Annual Report

Transplant Centre
University Hospital Zurich

2012

1. The Transplant Centre in its 5th year

Thomas Fehr – coordinator TPLZ

With the autumn symposium 2012 the Transplant Centre now looks back on 5 years of common activities since its foundation. Some key aspects of this year shall be referred to and further emphasized in the subsequent annual report, which has been elaborated in cooperation with all members of the board committee.

1.1. Retrospect

Transplant activities

Transplant activities of all programmes could be maintained on a high level in 2012. For the exact numbers of the individual programmes I refer to attachment 6 of this report. Particular reference is made to the following milestones:

- Transplantation of DCD donors had been resumed in 2011 (see our last annual report). In 2012 15 kidneys, 3 livers and for the first time in Zurich also 2 lungs of DCD donors could be transplanted. In order to keep the periods of ischemia as short as possible, these organs have been transplanted locally for the time being. In the case of kidney transplantation, however - provided that the results remain consistently good - it is planned that after 20 transplantations the allocation should take place nationally as well. Though for this purpose machine perfusion has to be guaranteed in all centres.
- In the kidney programme crossover transplantations have been followed up, and in 2012 two triple-crossovers could be performed in collaboration with the University Hospital of Geneva. Two transplantations took place in Zurich and one in Geneva simultaneously; i.e. the living donors did travel to the respective centres.
- In the field of diabetes mellitus type 1 the pancreas and islet transplantation programs have been continued and 2 pancreata could be transplanted alone without kidney in 2012.
- Likewise stem cell transplantation (allogeneic and autologous) could be continued on a high level, so that Zurich has definitely established itself as the largest stem cell transplant centre of Switzerland. With regard to allogeneic transplants a tendency towards non-related donations can be observed.

Organizational issues

Under the pressure of the shortage of organ donors and the related discussions the structural framework conditions of organ donation in the Zurich network have been intensively discussed. With the active support of the hospital direction two substantial improvements have been achieved:

- The process of organ donation has been disconnected from the management of recipients and the waiting lists. This has been achieved by means of the definitive staff and organizational separation of the organ donation network from the Transplant Centre, both of which have been put under the direct control of the medical direction *(Fig. 1)*. This modification is reflected in the new regulation of transplant medicine at the USZ and two associated by-laws which have been approved by the hospital direction at the end of 2012.
- For the promotion and support of the organ donation process a new "network coordination" has been created which is responding directly to the medical director of the organ donation network and at present is allotted a job contingent of 300%. This investment in human resources already seems to be reflected in an increase of organ donations in the second half of 2012.

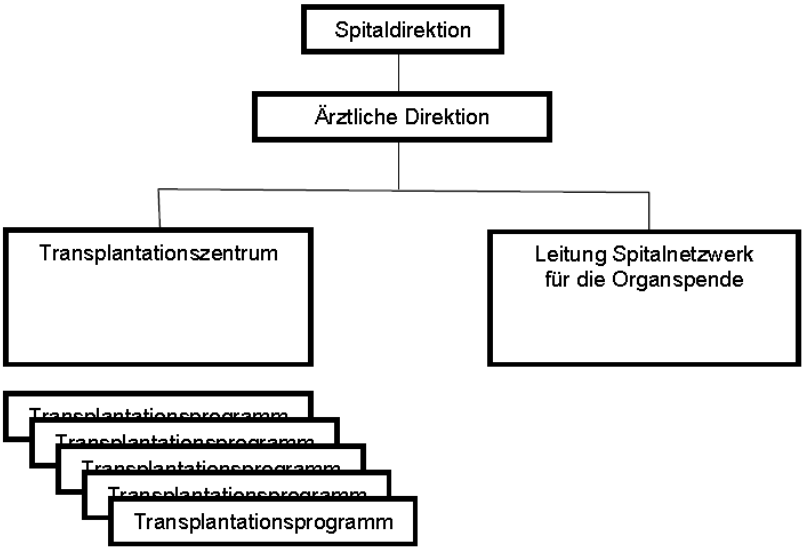

Abb. 1: Structural reorganization of transplant medicine at the USZ

Continuing education

Continuing education activities of the TPLZ in 2012 were marked by 3 symposia:

- The traditional international autumn symposium on the topic "Improving long-term care for solid organ recipients". Notable national and international referees presented a potpourri of topics on problems strongly affecting the long-term prognosis of transplanted persons, such as e.g. glomerulonephritis relapse after kidney transplantation (C. Ponticelli), hepatitis C management after liver transplantation (B. Müllhaupt) or BOS after lung transplantation (A. Boehler). International experts competent in all fields of organ transplantation reported on the topics of posttransplant lymphoproliferative disorder (PTLD, M. Green) and skin cancer (N. Bouves-Bavink). The symposium was very well attended with more than 200 participants.
- In view of the imminent European accreditation the interdisciplinary HLA typing laboratory of the USZ has organized a one-day symposium on the topic "HLA antibodies in solid organ transplantation" in May 2012. The new technology of single antigen beads with its technical possibilities and limitations was presented, followed by a discussion on their clinical significance for the individual organs, again with the participation of national and international referees. The event has brought together immunologists and clinicians and initiated interesting discussions on this current topic.
- In April 2012 for the first time an interdisciplinary symposium has been organized jointly with the clinical ethics committee of the USZ. While the allocation of organs is managed in a transparent way on the national level, the decision whether someone is put on the waiting list is made in the centres. For the individual patients it is often a discretionary decision whether a listing makes sense or not which is influenced by numerous factors. Under the title "Organ transplantation – who is allowed on the list?" the question was illuminated from a medical, psychiatric, ethical and legal point of view. The importance and topicality of this question was emphasized by the large attendance and has led to interesting discussions.

