
What is the definition of secondary acute myeloid leukemia (sAML)?

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Secondary acute myeloid leukemia (sAML) refers to a leukemic process that either:
(A) Evolves from prior myelodysplasia (MDS), myeloproliferative disorder, or aplastic anemia with or without treatment; OR (B) Occurs after previous exposure to radiation or chemotherapy for a different cancer.

When assessing sAML, it is important to differentiate between these two subtypes when deciding how to best treat these patients. On one hand, there is AML with myelodysplastic-related changes. These are individuals that have an antecedent myeloid malignancy, in most cases MDS, and in some cases MPN (myeloproliferative neoplasms) or maybe even a crossover of the two. They may have even had the more rare subtype of aplastic anemia with or without treatment. All of these groups represent patients who may not have been treated for the prior myeloid malignancy but retain those characteristics based on the cytogenetic profile and morphology. On the other hand, is a group of people that we are encountering much more frequently, as patients are being treated over longer periods of time for other malignancies. These are treatment-related sAMLs. This form of sAML may be due to radiation, for instance, to the pelvis in a patient with prostate cancer or exposure to other chemotherapeutic agents. This type of sAML can occur as soon as three years post-treatment completion or as long as 10 years after exposure.