Solid Tumours Working Party

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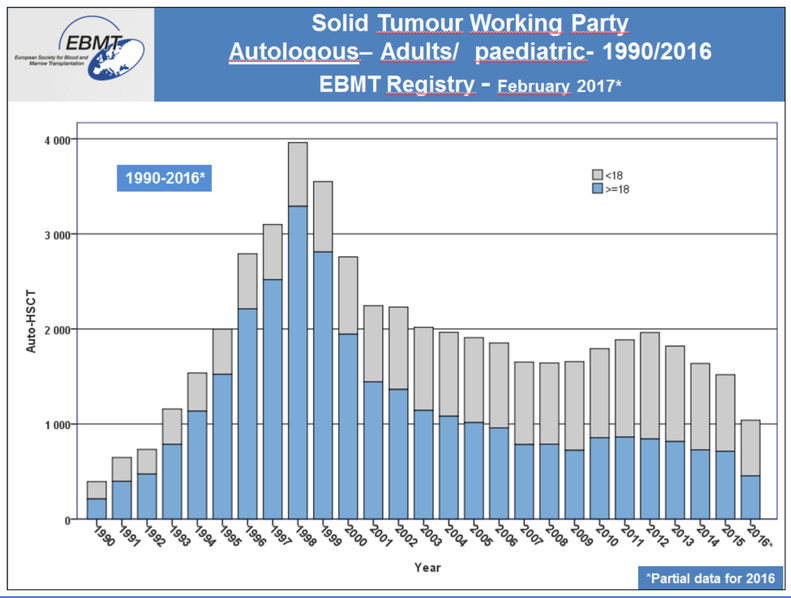
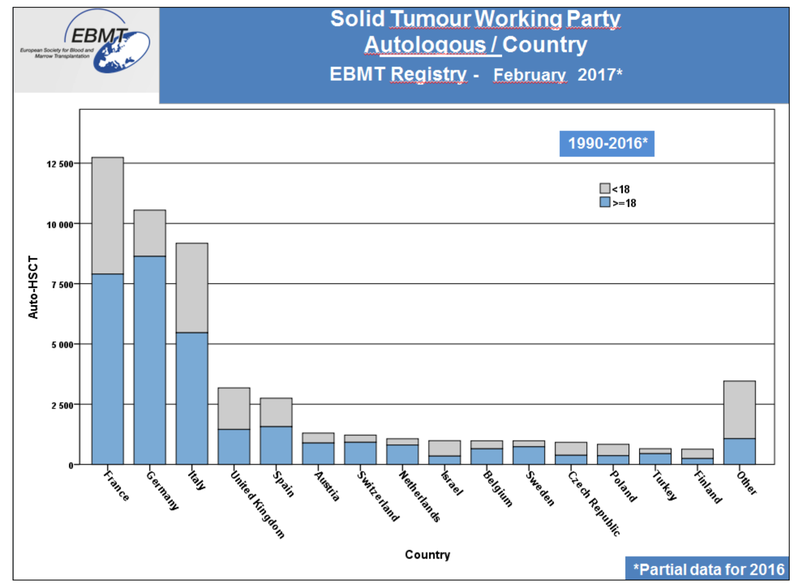
Hematopoietic stem cell transplantation : EBMT activity report (n = 55 331)

EBMT Registry-Solid Tumour Working Party December 2016* (*Partial for 2016)		
Solid tumour Registry	55 331	
Patients	40 461	
Aduts/Paediatric (%)	59/ 41	
Male/Female (%)	48 / 52	
Auto / Allo (%)	97 / 3	
Nb of HSCT	**Auto (n=53 561)**	**Allo (n=1 727)**
First HSCT	39 284	1159
Second HSCT	9 781	430
Third HSCT	3 440	96
Fourth HSCT	623	27
> Fifth HSCT	190	9
Median follow up (yr<2016)	2,5 (<1-34)	1,7 (<1-31)





Studies

In 2016, the main objective of the STWP research activity was to explore the role of AHSCT in rare clinical variants of **GCT.**

a) Pure seminoma. The optimal management of advanced seminoma that relapses after chemotherapy remains unknown. We retrospectively analyzed outcomes with the use of HSCT. On multivariable Cox analysis, refractory disease was a significantly negative prognostic factor for both PFS and OS, while prior radiotherapy trended to significance for both. **HDCT may represent a valuable therapeutic option after standard-dose chemotherapy failure**.

Mediastinal non-seminoma (MnS) GCT. The preliminary data of this retrospective analysis confirmed that the MnS was characterized by the poorest outcome with 5-year overall survival ranging from 40% to 45%. The use of AHSCT as both early intensification and at disease recurrence proved to be effective, given up-front, and may produce a 15%-20% absolute improvement in survival compared with standard dose CT.

