hospital in January 2015, diagnosed with high-grade B lymphoma. The study therefore addresses all the Burkitt lymphoma characteristics that have developed in this patient, as well as the clinical and therapeutic discussions of lymphoma. It also presents the numerous and frequent intercurrences presented during the progression of the disease and during the treatment itself.

Keywords: Lymphoma; Patients; Disease.
Resumo: O presente artigo faz uma análise e estudo de caso acerca do linfoma Burkitt, sendo este um tipo incomum de linfoma, bastante agressivo em suas reações, se originando de células do sistema imunitário, tendo como marca biológica a translocação envolvendo imunoglobina e genes c- MYC. Dos pacientes acometidos com o linfoma Burkitt metade são menores de 40 anos e um terço atinge pessoas entre 15 e 40 anos. O estudo faz ainda uma análise do caso de um paciente do sexo masculino com idade de 25 anos, que deu entrada no Hospital Santa Casa de Montes Claros em janeiro de 2015, com diagnóstico de linfoma B de alto grau. O estudo aborda, portanto todas as características do linfoma Burkitt, que desenvolveram neste paciente, bem como as discussões clínicas e terapêuticas do linfoma. Apresenta ainda as inúmeras e frequentes intercorrências apresentadas durante a evolução da doença e durante o próprio tratamento.

Palavras-chave: Linfoma; Pacientes; Doença.
INTRODUCTION

Lymphomas are a group of neoplastic diseases that originate from immune system cells, and specifically affect the cells from the lymphopoietic system, which is responsible for producing the lymphocytes. Their classification depends on the lineage of cells that are developed. The majority affects the lymphocytes type B, and to a lesser extent T cells and natural killer (NK).

Burkitt’s lymphoma (LB) is an uncommon variant, constitutes less than 1% of all non-Hodgkin lymphomas. Its biological mark is a translocation involving immunoglobulin and c-MYC genes. Of the patients affected by Burkitt’s lymphoma half of them are under 40 years old and one third affects people between 15 and 40 years old.

There are three subtypes, the first is known as endemic, affects children and adolescents, especially on the African continent, it is related in 95% of cases with the Epstein-Barr Virus (EBV). The sporadic subtype does not present a defined geographic distribution, EBV is only confirmed between 10 and 20% of cases. The sporadic subtype affects typically the ileocecal region, intestinal walls and mesentery. The third subtype affects immunocompromised patients infected by the Human Immunodeficiency Virus (HIV). It is one of the tumors of faster growth known, is highly aggressive even though it has good response to treatments and is potentially curable.

The prognosis of LB patients is significantly related to age, with increased rate of curability in pediatric patients in comparison with adults, with worsening even higher in elderly.

The objective of this study reports the case of a patient with Burkitt’s lymphoma, non-Hodgkin of cells B.

CASE REPORT

Patient R.V.M, male, 25 years old, brown, was admitted to the oncology service of the Hospital Santa Casa de Montes Claros on January 12th, 2015, after confirmation of diagnosis of lymphoma B of high degree by means of Immuno-histochemistry (Ki-67,M1B1+;CD10,S6C6+; CD20, L26 +; CD3 - polyclonal). It was reported in this period that the patient had epigastric pain, fullness, constipation and weight loss of five kilos for 45 days.

At the physical examination, the patient was hydrated, without adenomegaly, eupneic, normal heart sound hypophonic in two different times (BNRNF2T), palpable spleen 6 cm from the left costal edge. Vital Signals: B.P: 120x80 mmHg, H.R 76Bpm, R.R: 18 Irpm, Axillary temperature: 37 °C. Laboratory exams: LDH: 1373; VHS: 72; Hb: 10,6g/dl; LC: 13630 N: 68 B: 15L 10; Platelets: 214.000; creatinine: 0,82; GPT: 67; GOT: 46. Serologies for anti- HIV, anti-HCV and anti-HBC negative.

On admission, imaging studies were carried out, such as computed tomography (CT) of the chest which showed amorphous tissue formation, in left paracardiac situation; laminar bilateral pleural effusion to the right, and small to the left, noting outbreaks of consolidation/atelectasis of the lung segments adjacent to that side.

The CT scan of the upper abdomen showed
parietal diffuse and asymmetric thickening of the stomach with involvement of fundus, body and antrum, without obstructive symptoms associated with and without plans of cleavage with head and body of the pancreas. It was identified extensive amorphous tissue formation, expansive aspect, adjacent to the body, gastric fundus. This tissue, amorphous formation of 13.9 cm was identified in the perisplenic region, extending to the left suprarenal gland. The same lesion was observed of 6.4 cm in the hepatic hilum. The ultrasound showed splenomegaly.

