Solid Tumours Working Party

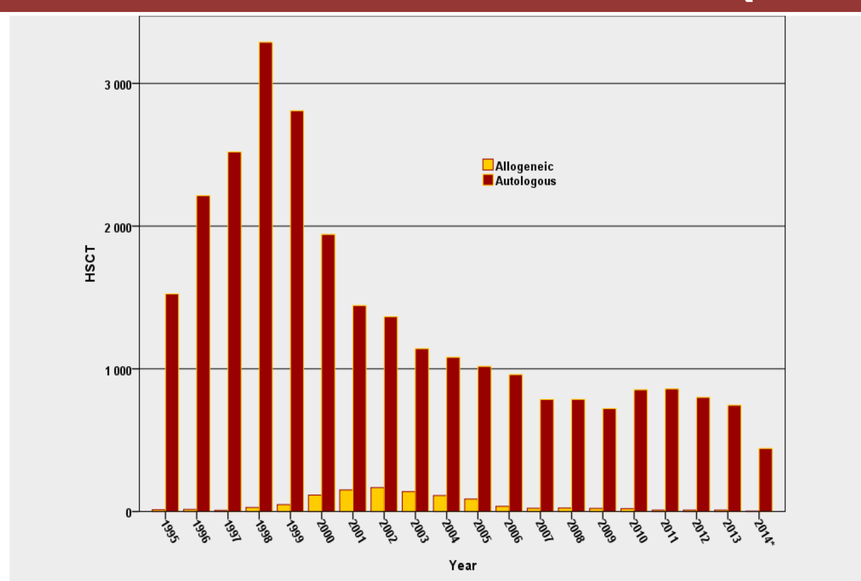
Chair : Francesco Lanza

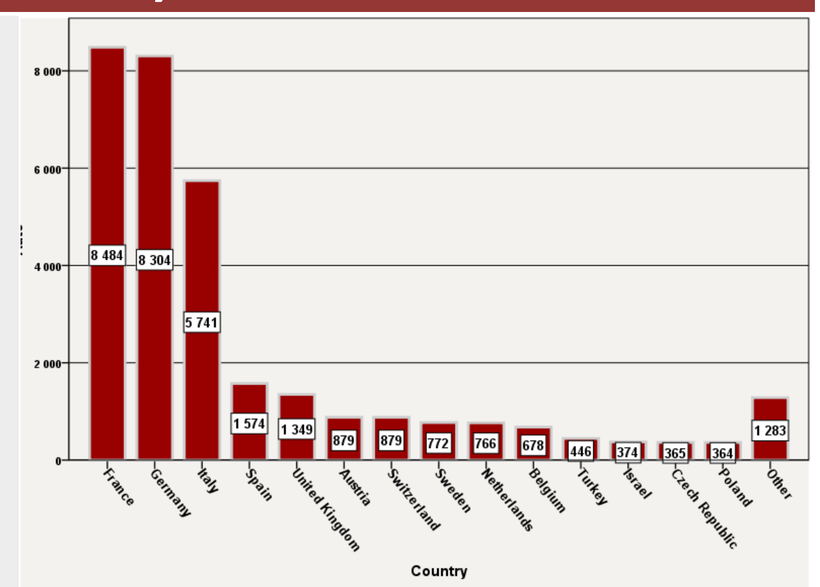
Secretary : Paolo Pedrazzoli

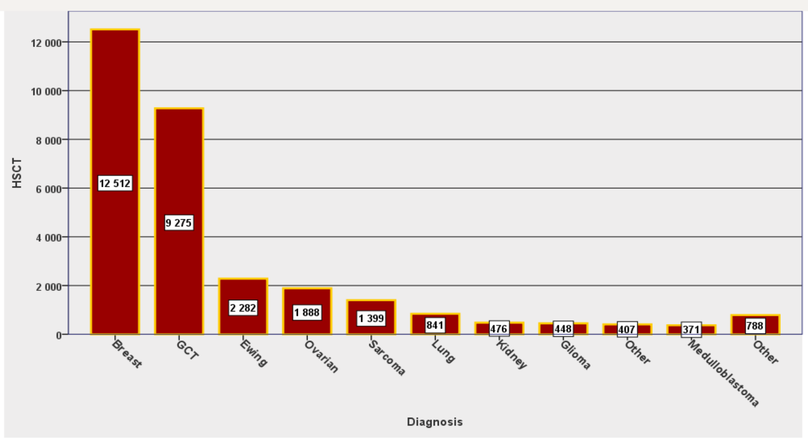
EBMT REGISTRY - SOLID TUMOURS (n = 32 267)

EBMT Registry-Solid Tumour Working Party February 2015* *(*not all transplants registered for 2014)*	
Solid tumour Registry	51 696
Aduts/Paediatric (%)	(63%) / (37%)
HSCT for adult* patients (n = 32 267)	
Male/Female (%)	39 / 61
Auto / Allo (%)	97 / 3

Nb of HSCT	Auto (n=31 169)	Allo (n=1 075)
First HSCT	22 079	813
Second HSCT	6 299	200
Third HSCT	2 367	42
Fourth HSCT	291	13
> Fifth HSCT	59	5
		*(18 yrs or more at transplant)







Retrospective / prospective studies and research studies

1- Hematopoietic stem cell collection and engraftment results in patients with germ cell tumors (GCT) who are candidates to myeloablative chemotherapy.

