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Xeroderma pigmentosum and acute lymphoblastic leukemia: Case Report

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INTRODUCTION

- Patients with Xeroderma pigmentosum (XP) are abnormally sensitive to sunlight due to an autosomal recessive defect
- There is a higher frequency within the context of consanguinity
- Increased risk of internal tumors, which are often aggressive and fatal
- The importance of our case: The association of XP and T-cell acute lymphoblastic leukemia (T-ALL) is not commonly encountered

PATIENT DESCRIPTION

A 17-year-old patient, born from a consanguineous marriage, has been followed for XP type C with a mutation in exon 9 of the XPC gene (c.1643_1644delTG) since the age of 3. She was diagnosed with T-ALL initially revealed by anemic syndrome and minimal hemorrhagic syndrome evolving within 1 month without involvement of the central nervous system

RESULTS

Blood count results

Blood count	Résult
Hemoglobin	9.6 g/dL
WBC	25130/mm3
Neutrophils	250/mm3
Lymphocytes	2260/ mm3
Platelets	36000/ mm3
Blasts	86%



Dyschromia characteristic of XP in photo-exposed areas

Bone marrow aspiration (BMA)

Bone marrow aspiration (BMA): R++++ M+:
- 90% of blast cells.
- Large in size
- Cytological appearance consistent with acute leukemia

Immunophenotyping & karyotype

Blood count	Result	
Blasts	80%	
T-lymphoid markers	CD3c	98%
	CD7	97%
	CD10+	69%
	CD8,	60%
	CD5	79%
	CD2	87%
	CD1a	97%
B-lymphoid markers	Negative	
Myeloid markers	Negative	
karyotype	46,XX	

Treatment & Progress

Protocol	High-risk ALL
The chemotherapy drugs	Prednisolone Vincristine, L-asparaginase, Daunorubicin, Intrathecal cytarabine, and intrathecal methotrexate
Infectious incidents or complications	No incident
Bone marrow aspiration status	Complete marrow remission
Current status	Continues her protocol without any further complications

CONCLUSIONS

- The XP in our patient may have contributed to the emergence of leukemia
- According to reports, T-ALL is not frequently encountered
- Our XP patient was able to be treated with full doses of chemotherapy without encountering unusual toxicity.

REFERENCES

- **Xeroderma** pigmentosum and **acute** myeloid **leukemia**: a case report.Bencharef H, Lamchahab M, Dassouli D, Sraidi S, Guennoun B, Hda N, Oukkache B, Quessar A.J Med Case Rep. 2021 Aug 26;15(1):437. doi: 10.1186/s13256-021-02969-1.
- Acute megakaryoblastic leukemia in a patient with xeroderma pigmentosum: discussion of pathophysiological, prognostic, and toxicological aspects.Janjetovic S, Bacher U, Haalck T, Janning M, Bokemeyer C, Fiedler W.Acta Haematol. 2013;129(2):121-5. doi: 10.1159/000342897. Epub 2012 Nov 28.
- Polymorphisms in XPC, XPD and XPG DNA repair genes and leukemia risk in a Tunisian population.Douzi K, Ouerhani S, Menif S, Safra I, Abbes S.Leuk Lymphoma. 2015 Jun;56(6):1856-62. doi: 10.3109/10428194.2014.974045. Epub 2014 Nov 14.

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