Richter’s Syndrome: A Case Report

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Key Words
Richter’s syndrome • Chronic lymphocytic leukaemia • Nigeria • Haematological malignancies

Abstract
Objective: To report a case of Richter’s syndrome found in one of the teaching hospitals in Nigeria in the context of sparse earlier reports of Richter’s syndrome in western Africa.

Clinical Presentation and Intervention: A 52-year-old male had been diagnosed earlier as having chronic lymphocytic leukaemia (CLL) and treated for 6 months with chlorambucil, although compliance was poor and the patient eventually stopped treatment. He presented to our hospital 18 months later with clinical features in keeping with Richter’s syndrome. The blood and bone marrow smear review, together with fine-needle aspiration cytology of the masses, showed diffuse large cells of non-Hodgkin lymphoma consistent with the Richter’s syndrome stage of CLL. There was significant improvement in response to the first 4 cycles of CHOP chemotherapy (consisting of cyclophosphamide, doxorubicin, vincristine and prednisolone) instituted, but then there were features of relapse.

Conclusion: The case report serves to increase awareness and improve the index of suspicion about the terminal phase of CLL and low-grade lymphoma. It equally emphasizes the great need to strengthen the laboratory diagnosis of haematological malignancies in developing countries.

Case Report

A 52-year-old male was referred by his company’s medical centre in November 2006 with complaints of recurrent fever for 20 months, neck swelling for 5 months and progressive abdominal swelling for 3 months. The painless abdominal swelling started on the left side and progressively increased to the size of a football. The patient’s illness actually started in early 2004, but he remained stable until March 2005 when he started experiencing
Discussion

Richter’s syndrome is a disease transformation of CLL which affects about 3–5% of CLL patients [3], although the American Society of Haematology recently reported a higher incidence of 8%. Prolymphocytic leukaemia is a more frequent disease transformation which has been documented in 10% of CLL patients [1]. Other rare transformations include multiple myeloma and acute leukaemia, which usually occur in less than 1% of CLL patients [1]. The literature search did not reveal any earlier report of CLL progressing to Richter’s syndrome in Nigeria.

This case is a typical immunoblastic transformation in CLL, which is very rare, especially in Nigeria. There was a prolonged chronic phase during which the patient failed to comply with therapy and migrated from one hospital to another. This was followed by an aggressive phase during which the patient became very ill, was dependent on transfusion and had eruption of fast-growing lymph nodes and abdominal masses.

The emergence of Richter’s syndrome in a patient with CLL has largely been attributed to severe immunodeficiency compounding the disease, including viral infection, especially EBV trigger, trisomy 12 or chromosome 11 abnormalities and multiple genetic defects like mutation of the p53 tumour suppressor genes, p16INK4A and p21, and loss of p27 expression. Deletion of Rb, increased copy of C-MYC and decreased expression of the A-MYB gene have also been described [5]. These abnormalities cause the CLL cells to proliferate and, by facilitating the acquisition of new genetic abnormalities, to transform into Richter’s syndrome cells.

The very low report rate of Richter’s syndrome in this environment might be attributed to a low index of suspicion. Another possibility is that probably our CLL patients do not live long enough for blastic transformations to occur. What we commonly see, by casual observation, is prolymphocytic transformation in CLL. Transformations to multiple myeloma or acute leukaemia, which are other possibilities, are yet to be reported.

Richter’s syndrome is a very difficult disease to treat and the prognosis is said to be very poor. The median overall survival duration is estimated to be 9.1 months [3]. Therapeutic strategies include intensive chemotherapy developed for high-grade non-Hodgkin lymphoma or acute lymphocytic leukaemia, monoclonal antibodies and stem cell transplantation. This index case responded appreciably well to CHOP chemotherapy before showing signs of drug resistance. The response rate to these therapeutic strategies is said to range from 5 to 43% [2]. The facilities for monoclonal antibody therapy and stem cell transplantation are not yet available in our setting.
There is a great need to improve facilities and manpower for the diagnosis and treatment of haematopoietic patients. Access to immunohistochemical diagnosis and cytogenetic analysis, the use of new generation drugs like fludarabine, alemtuzumab (Compath), rituximab for the treatment of lymphoproliferative disorders still remain beyond the reach of an average Nigerian patient. Health policy makers in Nigeria should, therefore, pay attention not only to manpower development, but also to setting up modern regional or supraregional diagnostic services.

Conclusion

Although a cure is not achievable for CLL or low-grade lymphoma except by stem cell transplantation, ensuring good quality of life through good control with lympholytic drugs, transfusion support, and prevention and control of infection always alleviate suffering and contribute to manage the illness. Health care professionals must be alert for possible transformations because Richter’s syndrome and other forms of the condition require aggressive management.

References