Chemotherapy was started 15 days after the admission into the hospital based on two schemes. In the first scheme, Genuxal®, Mesna®, Vincizini®, Adriblastina®, corticoidex® and Mabthera® were used in cycles I, III, V, VII. In the second scheme, Methotrexate®, Leucovorin®, Aracytin®, Soluble-medrol®, MabThera® were performed, in cycles II, IV, VI, VIII; He was discharged on January 29th 2015.

Right after the discharge presented with abdominal pain, of sudden onset, followed by vomiting and required hospitalization and subsequently a surgery. In the immediate postoperative period, he presented febrile neutropenia with need for Empiric Antimicrobial Therapy with metronidazole and Ceftriaxona. After 11 days, it progressed to pneumonia and moderate left pleural effusion, consolidation in left basis with air bronchogram. It was used Vancomycin, Metronidazol and Meropenem. He was discharged on February 15th.

He returned after twenty three days, with clinical signals of febrile neutropenia, left pleural effusion and sepsis in pulmonary focus, and for treatment vancomycin was used. A week after, he developed pancytopenia, drug-induced skin disorder and mucositis as allergic reaction to chemotherapy. Patient does not evolve with improvement, he had acute respiratory failure, requiring a tracheal intubation, evolving with stability of the clinical signals.

Along the progression he presented signals of pancytopenia, febrile neutropenia and pleural effusion, which were repeated in subsequent hospitalizations. Patient is in remission status, confirmed by PET-scan with negative residual lesions.

**DISCUSSION**

The patient R.V.M exhibited Burkitt’s lymphoma with sporadic subtype, which has no specific geographical distribution. It affects normally the abdominal cavity, as occurred with the patient. The typical profile of sporadic LB has massive abdominal presentation and ascites, involving the distal ileum, stomach, cecum and/or mesentery, kidney, testicles and ovary, breast and bone marrow (20%) and the central nervous system (CNS, 14%).

The onset symptoms may be related to intestinal obstruction or gastrointestinal bleeding, mimicking acute appendicitis or intussusception. The lymphadenopathy, if present, is usually located. Abdominal masses and hepatosplenomegaly can also occur. Any sign of lesion of cranial nerve or suspected of involvement of the CNS motivate new investigations (examination of the cerebrospinal fluid (CSF), magnetic resonance imaging and/or computerized tomography of the brain and spinal column, depending on the clinical symptoms). Of the symptoms described, the patient presented
early satiety, constipation, splenomegaly, pancytopenia and neutropenia.

The diagnosis of LB is based on performance of biopsy, with immunohistochemistry (IH). At the IH the neoplastic cells are B cells mature, more similar to the central germ cell tumors than activated B-cells. They express IGM of monotypical surface CD19, CD20, CD79A, PAX5 and CD43, besides the antigen of plasmatic cells CD38 and antigens of germinal center CD10 and BCL6, with a proliferative fraction of KI-67 > 95%.7 The patient had proliferation of medium lymphoid cells of blastic aspect confirmed by immune-histochemistry with expression of CD20 and CD10. Fact that demonstrated high level of cell proliferation compatible with the findings of B lymphoma of high degree, Burkitt’s lymphoma.

The laboratory tests include complete blood counts, renal and hepatic function tests, including creatinine clearance, level of calcium and urate, level of LDH in serum and coagulation. Tests for HIV and hepatitis B and C are recommended. The instrumental exams must be carried out quickly so as not to delay the beginning of chemotherapy and should include a computed tomography scan of the chest, abdomen and pelvis more positron-emission tomography (PET). A bone marrow biopsy is performed to detect any degree of involvement of the spinal cord, along with a lumbar puncture medicated early to cytological diagnosis and analysis of flow cytometry of CSF.8 Patient underwent laboratory tests in the act of admission without changes, LDH, creatinine, VHS, blood test, GPT, GOT and with negative serology for anti-HIV, anti-HCV antibodies and anti-HBC. Currently, a complete response to treatment is confirmed with results of PET scan, with negative residual lesions, as explained in the report.9

The use of anti-CD20, Rituximab, resulted in improvements on prognosis, bringing a median survival of 3 years in approximately 90% of young adults (under 55 years).10 In adults, Rituximab added to the Hyper-CVAD (cyclophosphamide, vincristine, doxorubicin and Dexamethasone alternating with HD-MTX and Cytarabine).1 R.V.M of the regime hyper-CVAD with Rituximab.

FINAL CONSIDERATIONS

The report and publications brings to light the clinical and therapeutic discussion about Burkitt’s lymphoma, a neoplasm of infrequent affection with numerous complications presented during the progression of the disease. The biopsy and immunohistochemical analysis are essential for the definitive diagnosis of the pathology. Despite the high aggressiveness of the tumor, treatment with chemotherapy regimen provides a good prognosis to the patient.

REFERENCES


3. CHAN, Onyee et al. “Burkitt Lymphoma Presenting as an Intracardiac Mass: Case Report


