Leon's helmet

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CASE REPORT

Leon's helmet

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When we first saw Mr. Leon on the list of patients scheduled during our consultation, we were surprised by his age: 95 years old! The letter sent by his attending physician mentioned massive phlebitis in the left popliteal vein associated with Hb at 103 g/L, hyperleukocytosis 14 G/L with neutropenia at 0, 42 G/L, and the presence of blast cells. The platelet rate was normal. We immediately thought of a form of myelodysplasia or leukemia.

We called Leon – that was his fictitious first name – and we invited him to come into our office. He was a smiling man, with a sharp look, of medium height, who walked alone with confidence and held a biker helmet in his hand. From the outset, he asked us: why should he come urgently while he is in great shape? Worse, he would miss a ping-pong session in his club! Very surprised we asked him if he was accompanied by someone and to whom the helmet belonged. He explained to me that he arrived alone driving “his” moped that he parked in front of the building! We were incredulous, wanting to harmonize the reassuring image of the individual we had in front of us and his disturbing blood results we had in our hands. Before continuing, we asked for a new blood test, and then we continued to fill out his file. The man was a retired lathe milling, a father of a 60-year-old son, and a widower. He lived on his own in an apartment. He was perfectly autonomous: he did his shopping at the market and cooked by himself. Clinical examination was strictly normal except few small skin hematomas. Suddenly he started doing push-ups in front of us wanting to prove his athletic form... for us, it was too much. A few minutes later, the laboratory communicated the following results: Hb 99 g/L WBC 15,01 G/L ANC 1,5 G/L ALC 2.7 G/L Reticulocytes 62 G/L and a 72% rate of blast cells; cytogenetics test for BCR ABL was negative, and multiparametric flow cytometry of blast cells expressed 87% of the cells CD34+/38+ markers. It was Acute Undifferentiated Leukemia. Molecular biology test showed: WT1 expression positive with 6.96/100 copy; EVI1 expression negative; absence of FLT3-ITD and NPM1 mutation. Given the context, the myelogram was not performed.

In the meantime, his son arrived. We announced the "bad news" as well as the possibility, if he wished, of being treated with simple outpatient treatment. The patient agreed, although he hardly masked an upset look. This is how we started, a first series of AZACITIDINE 750mg/m²/day 7 days per month. Chemotherapy resulted in partial remission involving myelodysplasia for 18 months with acceptable toxicity. Two years later, faced with an increase in peripheral blasts cells, we then added ALL-TRANS RETINOIC ACID (ATRA) 30mg/m²/day 10 days per month, for 6 months without noticeable effect, so we stopped it. Three years later, we administered for 6 months, 6 courses of IDARUBICIN 20mg/ m²/ day PO, 4 days per month, allowing a reduction in blasts cells at the cost of an increase in transfusion support. Four years later, while the patient showed a correct general condition with an ECOG equal to 0, we started treatment with LENALIDOMIDE as monotherapy 150mg PO DT / day for 14 days in a row per month. The answer was correct with Hb 110 g/L WCB 12 G/L Platelets 154 G/L despite the persistence of an impressive peripheral blast of about 50%! On the positive side, the transfusion support had been discontinued. In July 2020: Hb 81g/L WCB 36G/L Platelets 68G/L and 95% circulating blasts... At first, we increased the dose of LENALIDOMIDE to 20mg DT/day, which proved to be unresponsive. Moreover, non-COVID pneumonia is complicated. Five years later since diagnosis, we started VENETOCLAX monotherapy with 80mg only three times a week (M/W/F). Blood test at D+40 show: Hb 95 WBC 1,060G/L Platelets 87 G/L ANC 0.4 ALC 0.6 and 0% blasts! However, in March 2021, while the patient was on 80mg DT / day, he was admitted to the emergency room with a neurological syndrome combining dizziness and hallucinations. The blood test showed Hb 118 G/L WCB 1.870G/L ANC 1.380G/L ALC 0.420G/L Platelets 73G/L Blasts 0%. The Tumor Lysed Syndrome (TLS) was not observed. The VENETOCLAX was stopped. Electroencephalogram performed was almost normal. The patient was treated with Risperidone, Tiapride and Rivaroxaban. A light monitoring was decided.
Six years later, we commemorated his 100th anniversary in consultation. He was fine, but worried because of an Age-related macular degeneration (ARMD) diagnosis. Several months later, the blood count amounted to 5% of circulating blasts once more... and, we resumed VENETOCLAX in small doses. Three months later, everything was fine, but he was hospitalized for COVID-related breathing difficulties although vaccinated. He died on Christmas Eve.

Acute Myeloid Leukemia (AML) commonly affects the elderly, with a median age of 67 at diagnosis. Elderly patients (≥ 65 years) with AML often respond poorly to induction chemotherapy and demonstrate increased resistance to treatment. Our patient does not fit into the profile of the classic statistics of the different results published with the molecules used (1) (2) (3) (4) (5) (6) (7). This explains the choice of dosage used for six years of follow-up. A centenarian patient is therefore unique and must be the subject of special care. No treatment should be imposed.

As we can see, even at a very advanced age, while respecting the quality of life, it is possible to treat by changing certain paradigms in the care of patients. The new treatments offer a wide range of care. Currently, we have three molecules AZACITIDINE, LENALIDOMIDE, and VENETOCLAX (1) (3) (5) (6) (7) very interesting to use, in the era of molecular-targeted therapies, in particular the VENETOCLAX a B-cell-lymphoma-2 (BCL2) inhibitor (5) (6) (7) whose effectiveness is remarkable with very acceptable toxicity but which remains to be evaluated. Recently many papers show impressive results in older patients with the AZACITIDINE-VENETOCLAX association (7). The issue of treatment costs is an unresolved dilemma to date that may in some countries simply prohibit this type of therapeutic approach.
References:


