Background: Myelodysplastic syndromes (MDS) and myeloproliferative neoplasms (MPN), i.e. chronic myeloid leukemia (CML) and Ph(-)MPNs, are clonal disorders of hematopoiesis characterized by high rates of genetic alterations and an increasing predisposition to transform to acute leukemia (AL).
Aims: To compare the main features of pts with blast transformation (BT) of MDS or MPN with *de novo* acute myeloid leukemia with myelodysplasia-related changes (AML-MDS), and to assess survival after BT.
Methods: Our study includes 100 pts, 60 men/40 women: BT of Ph(-)MPNs (n=20), CML (n=18),MDS (n=30), AML-MDS (n=32). Demographic, morphological, phenotypic, cytogenetic and survival data were evaluated.
Results: The comparative analysis did not show significant differences in gender and age within disease entities, except for the younger age in CML (p=0.005). There was no difference in Hb levels (mean 82.9±18.8 g/l) and blast% (mean45.3±20.6), while BT in Ph(-)MPNs and CML was characterized by signficantly higher mean PLT counts and the mean WBC count was higher in CML. Morphologically, as opposed to AML-MDS (96.8%) and MDS (96.4%), dysplasia in ≥ 2 lineages was found in only 33.3% and 44.4% of CML and MPN, respectively (p=0.000). The blast cell phenotype was generally myeloid, except 4 CML lymphoid blast crises(BC). On average, 67.4% of all groups (incl. all myeloid CML BC) had aberrant co-expression of 1-4 lymphoid-associated markers, most commonly CD7, CD19, CD56, CD22. The genetic profile demonstrated significant differences as well. Higher incidence of abnormal karyotypes was found in AML-MDS compared to BT of MDS and CML aside of Ph' chromosome (p=0.042). Chromosomal aberrations were found in 80% with Ph(-)MPNs, however the number of successful karyotypes was low. The molecular pattern also differed within the groups. The incidence of *FLT3-ITD* was higher in AL after MDS compared to AML-MDS and MPN, while *EVI1* overexpression was found at the time of BT in a high proportion of CML and Ph(-)MPN. No significant difference was observed in regard to *NPM1* mutations. The mean time to BT was signficantly shorter in MDS (12.5±23.0 mo) compared to MPN (32.4±34.5 mo) and CML (34.1±25.2 mo) (p=0.033) and the mean overall survival after the BT was poorer in MDS and MPN compared to CML BC and *de novo* AML-MDS (Table 1).
Summary/Conclusion: The main clinical and laboratory characteristics of AL occurring *de novo* or based on a BT of a previous MDS or MPN highlights both similarities and certain differences in the biology and clinical course and may require a different therapeutic approach in future. However, the outcome of pts with BT after MDS or MPN is poor and attempts should concentrate on early identification of pts at risk for disease progression.

Table 1.

Variables	Ph(-) MPN	CML	MDS	De novo AML-MDS	P
Age years (mean, SD)	64.8±10.5	49.2±14.1	61.2±16.9	62.8±13.9	0.005
WBC x10⁹/L (mean, SD)	63.9±61.9	227.3±426.3	25.8±42.7	16.1±33.3	0.002
PLT x10⁹/L (mean, SD)	149.1±191.9	238.9±221.3	76.2±100.6	93.5±104.4	0.005
Abnormal karyotype (% pts)	80%	50%	40%	70%	0.042
FLT3-ITD(+) (% pts)	8.3%	NA	24.1%	3.2%	0.056
EVI1 (+) (% pts)	42.6%	80%	10.3%	6.4%	0.023
NPM1 mut(+) (% pts)	14.3%	NA	16.7%	28.6%	NS
OS mo (mean, SD)	13.1±4.2	52.7±24.0	13.5±3.4	20.9±4.9	NS

