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ELEVENTH ANNUAL MEETING

EXTRAMEDULLARY ACUTE MYELOID LEUKEMIA: COULD NEW TARGETS AND ALLOGENEIC STEM CELL TRANSPLANTATION IMPROVE OUTCOMES?

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INTRODUCTION

Extramedullary acute myeloid leukemia (eAML) is a rare manifestation of de novo or relapsed AML. The optimal management strategy for patients with eAML is not clearly understood, especially in terms of new targets efficacy and best time for allogeneic stem cell transplantation (alloSCT) performing.

OBJECTIVE

To determine the role of intensive treatment, targeted therapy, and alloSCT in the management of patients with eAML.

PATIENTS

We retrospectively analyzed a cohort of **37 patients with eAML**: 24 were males, 13 were females with median age of 40 years.

- Isolated myeloid sarcoma had 16.2% (6/37) patients;
- eAML in relapse was verified in 10,8% (4/37) cases;
- The most common lesions were soft tissue (18,8%) and bones (10,1%).

Interventions:

- all patients received standard (“7+3”), high (“HiDAC”, “FLAG+/-Ida”), or low-intensity chemotherapy regimens;
- targeted therapy (gemtuzumab ozogamicin [GO], venetoclax or gilteritinib) was administrated to 16 patients (43.2%);
- alloSCT was performed in 22 patients (59,5%) with positron emission tomography (PET)-negative complete remission (CR).

RESULTS

Patients with favorable genetic alterations (according to ELN-2022) had advantage in complete bone marrow response (88.9% vs 45.5%, P=0.027), but not in complete extramedullary response (EMR) (50% vs 78.3%, P>0.05).

Conducting the second induction with high-intensity regimens had the advantage over the standard-intensity regimens:

- significantly increased the rate of complete EMR (85.2% vs 0%, P=0.004);
- decreased the incidence of early (during the first 12 months) relapse (26.7% vs 88.9%, P=0.014)
- improved overall survival (OS) (median wasn’t reached vs 6 months, P<0.001) (fig.1).

Adding of radiation therapy didn’t improve outcomes (P>0.05).

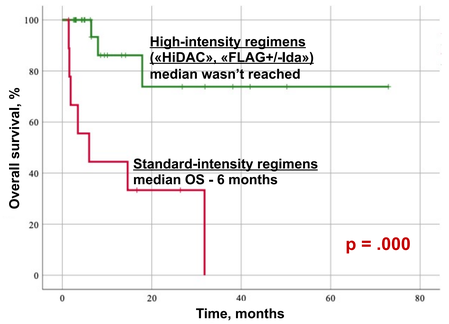


Figure 1. OS patients with eAML depending on type of the second induction therapy

Efficacy of targeted therapy (table 1):

- Venetoclax administration was effective in 61.5% (8/13) patients, among them 3 patients who achieved PET-negative EMR after cytostatic therapy failure.
- Overall CR rate after adding GO to chemotherapy was 63.6% (7/11).
- Gilteritinib was effective in a patient with a persistent extramedullary lesion after «7+3+midostaurin» (fig. 2).

Table 1. Using of targeted therapy among patients with eAML

Targeted therapy	Gemtuzumab ozogamicin	Venetoclax	Gilteritinib
Number of patients	11 patients (relapsed/ refractory)	13 patients (15,4% - induction therapy)	1 patient (persistent of extramedullary disease)
Frequency of overall response rate (achieving CR or CRi), %	**63,6%** (7/11)	**61,5%** (8/13)	**100%** (1/1)
Achieving of EMR after adding of target agent	4 patients	3 patients	1 patient
Refractory rates, %	40% (4/10)	38,5% (5/13)	CR is achieved

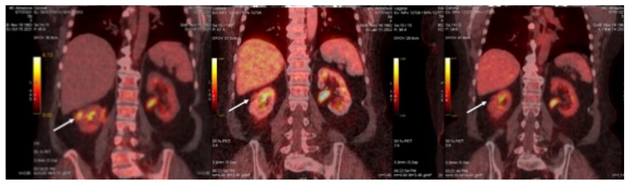


Figure 2. PET-CT of patient with extramedullary lesion in right kidney. The dynamic during the Gilteritinib therapy

Patients had a lower risk of early relapse (10% vs 86%, P=0.002), better median OS (38.85 vs 7.57 months, P=0.013) and relapse-free survival (38.85 vs 3.78 months, P=0.0021) when alloSCT was performed in first PET-negative CR.

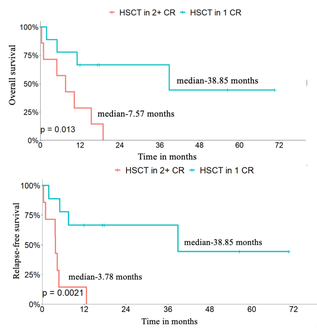


Figure 1. OS and RFS depending on time of alloSCT performing among patients with eAML

CONCLUSIONS

1. ELN-2022 risk categories do not correlate with frequency of EMR.
2. Intensive treatment is effective in case of persistence of extramedullary disease after standard induction therapy.
3. Use of target agents enables an increase in the rate of responses among patients with eAML.
4. Patients have a better prognosis when alloSCT is performed in the first PET-negative CR.

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