Miscellaneous

- After several years of preparation the interdisciplinary HLA typing laboratory has obtained its accreditation according to the European standards of EFI (European Federation of Immunogenetics) in 2012 – as the 2nd laboratory in Switzerland after the Geneva reference laboratory.
- Two transplant programmes have celebrated jubilees in 2012 with their own symposia: The liver transplant programme has celebrated its 500th transplantation, the lung transplant programme its 20 years existence.

1.2. Outlook

Staff changes
The year 2013 will be marked by numerous staff changes in the transplant medicine of the USZ:

In the organ donation network PD Dr. Markus Béchir, who was significantly involved in the re-orientation of this network, the implementations of the network coordination and the DCD programme, will leave the USZ at the end of January 2013. We would like to thank him at this point for his efficient, professional and innovative work. His succession as head of the organ donation network will be taken over by Dr. Renato Lenherr, senior physician at the surgical intensive care unit. We wish him a lot of success in his new function.
In the transplant centre PD Dr. Marc Schiesser (kidney and pancreas transplant programme), Prof. Annette Boehler (lung transplant programme) as well as myself will leave the USZ for new challenges. Prof. Nicolas Müller (Division of Infectious Diseases and Hospital Epidemiology) will assume the coordination of the Transplant Centre as new chairman of the board of directors. Prof. Müller is optimally linked in transplant medicine on a local as well as on a national and international level and is therefore ideally equipped to bestow new impulses on the Transplant Centre.

Projects in 2013
- As a new rather large project the transplant centre has decided the implementation of a new transplant programme for "Composite tissue transplantation". Under the direction of Prof. Pietro Giovanoli and PD Dr. Jan Plock (Clinic of Reconstructive Surgery) as well as Prof. Joachim Obwegeser (Division of Cranio-Maxillo-Facial and Oral Surgery) a new interdisciplinary working group will be founded in 2013, which is supposed to conduct the required preliminary medical, ethical and legal assessments.
- The decision of the IVHSM with regard to the heart transplant centres in Switzerland is expected with great eagerness in 2013. The heart transplant programme at the USZ has presented excellent results under the new direction of Prof. Volkmar Falk, is performing academic research in the field and is optimally imbedded in an integrated network on the treatment of patients with severe cardiac insufficiency. Thereby the medical requirements for the continuation of the programme are definitely fulfilled.

2. Centre specific and integrative functions

2.1. Transplant coordination

Werner Naumer – Head transplantation coordination

The donor and recipient sides have been separated from each other in 2012. A donor coordination has been established. The transplant coordinators are supposed to take care of the recipients only. Until to-date the separation could not be realized completely, as there is still need of manpower. Hence we still cover the donor service on weekends. The short-term objective is be to achieve a complete separation. The transplant coordination has been restructured and now belongs again to the Division of Visceral and Transplant Surgery with the advantage under the direction under Prof. Pierre-Alain Clavien with Dr. Jens Brockmann expert guidance can be offered if needed. Thus the medical needs and processes can be evaluated and adapted and answered in a more timely manner.
We have accomplished 130 evaluation plans for living donor kidney donation and liver donation (including living donor donation). In total 290 new patients have been admitted to the waiting list.
The expenditure of coordination and coordination hours (approximately 1400 hours) has remained constant.

2.2. Interdisciplinary HLA typing laboratory

Barbara Rüsi – Head interdisciplinary HLA typing laboratory

The accreditation according to the EFI (European Federation of Immunogenetics) has been achieved on October 9, 2012. After the reference laboratory in Geneva, the HLA laboratory at the USZ is only the second laboratory in Switzerland to obtain the European accreditation for the analysis of solid organs. Thereby also the requirements for the accomplishment of national and international studies and the participation in the Eurotransplant organ exchange programme are fulfilled. The reimbursement for the standard typing previous to stem cell transplantations is also secured with this accreditation.

To comply with the request of a number of clients a new test (analysis of A*31:01) has been launched in order to exclude a possible carbamazepine intolerance. The intake of carbamazepine can cause serious unwanted skin- or hypersensitivity reactions [Stevens-Johnson- Syndrome, (SJS), toxic epidermal necrolysis (TEN), acute generalized exanthematous pustulosis (AGEP), drug reaction with eosinophilia and systemic reactions (DRESS)]. Retrospective genome-wide studies in the Northern European and Japanese population have demonstrated that the expression of the HLA-A*31:01 allele goes along with an increased risk of the abovementioned unwanted side effects. Manufacturers of carbamezepine (original compound: Tegretol, generics: Carsol CR, Neurotop ret., Timonil) therefore recommend an analysis of the HLA-A*31:01 allele previous to the first administration. The prevalence of the HLA-A*31:01 allele in Western European populations – considering a great ethnic variance – is around 5 – 7%.

