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High-dose chemotherapy following autologous hematopoietic stem cell transplantation for multiple myeloma in the real world setting. Single-center experience.

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ABSTRACT

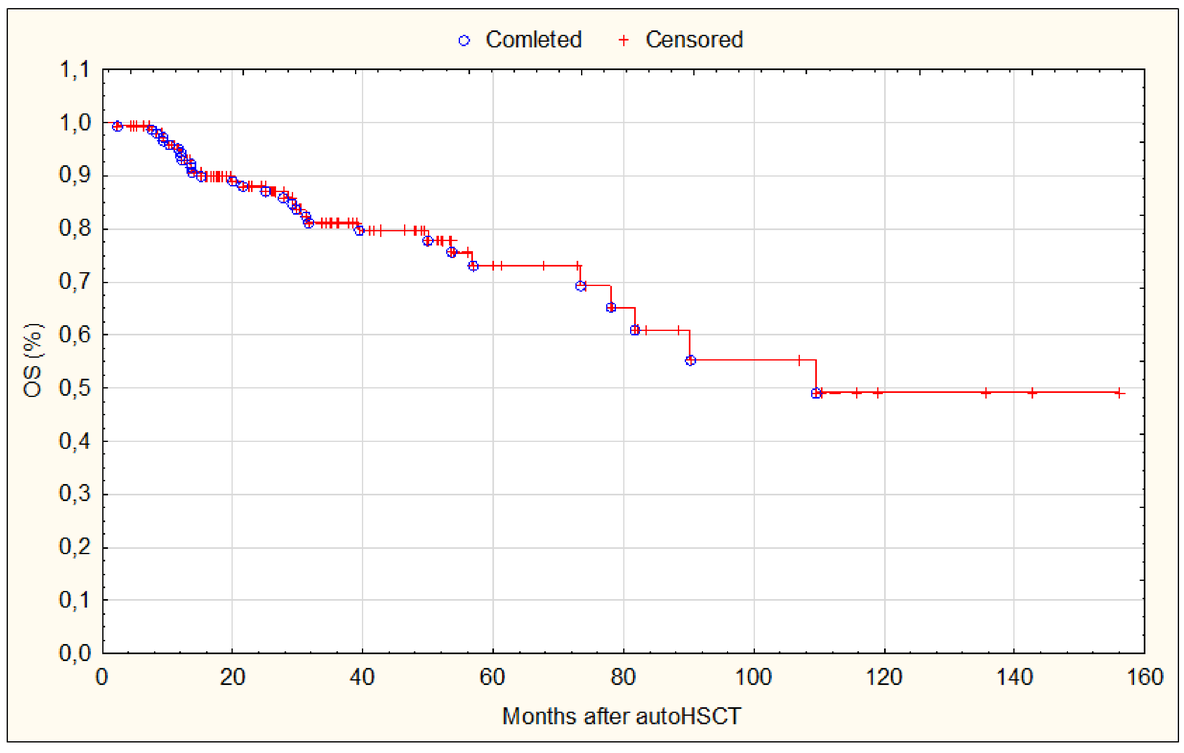
Multiple myeloma (MM) is a malignant neoplasm of plasma cells that accumulate in bone marrow, leading to bone destruction and marrow failure. In Russia in 2017, the incidence of MM was 2.78 per 100000, with 4,075 cases of newly diagnosed MM and 2,587 deaths [1]

Aim. To assess the long-term results of high-dose chemotherapy following autologous hematopoietic stem cell transplantation (autoHSCT) for multiple myeloma (MM) in the real setting. Single center experience.