PS1009

QUALITY OF LIFE IN ACUTE LEUKEMIA PATIENTS WITH COMORBID ISCHEMIC HEART DISEASE

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Background: Due to significant advances in the treatment of oncohematological patients their survival rates, life expectancy and progression-free period have been greatly improved. The study of quality of life (QoL) parameters in patients with acute leukemia during the induction chemotherapy (ICT) has aquired special interest. Patients with comorbid ischemic heart disease (IHD) are at extremely high risk of anthracycline cardiotoxicity development that may significantly reduce their QoL.
Aims: To assess quality of life before and after induction chemotherapy in acute leukemia patients with comorbid ischemic heart disease depending on prescribed cardioprotective therapy.
Methods: The study involved 66 patients with newly diagnosed acute leukemia (acute lymphoblastic leukemia - 7, acute myeloblastic leukemia - 59 patients) and comorbid IHD, treated with ICT at Hematology Department, Poltava Regional Clinical Hospital n.a.M.V. Sklifosovsky, Ukraine. The cohort consisted of 34 (51.5%) males and 32 (48.5%) females, age of 54-72 years, ECOG I-II. The duration of IHD ranged from 3 to 15 years. QoL of patients was assessed using a questionnaire SF-36 V2 counting the physical and mental components of health before treatment and after ICT before remission consolidation. The study was approved by the local ethical committee and all patients gave a written consent before they were included in the study. Patients were divided into two groups: I (n=36)-patients treated with ICT; II (n=30)-patients, whom during the ICT L-arginine was prescribed.
Results: At baseline, all patients had significantly lower QoL, both physical and mental components of health, compared with healthy respondents (Table 1). The newly diagnosed acute leukemia in combination with currently existing IHD had a great influence on different aspects of subjective well-being. At follow-up, we noticed a significant improvement of physical functioning, vitality, general and mental health in patients of group I; and role physical, vitality, bodily pain and role emotional QoL parameters' improvement in patients of group II. The average physical status indicators in patients of groups I and II did not significantly change. At the same time, the mental status of patients improved: in group I in 1.3 times (37.3±2.82 vs 28.3±2.37 before ICT, p<0.05), in group II – in 1.4 times (37.6±3.46 vs 27.5±3.04 before ICT; p<0.05). Differences between groups were not statistically significant on all scales. However, in comparison with the data of practically healthy individuals, QoL of patients with acute leukemia after ICT remained significantly lower.

Table 1.

Quality of life in patients with acute leukemia and comorbid ischemic heart disease

	practically healthy (n=18)	I (n=36)		II (n=30)	
		before ICT	after ICT	before ICT	after ICT
SF-36 V2 Norm-Based Scales					
PF (physical functioning)	55.3±2.81	34.5±2.74*	41.7±1.36*√	36.4±2.01*	41.9±2.79*
RP (role physical)	54.3±1.25	32.0±2.18*	37.2±2.15*	34.2±1.26*	41.7±2.84*√
BP (bodily pain)	57.6±3.71	39.4±1.85*	44.2±3.72*	38.6±1.45*	44.7±1.04*√
GH (general health)	57.9±3.54	26.8±2.25*	32.3±1.06*√	29.3±2.13*	33.1±2.29*
VT (vitality)	60.4±2.41	33.8±1.31*	43.3±2.96*√	30.6±2.55*	42.1±2.25*√
SF (social functioning)	51.1±2.44	29.5±2.39*	35.2±2.71*	29.8±2.70*	37.1±2.95*
RE (role emotional)	49.9±2.38	28.4±2.56*	36.2±3.80*	31.3±2.99*	40.9±3.07*√
MH (mental health)	53.8±3.45	28.9±3.26*	38.7±2.06*√	27.5±3.62*	35.9±3.32*
SF-36 V2 summary scores					
PCS (physical component summary)	57.5±1.26	36.4±2.34*	40.8±2.60*	37.9±2.45*	42.5±2.65*
MCS (mental component summary)	51.6±3.29	28.3±2.37*	37.3±2.82*√	27.5±3.04*	37.6±3.46*√

Note: significant differences, p<0.05; *– between indicators of healthy persons and in the group; √ – between indicators before and after induction chemotherapy.

Summary/Conclusion: The QoL assessment in patients with acute leukemia and ischemic heart disease during induction chemotherapy is an important component of oncological patient's management, which allows to individualize the approach to each patient in the presence of this type of comorbidity. Psychological and supportive therapy during induction chemotherapy could improve QoL of these patients.