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Chronic myeloid leukemia with multiple myeloma in a single tunisian patient

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INTRODUCTION

Chronic myelogenous leukemia (CML) and Multiple myeloma (MM) are two uncommon hematologic malignancies, arises from two different cell lineage. The coexistence of CML and MM that is a rare phenomenon.

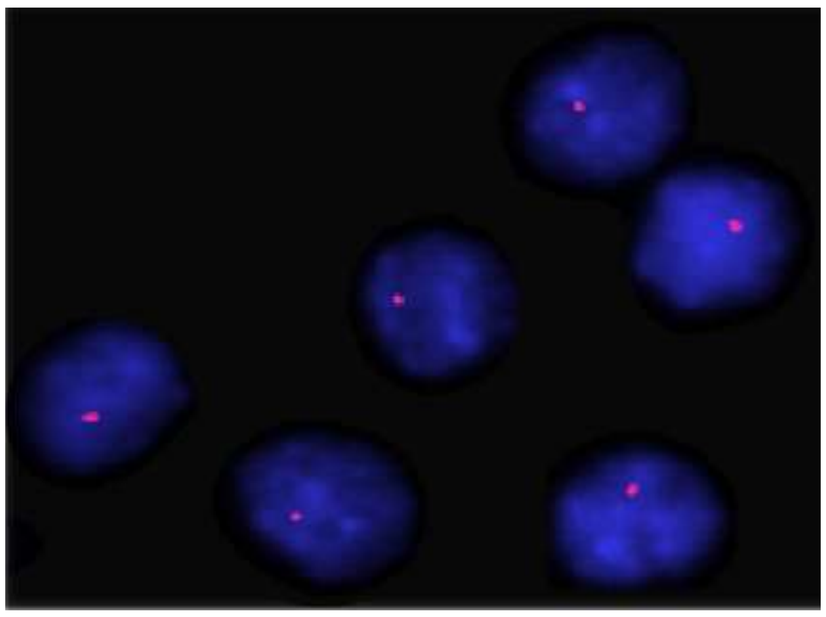
→ We aimed to explain the mecanims of this association through an uncommun case reported.

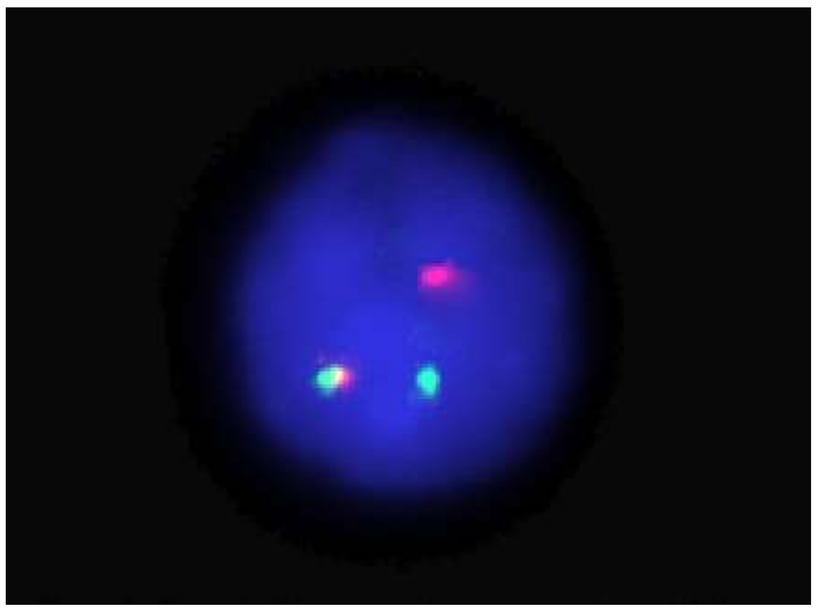
RESULTS

A 73-year-old man was diagnosed with CML in August 2022. The patient was then started on imatinib mesylate at the standard dose of 400 mg per day and achieved a complete hematologic response at 6 months after treatment initiation. After a period of 19 months, he developped multiple osteolytic bone lesions , and during investigation monoclonal gammopathy of the IgG-Gamma type was found. Bone marrow aspiration revealed 33% plasma cell infiltration. His CML remained in complete molecular remission. he started treatment with Bortezomib melphalan prednisone, and at the same time imatinib treatment was continued. The patient developped bicytopenia. TP53 deletion and translocation t(4 ;14) were found by Fluorescence in situ hybridization (FISH) analysis practised in November 2025 explaining the poor clinical outcome of our patient.

Interphase fluorescence in situ hybridization (FISH) analyses in a case of Myeloma.

- One red signal in the first image showing TP53 deletion.
- One red signal, one green signal and one fusion signal showing translocation (4;14) in the second image.





He switched treatment with Lanalidomide and dexamethasone and he died in October 2025. Our patient developed MM 19 months post IM treatment. Moreover, at the time MM was diagnosed, his CML was in complete molecular response.

CONCLUSION

- The coexistence of CML and MM cannot be explained by the hypothesis that both disorders arise from malignant transformation of the common pluripotent stem cell.
- Correlation of IM in the development of MM cannot be ruled out.
- Further long-term analyses are necessary in patients receiving IM, to conclude about the long-term side effects of this tyrosine kinase inhibitors.

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