Refractory gestational trophoblastic neoplasia (GTN). A few case reports reported of salvage AHSCT in patients with GTN. We conducted a retrospective analysis on 29 patients GTN treated with salvage HDC. Our study showed that HDC based on carboplatin seems to be active in this heavily pretreated patient population with refractory GNT, and that AHSCT might represent a possible option.

Germ cell tumors

Long-term results of salvage high-dose chemotherapy for germ cell tumours in :

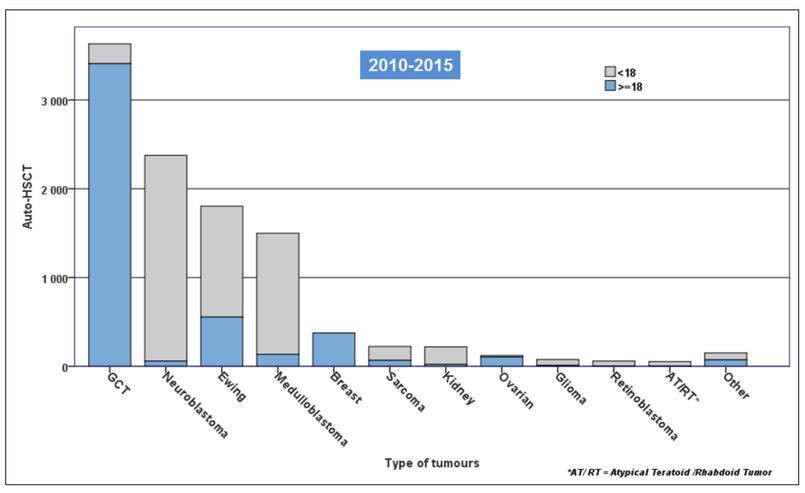
a) **Female**
b) **Adolescent,**
c) **Patients aged over 40 yrs at time of HSCT.**
d) **Incidence of secondary malignancies (SM) in patients with germ cell tumors (GCT) who received high-dose chemotherapy**

The use of plerixafor for stem cell mobilization in solid tumors. The retrospective analysis performed in patients treated with HSCT showed that plerixafor achieved successful mobilization in > 80% of ST patients, independently of the disease category. A prospective study is planned in order to confirm the results obtained from this retrospective series

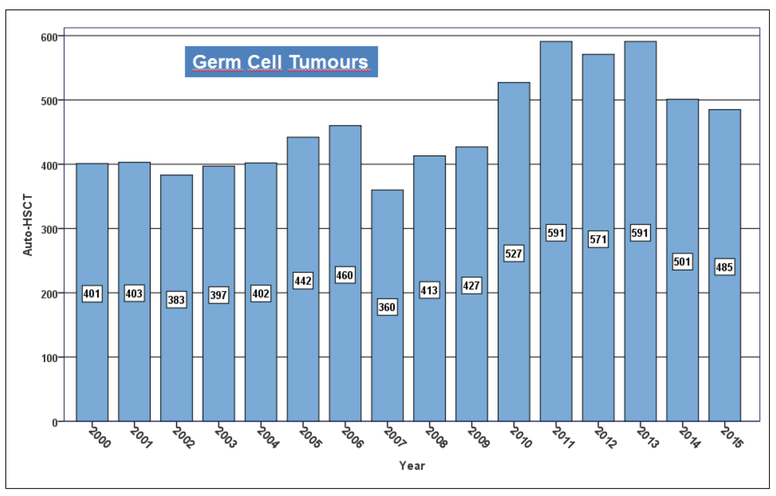
Breast Cancer

In 2016, the STWP started a retrospective study with the main goal to assess long term efficacy and toxicity of autologous HSCT in **metastatic** BC. AHSCT has a low mortality rate and provides satisfactory long-term survival rates but needs to be further investigated in clinical trials.
A Prospective clinical trial in triple- negative breast cancer is ongoing.