2- Long-term results of salvage high-dose chemotherapy for a) pediatric/adolescent and b) female- germ cell tumor patients

3- Stem cell transplantation in Breast Cancer (BC): a retrospective analysis

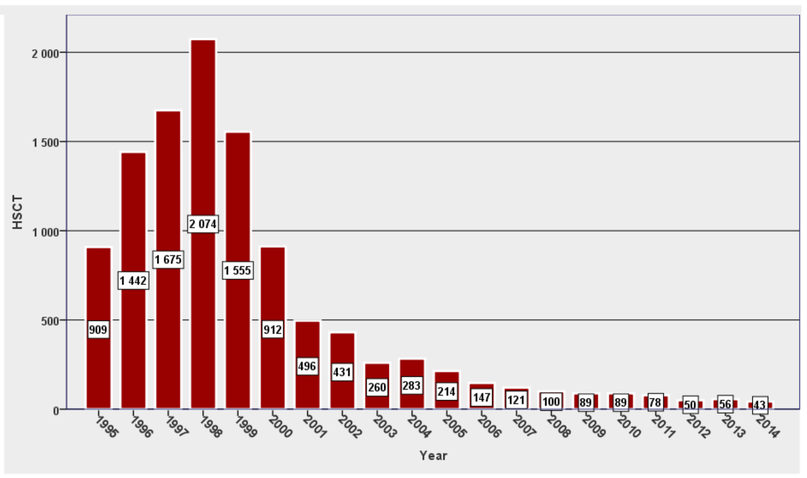
4- Prospective study of intensified chemotherapy with autologous stem cell transplantation for triple-negative BC (neoadjuvant setting)

5- Prospective study of intensified chemotherapy with autologous stem cell transplantation in metastatic breast cancer.

6- Therapy-Related Myeloid Neoplasms in Patients with Breast Cancer: a retrospective and prospective analysis

BREAST CANCER (n = 11 024)

Major achievements



<u>Breast Cancer (BC)</u>: In 2014, the STWP assessed toxicity and efficacy of high-dose chemotherapy (HDC) and autologous hemopoietic progenitor cell transplantation (HPCT) in a large cohort of BC patients. Based on the analysis of a large retrospective series, it can be stated that HDC with HSCT has low mortality rate and provides impressive long-term survival rates. The results suggest that this treatment modality should be proposed in selected patient subgroups (triple negative and metastatic setting) and further investigated in ongoing prospective trials.

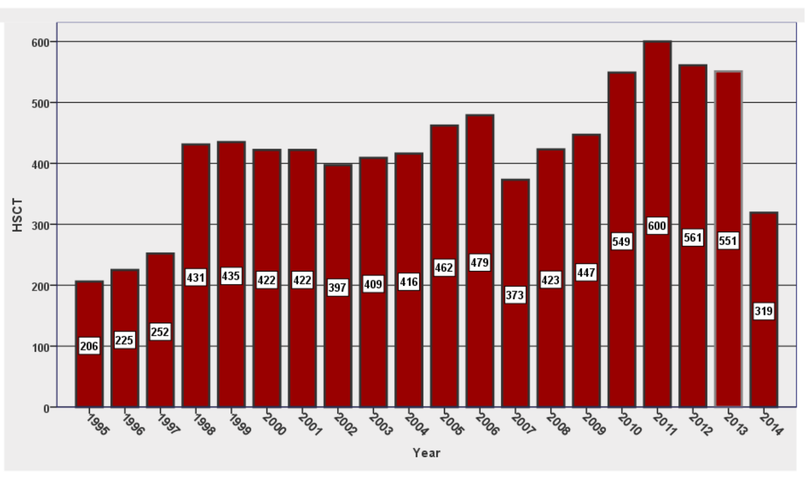
Therapy-related myeloid neoplasms (t-MN) comprise heterogeneous groups of cancer types that have been associated primarily with exposure to alkylating agents, topoisomerase II inhibitors, and ionizing radiation. Two subsets of therapy-related acute myeloid leukemia/myelodysplastic syndromes (t-AML/MDS) are generally recognized. It has become increasingly evident, however, that these subgroups are overly simplified and do not reflect the complexity of genetic pathways leading to t-AML/MDS.

Breast cancer is one of the most common malignant solid tumors among patients with t-MN. The incidence of t-MN in breast cancer patients has been reported to be as high as 3%, and it is poised to increase as mortality from breast cancer is further reduced.

