SECONDARY ACUTE MYELOBLASTIC LEUKEMIA – THE EXPERIENCE OF COLENTINA HEMATOLOGY DEPARTMENT.

Cornel Dragan, Meilin Murat, Felicia Mihai, Viola Popov, Daniela Georgescu, Oana Patrinoiu, Mihaela Popescu, Marius Balea, Mihaela Tevet
Clinical Hospital Colentina – Bucuresti

Introduction. Secondary AML (s-AML) encompasses AML evolving from myelodysplasia (AML-MDS) and treatment-related AML (t-AML) after exposure to chemotherapy, radiation, or environmental toxins. S-AML has traditionally been considered a devastating disease, affecting a vulnerable population of heavily pretreated, older adults. A limited understanding of disease pathogenesis/heterogeneity and lack of effective treatments have hampered overall improvements in patient outcomes. With the recent understanding that the secondary nature of sAML does not by itself incur a poor prognosis and incorporation of cytogenetics and molecular genetics into patient care and the advancement of treatment, including improved supportive care, novel chemotherapeutics agents, and nonmyeloablative conditioning regimens as part of allogeneic hematopoietic cell transplantation (HCT), modest gains in survival and quality of life are beginning to be seen among patients with s-AML. The development of t-AML has been reported following treatment of cancers ranging from hematological malignancies to solid tumors.
In this presentation we would like to present the experience of our Hematology department with diagnosing and treating secondary AML, an emerging disease, observed by our physicians, considering the increasing number of such patients who were admitted in our Department in the last year.
Materials and methods. We included in our retrospective study all the patients admitted into the Hematology Department of Colentina Clinical Hospital from January 2014 until July 2015 with the diagnosis of AML. From these patients we selected 2 groups: one comprised of de novo AML and one comprised of s-AML. For all patients we analised the relationship between hematologic parameters at diagnosis and response to treatment, the relationship between the type of AML (de novo or secondary) and the response to the treatment, the treatment used for AML in relation to the prior treatment for the first neoplasia, the outcome of the disease in relationship to the treatment used. Also, we analised the epidemiological aspect of these 2 groups. We compared the results of the 2 groups in order to see the particularities of each group.
Results. The results show that this entity, the s-AML, is an emerging disease, considering the increasing number of patients diagnosed with solid tumors which undergo intensive treatment (chemotherapy) with the purpose of curing them. The vast majority of the patients have been previously treated for breast cancer, althought one patient developed s-AML after the treatment for osteosarcoma at an early age (19 years old). Depending on the prognostic factors present at the onset we established the indication for allogeneic stem cell transplant. Furthermore, the chemotherapy regimens were chosen based on the prior treatment which was received for the first neoplasia (e.g. total cumulative dose of the anthracicline used), age, comorbidities, cardiac function, prognostic factors.
Conclusion. The management of patients with s-AML represents a challenge for the hematology specialist. The diagnostic procedure is very important, the molecular and cytogenetic exams being mandatory in order to establish from the onset the correct therapy regimen. The decision for treatment is difficult, and the indication for allogeneic stem cell transplant should be stated at the onset of the AML.

Acknowledgment: This paper is partly supported by the Sectorial Operational Programme Human Resources Development (SOPHRD), financed by the European Social Fund and the Romanian Government under the contract number POSDRU 141532.