RESEARCH PAPER

Therapeutic Challenges In Chronic Lymphocytic Leukemia: A Case Report With 17p Deletion

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Abstract

Background: Chronic lymphocytic leukemia (CLL) presents a very high clinical-biological heterogeneity, and the therapeutic choice depends on several parameters, primarily the evolutionary stage of the disease and the presence of molecular anomalies such as the 17p deletion. We report the case of a patient with CLL for whom the therapeutic choice was difficult to make despite well-established diagnostic and prognostic results.

Case presentation: A 75-year-old patient presented with hyperlymphocytosis, a Matutes score of 5, and negative poor prognostic markers (ZAP70, CD38), corresponding to Binet stage B, for which therapeutic abstention with monitoring was initially decided. The lymphocyte count subsequently rose considerably, and the patient developed autoimmune hemolytic anemia (AIHA). The 17p deletion was then tested and found positive, leading to the initiation of Ibrutinib. A good clinical and biological response was observed until the patient developed complete arrhythmia due to atrial fibrillation, an unexpected cardiac complication that required discontinuing Ibrutinib. Venetoclax was chosen as the alternative treatment, with monitoring of disease progression under this new therapy.

Conclusion: Despite a good biological diagnosis and a favorable prognostic assessment, the therapeutic choice for some patients with CLL is conditioned by other parameters, sometimes unrelated to the pathology itself or its progression, which forces the exclusion of therapies considered the most effective for these patients.

Keywords: Chronic lymphocytic leukemia; 17p deletion; Atrial fibrillation.

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INTRODUCTION

Chronic lymphocytic leukemia (CLL) is a chronic lymphoid hematopathy; it is part of the tumors of mature B lymphoid cells, considered the most common leukemia in adults [1]. This pathology presents a very high clinical-biological heterogeneity; some patients exhibit an indolent form with a favorable prognosis and a slow progression, while others present aggressive forms with a very poor prognosis [1-3]. The therapeutic choice for CLL depends on several parameters, primarily the evolutionary stage of the pathology and the presence or absence of certain molecular anomalies such as the 17p deletion [4-6]. We are presenting here the case of a patient with CLL for whom the therapeutic choice was difficult to make despite the well-established results of diagnostic and prognostic investigations.

OBSERVATION

This is a 75-year-old patient presenting with hyperlymphocytosis at 15.75 Giga/L, an Hb level of 10.9 g/dl, and a platelet count of 152 Giga/L. The suspicion of CLL prompted the prescription of immunophenotyping by flow cytometry, which showed a Matutes score of 5, with D5+, CD19+, CD23+, FMC7-, CD79b- and low expression of surface immunoglobulins, CD20+, CD43+, CD200+. Poor prognostic markers such as ZAP70 and CD38 were negative in this patient with 02 affected lymph node areas.

Stage B of Binet was determined for this patient, and therefore a decision for therapeutic abstention with regular monitoring of clinical evolution and biological parameters was made. After a few weeks of stability, a considerable increase in the lymphocyte count was observed, reaching up to 19.15 Giga/L after 3 weeks and 26.44 Giga/L after 12 weeks. Anemia was still absent with an Hb level around 11g/dl, the same for the platelet count, where a progressive

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increase was observed, reaching 173 Giga/L. In addition to the increase in lymphocyte levels, the patient developed autoimmune hemolytic anemia (AIHA) requiring management primarily through corticosteroid therapy.

In the meantime, given the necessity to initiate treatment for this patient due to the progression of her condition, the search for the 17p deletion was initiated for a targeted therapeutic choice. This search came back positive, which led to Ibrutinib being chosen as the first-line treatment for this patient.

DISCUSSION

The diagnosis of CLL in our patient was unequivocal, with a Matutes score of 5, the intermediate stage of Binet, and the negativity of poor prognostic markers such as ZAP70 and CD38 favoring therapeutic abstention and regular monitoring of the disease's clinical and biological progression [7,8]. The appearance of complications related to the pathology such as AIHA and the considerable increase in lymphocyte levels were the signal for the necessity of initiating treatment for this patient. Ibrutinib was initially chosen as the best therapeutic option given the presence of the 17p deletion [7,9,10]. At the beginning of the treatment, a good response was observed with considerable stability both clinically and biologically, evidenced by a decrease in lymphocytosis and an improvement in the general condition. The therapeutic choice appeared to be the most appropriate with a very good result for our patient, until the moment the patient developed complete arrhythmia due to atrial fibrillation, an unexpected cardiac complication which necessitated changing the treatment and switching to another molecule despite the considerable improvement observed under Ibrutinib and the uncertainty that the new treatment would have the same positive effect on CLL in this patient. However, the risk of recurrence of cardiac complications was a major constraint for continuing with the same molecule. In the end, Venetoclax was chosen as an alternative in our case, with the discontinuation of Ibrutinib and monitoring of the disease's progression under this new treatment [7,8].

CONCLUSION

Despite a good biological diagnosis and a better prognostic assessment, the therapeutic choice for some patients with CLL is conditioned by other parameters, sometimes unrelated to the pathology itself or its progression, which forces the exclusion of therapies considered the most effective for these patients.

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