Introduction:
Onco-hematologic (OH) patients behave differently from the oncologic in ICU, with a more unpredictable disease course impelled by the infectious risk caused by immunosuppression and disease relapse risk.

Methods:
We reviewed and characterized the newly diagnosed and non-treated OH patients admitted in our ICU between 2011 and 2016 and followed up them until July 2017.

Results:
A total of 52 patients were included (18% of 289 OH patients admitted, 2,5% of 2.114 patients admitted). The median age was 48 years-old ([10-74]) being 55,8% male. The majority had Non-Hodgkin Lymphoma (NHL, 48,1%), 28,8% Acute Myeloid Leukemia, 13,5% Acute Lymphoblastic Leukemia, 5,8% Hodgkin Lymphoma, 1,9% Chronic Myeloid Leukemia and 1,9% Aplastic Anemia. The median APACHE score was 24,5 and SAPS II 55. The median length of stay was 4 days. Non-invasive ventilation was required for 19,2% (median time of 19,2 hours) and 71,2% were mechanically ventilated (median time of 33,8 hours). Dialysis was necessary in 46,2% and vasopressors in 25%. The overall survival was 63,5% and the probability of discharge from the hospital alive 48%. From the 33 patients who survived, 97% did chemotherapy (completed in 62,5%).

In 2017 26,9% of the 52 patients are alive (92,9% with complete response and one other had significant reduction of the BCR-ABL1 fusion gene; one NHL was discharge from consultation). The rest died in progressive disease (50%), septic shock (34,2%), tumor lysis syndrome (5,3%), vascular compressive syndrome (2,6%), pneumonia (2,6%), respiratory insufficiency (2,6%), subarachnoid hemorrhage (2,6%). The median survival after diagnosis was 58 days ([443-957] CI 95%) and the median survival after discharge from ICU was 1389 days ([1087-1690] CI 95%).

Conclusion:
One-third of newly diagnosed OH patients survived ICU; almost all were treated with chemotherapy afterwards (most of them ending it with durable responses). There are many possible predictors of a better prognosis, which are clarified here.