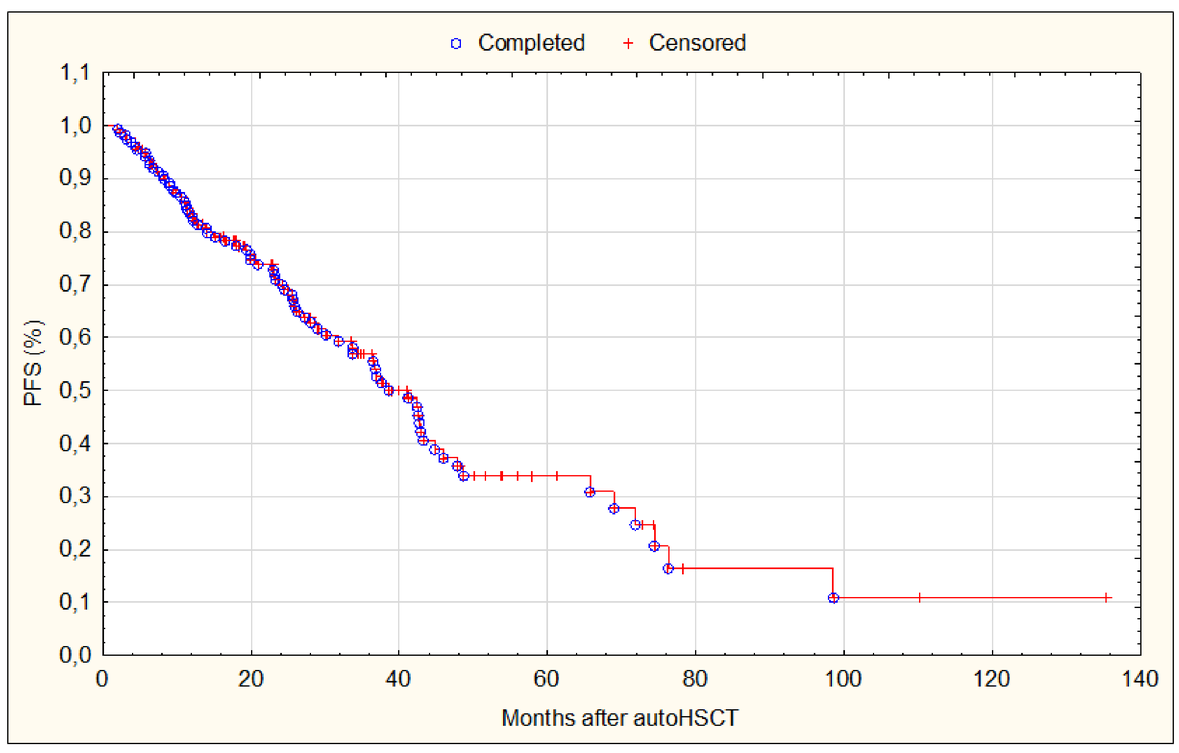
Materials and Methods. From 2006 till 2018 in Pirogov's Center were performed 205 autoHSCT for patients with MM, aged between 31 and 72 years (median 55 years). The study population consisted of 45% men and 55% women. The median follow up was 75 months. Induction regimens were mostly bortezomib containing (98,5%). Before the autoHSCT stringent complete response was achieved in 4 (1,9%), complete response – 48 (23,4%), very good partial response – 79 (38,6%), partial response – 56 (27,4%), minimal response – 4 (1,9%) patients according to the IMWG criteria. In 14 (6,8%) patients, autoHSCT was performed in stabilization or progression as a salvage therapy. Only 9 (4,4%) patients were stratified according to R-ISS. Most of the patients (179 (87,4%)) were treated using melphalan-based conditioning regimens and were maintained after HSCT (188 (91,7%)). No transplant-related mortality till D+100 was registered. 186 patients were included in the final analysis.

RESULTS

The 5-year OS and PFS were 73% and 34%, respectively (picture 1 and 2), that corresponds with international data [2-6]. For patients, younger than 60, 5-year OS was 82%; for patients older than 60, it was 49% (p<0,05). For tandem autoHSCT, 5-year PFS was 44%; for single autoHSCT - 26% (p<0,05). 5-year PFS after autoHSCT was significantly higher in patients with complete and stringent complete response after autoHSCT (44%) in comparison with the group with partial and very good partial response (77%). Sex, tumor response before and after autoHSCT, immunomodulatory drugs in induction, number of prior lines of induction therapy, conditioning regimen and maintenance therapy had no influence on OS. PFS had the same tendencies, except tumor response after autoHSCT (44% for complete and stringent complete response after HSCT and 34% for very good partial response and less (p=0,04)).



Picture 1. 5-year Overall Survival – 73%



Picture 2. 5-year Progression Free Survival - 34%

CONCLUSION

In a real setting, we recommend tandem autoHSCT for all eligible patients with chemosensitive disease, despite the depth of response and induction therapy. Patients younger than 60 and patients with complete of greater response after autoHSCT, benefit from the autoHSCT most. Implementation of total cytogenetic testing according to the R-ISS is of a great value for further development of autoHSCT for MM in Russia.

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