By studying t-MN in breast cancer patients and comparing the test group to a control set of matched breast cancer patients who receive similar therapies without developing t-MN, we are seeking to address the following questions: (1) are there genomic alterations that confer a higher predisposition to the leukemogenic mechanisms responsible for the development of t-MN? (2) Is there a plasma miRNA signature that selectively identifies predisposition of breast cancer patients to t-MN development?

GERM CELL TUMOURS (n = 8 379)

Major achievements



Germ Cell Tumor (GCT): autologous stem cell transplantation (SCT) has a recognized indication in the salvage setting of advanced GCT and is steadily utilized worldwide. While the prognostic impact of response to prior lines of chemotherapy -CT (i.e. definition of chemoresistance) is ascertained, that of response to induction/mobilization CT preceding single or multiple HPCT cycles is unknown. Data obtained from STWP study showed that progression to induction CT prior to STC was independently and significantly associated with shorter PFS and OS, while response or progression to prior CT lines was not. This information could have important implications to refine patient eligibility to transplantation and enhance the prognostic risk grouping. Furthermore, the role played by paclitaxel-based regimens as a second or third-line salvage therapy for GCT was investigated. This might have an impact on the results with subsequent salvage HPCT in these patients. The EBMT-STWP sponsored a retrospective study on the outcomes of HDCT administered in the last 10 years. Hence, we aimed to study outcomes with HDCT after relapse to paclitaxel-CT to identify the level of chemoresistance in these patients. Interestingly, the administration of paclitaxel-based regimens before HDPT did not affect PFS/OS. Results were confirmed when excluding pts who were administered taxane-containing HDCT. Line of HDCT was not significantly prognostic too.

Moreover, long-term results of salvage high-dose chemotherapy for germ cell tumor in female patients as well as in pediatric/adolescent patients has been investigated, and results showed that these patients subgroups are characterized by different clinical characteristics and a peculiar response to treatment.

Publications

1- Martino M, Pedrazzoli P, Martinello T, Secondino S, Lanza F on behalf of the European Society for Blood and Marrow Transplantation, Solid Tumors Working Party (EBMT-STWP). **Erythropoiesis-stimulating agents in allogeneic and autologous hematopoietic stem cell transplantation.** *Expert Opinion in Biological Therapy. 2014 15(2), 1-17.*

2- Passweg JR, Baldomero H, Peters C, Gaspar HB, Cesaro S, Dreger P, Duarte RF, Falkenburg JH, Farge-Bancel D, Gennery A, Halter J, Kröger N, Lanza F, Marsh J, Mohty M, Sureda A, Velardi A, Madrigal A. **Hematopoietic SCT in Europe: data and trends in 2012 with special consideration of pediatric transplantation**. Bone Marrow Transplantation. 2014 Mar 17 /bmt.2014.55.

3- Necchi A, Pedrazzoli P, Rosti, Farè, Martino, Lanza F. **High-dose chemotherapy for germ cell tumors: do we have a model? An expert opinion on behalf of the European Society for Blood and Marrow Transplantation,** Solid Tumors Working Party (EBMT-STWP). Expert Opinion in Biological Therapy *2014, Sep 22:1-12*

4- Lanza F, Dallorso S, Milone G, Spedini P, Vigano C, Johnsen H. **Quality assessment of autologous hemotopoietic blood progenitor cell grafting**. Annals of Hematology /s00277-014-2235-5

5- Passweg JR, Baldomero H, Bader P, Bonini C, Cesaro S, Dreger P, Duarte RF, Dufour C, Falkenburg JH, Farge-Bancel D, Gennery A, Kröger N, Lanza F, Nagler A, Sureda A, Mohty M. **Hematopoietic SCT in Europe 2013: recent trends in the use of alternative donors showing more haploidentical donors but fewer cord blood transplants**. Bone Marrow Transplantation. 2015 Feb 2 /bmt.2014.312.

6- Pedrazzoli P, Martino M, Delfanti S, Generali D, Bregni M, Lanza F, on behalf of the EBMT STWP **High-dose chemotherapy with autologous hematopoietic stem cell transplantation in high-risk breast cancer patients**. Journal National Cancer Institute, 2015 (in press)

Educational courses

1- EBMT Solid Tumors Working Party Educational Meeting. 30th Annual Meeting EBMT, Milan, March 2014

2- EBMT Solid Tumors Working Party Educational Meeting. Chennai (India), July 19-20 2014

3- EBMT Solid Tumors Working Party Educational Meeting - October 31, 2014 in Florence, Italy

TIGER : a randomized Phase III Trial comparing conventional-dose chemotherapy using paclitaxel, ifosfamide and cisplatin (TIP) with high-dose chemotherapy using mobilizing paclitaxel plus ifosfamide followed by high-dose carboplatin and etoposide (TI-CE) as first salvage treatment in relapsed or refractory Germ Cell Tumors. Patient accrual will start soon.