Acute myeloid leukaemia with trisomy 14 as a sole cytogenetic abnormality

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DESCRIPTION
Trisomy 14 as a sole cytogenetic abnormality is a rare non-random recurrent change that has been reported in myeloid neoplasms. We report a case of an elderly patient with medical history of coronary artery disease who presented to the emergency department with a history of several weeks of progressively worsening and debilitating fatigue. Complete blood count revealed severe anaemia (haemoglobin, 4.9 g/dL) with macrocytosis (mean corpuscular volume, 113.3 fL), reticulocytosis (3.1%) and leucopaenia (700/μL). Peripheral blood smear showed myeloid blasts with few mature neutrophils, erythrocyte macrocytosis with anisocytosis, and normal platelet morphology. A bone marrow biopsy was subsequently performed exhibiting 50% cellularity with a 20:1 myeloid to erythroid ratio, predominantly consisting of myeloblasts (figures 1 and 2). Normal erythroid and megakaryocytic maturation was noted. A diagnosis of acute myeloid leukaemia (AML) was made, favouring M0 subtype. Cytogenetic analysis revealed isolated trisomy 14 (figure 3). The patient underwent induction chemotherapy with cytarabine and daunorubicin. Unfortunately, he suffered multiple infectious complications during consolidation chemotherapy, and relapsed, succumbing to the disease 4 months after diagnosis.

Few cases of isolated trisomy 14 in myeloid neoplasms have been reported in the literature, with most observed in myelodysplastic syndromes.1 Given its normal erythroid and megakaryocytic maturation, we posit that the present case arose as a de novo AML, which has not been previously reported. Nevertheless, our case highlights important clinical and prognostic findings in previously...
reported cases of AML with isolated trisomy 14—elderly male predominance with aggressive disease course.

Competing interests None declared.

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REFERENCE