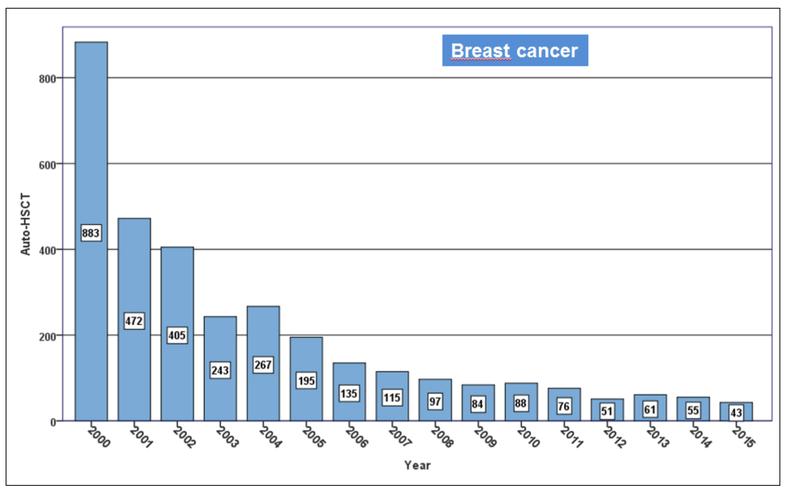
Incidence and prevalence of therapy-related myeloid neoplasms and myelodysplastic/myeloproliferative diseases (t-MN) in breast carcinoma patients as a consequence of exposure to alkylating agents, topoisomerase II inhibitors and/or ionising radiations, including high-dose chemotherapy regimens followed by autologous stem cell transplantation
HSCT in soft tissue sarcoma - a long-term follow-up: a retrospective study by the EBMT Solid Tumor Working Party on different histologic subtypes.



Type of tumour / auto HSCT / 2010-2015



Germ cell tumours- auto HSCT / 2000-2015



Breast cancer – auto HSCT / 2000-2015

Germinal Cell Tumor (GCT)

The main aims of STWP research activity in 2015 was to address the prognostic significance of response to induction chemotherapy (CT) preceding salvage high dose CT (HDCT) courses, and prior taxane (TXL)-CT for advanced GCT, as this knowledge can inform trial design, stratification and eligibility criteria to HDCT.

While PD to induction CT was independently prognostic for PFS and OS, TXL-regimens before HDCT did not affect the outcome. Stratification of trials for the latter factor did not appear to be required when accounting for the other clinical predictors. We demonstrated that the majority of patients with PD to induction chemotherapy usually progress after HDCT. In conclusion, in this population-based analysis we observed that results of HDCT as salvage therapy administered in the last 10 years were not influenced by the increasing use of taxane-containing salvage chemotherapy preceding HDCT. Moreover, while we have confirmed HDCT as a substantially effective strategy irrespective of the number of prior regimens, an additional prognostic factor for clinical use was provided that was represented by the response to induction chemotherapy administered as part of the transplantation strategy.

Breast Cancer

In 2015, STWP conducted a retrospective study with the main goal to assess toxicity and efficacy of adjuvant high-dose chemotherapy (HDC) and autologous hematopoietic stem cell transplantation (AHSCT) in 583 high-risk breast cancer (BC) patients (>3 positive nodes) who were transplanted between 1995 and 2005 in Europe.

Subgroup analysis demonstrated that OS was significantly better in patients with endocrine-responsive tumors, less than 10 positive lymph nodes and smaller tumour size. HER2 status did not affect survival probability. Adjuvant HDC with AHSCT has a low mortality rate and provides impressive long-term survival rates in patients with high-risk BC. Our results suggest that this treatment modality should be considered in selected high-risk BC patients and further investigated in clinical trials. Along with some more recent phase III studies, retrospective analysis and, to some extent, the results from meta-analysis, our results suggest a potential role for HDCT and AHPCT in high-risk BC.

Publications

1- **Is Allogeneic Transplant for Solid Tumors still alive?** Marco Bregni, et al, ,on behalf of the STWP of the EBMT. ***Bone Marrow Transplantation* 2016** May;51(5):751-2 . PMID: 2680857

2- **High-dose chemotherapy and autologous HSCTas adjuvant treatment in high-risk breast cancer: data from the EBMT registry**. Massimo Martino, et al, ; on behalf of the EBMT . ***Biology Blood Marrow Transplantation* 2016** Mar;22(3):475-81.

3- **Prognostic impact of progression to induction chemotherapy and prior paclitaxel therapy in patients with germ cell tumors receiving salvage high-dose chemotherapy in the last 10 years: a study of the EBMT.** Andrea Necchi,[1] et al, , Francesco Lanza,[28] on behalf of the EBMT STWP. ***Bone Marrow Transplantation* 2016** Mar;51(3):384-90

4- **Salvage High-Dose Chemotherapy for Relapsed Pure Seminoma in the Last 10 Years: Results From the European Society for Blood and Marrow Transplantation** Series 2002-2012. Andrea Necchi et al**.** Clin Genitourin **Cancer**. **2016** Jun 27. pii: S1558-7673(16)30164-1

5- **Impact of drug development on the use of stem cell transplantation: a report by the European Society for Blood and Marrow Transplantation (EBMT).** JR Passweg, et al, _***Bone Marrow Transplantation* 2016** Nov 7

Next : Ravenna 2017