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## A new approach of intra-marrow injection of cytosine arabinoside (Ara-C) in the treatment of newly diagnosed elderly patients with acute myeloid leukemia (AML)

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Chemotherapy, especially by intravenous administration, remains the primary modality of treatment for patients with acute myeloid leukemia (AML). Chemotherapeutic agents when given intravenously are diluted many fold as they enter into the circulation and as a result when they reach their target organ, particularly bone marrow, their effective concentration become much less than when they were injected intravenously. In addition, during their dispersion they may also bind specifically or non-specifically to proteins or other tissue components and become less effective. Cytosine arabinoside (Ara-C) when administered intravenously requires high doses to achieve its goal. For younger patients, such treatment works well but older patients cannot tolerate such intensive chemotherapy. New methods of treatment for older patients with AML who are not eligible for a standard intensive induction therapy are needed. We have used a new method of direct intra-marrow injection of Ara-C instead of the conventional intravenous approach to induce remission in an elderly patient with AML. This approach was chosen to provide a concentrated amount of chemotherapeutic agent directly into the marrow cavity so that a large number of leukemic cells could be exposed to the chemotherapeutic agent resulting in destruction of large number of malignant cells with less toxicity and maximum therapeutic benefit. This is the first case in which this new method of direct intra-marrow injection of Ara-C for treating an elderly patient with AML is used. We show for the first time that intra-marrow injection of chemotherapeutic agents such as Ara-C can be used safely and effectively.

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