Compared to 2011 a decrease of sample receipts of 7% has been registered (4295 receipts in 2011 compared to 3966 receipts in 2012). Yet the total of analyses has increased by 18%. The reason for the increase: A rise of evaluations for kidney recipients of 45% (89 evaluations in 2011, 129 evaluations in 2012 and a rise of evaluations for lung recipients of 96% (26 evaluations in 2011, 51 evaluations in 2012). Evaluations for heart TPL have increased from 25 to 32. The number of evaluations for haematopoietic stem cells and HLA associated diseases has remained constant in comparison to the previous year or has shown a minor decrease. Monitoring before and after transplantation is practically exclusively based on the results of the Luminex LabScreen Single Ag analyses. The number of LabScreen Single Ag class I and class II analyses has increased by 30% for each.

After the change to virtual crossmatch on July 1, 2012, a renewed rise of Luminex analyses is foreseeable. Therefore a considerable increase of costs has to be expected in 2013.

On the occasion of the autumn symposium of the TPL Centre Zurich the HLA typing laboratory has been bestowed the merit award 2012.

2.3. Research in the Transplant Centre

Rolf Graf – research representative

The different teams within the transplant centre have performed a broad spectrum of research work. The outcome of this consists in more than 70 publications in highly respected journals such as "The New England Journal of Medicine" or "The Lancet", or on more specialized areas and topics in journals of surgery, infectiology, stem cells/haematology, dermatology, psychology, nephrology, hepatology, pneumology and others. This spectrum demonstrates the complexity and far-reaching consequences of transplant medicine. Some of the projects reflecting this diversity and complexity are described subsequently:

Lung transplantation
In a recently developed experimental lung transplantation model for the mouse it could be demonstrated that chemotactic signals via the stromal factor SD-1 are essential for the control of the ischemia- reperfusion injury. If the dipeptidyl-peptidase DPP-4 is inhibited, this protease is unable to attack different substrates including SD-1. The inhibitor thus represents a valuable therapeutic approach in lung transplantation (1).
Patients with cystic fibrosis (CF) are transplanted in some specialized centres although it has been unclear for a long time whether a survival benefit would result from it. In the present study transplantations from the period before and after 2000 have been examined.

Transplantations from the later phase showed a better benefit with lower complication rate. This has been explained by improved surgical strategies (2). In a further study it has been investigated whether the surgical treatment of the nasal cavities and daily cleaning by means of nose shower in lung transplanted CF patients effect an improvement of the most frequent complications. In particular bronchiolitis obliterans induced by infections with Pseudomonas could be significantly reduced. Pseudomonas was the only independent variable correlating with survival, cytomegalovirus infection and rejection (3).

Liver transplantation
Organ protection during ischemia is still a controversial area with different approaches. The problem is even more crucial with regard to liver transplantation of a donor after cardiac death. In the present study a procedure has been investigated where the liver had been treated by HOPE (Hypothermic Oxygenated Perfusion) shortly before re-implantation. Opposed to conventional cold storage HOPE treated livers showed improved mitochondrial function, protection of nuclei and prevention of endothelial damage after reperfusion (4). The decision whether transplantation is feasible is made dependent on the quality of the organs. A so far controversial parameter has been steatosis, the measurability of which is not reliable in small biopsies. In a study in mice and human livers the various quantifying methods could be evaluated and compared. Thereby chemical fat quantification seems to be the most reliable method. Yet MRI, which takes into account the entire organ, represents another attractive alternative.
The biopsies evaluated by the pathologist, however, are considered to be of limited significance (5).

Dermatology
Many organ recipients show an increased susceptibility to skin diseases, in particular skin cancer and virus induced skin alterations. Thereby a genetic component seems to increase the prevalence of skin tumours via virus infection (6). In the presence of immunosuppressants the UV-light seems to cause an increased damage of the DNA which leads to neoplastic alterations (7).

Kidney transplantation
Cytomegalovirus infections are associated with increased kidney rejection. Therefore different strategies for the monitoring and treatment of viraemia are discussed. In the present study two cohorts have been compared with each other: one cohort with only loosely controlled guidelines and another cohort with a stringent diagnosis- and treatment regime. The strictly controlled cohort showed a significantly reduced incidence of viral diseases (8).

Chimerism of recipient cells and donor kidneys correlates with rejection frequency. In a study in patients in whom the sex of the donor did not correspond with the recipient, X and Y chromosomes have been detected by means of fluorescence microscopy with FISH. Up to 50% chimerism has been observed in tubular and endothelial cells. Thus it has been confirmed that certain combinations correlate with increased rejection in particular when endothelial and tubular cells as well in the same organ are concerned (9).

Stem cell transplantation
Fungal infections of the liver are frequent complications of chemotherapy in patients with leukaemia. Diagnostic imaging procedures by means of CT are not standardized and their sensitivity is low. A comparison of different CT protocols has demonstrated that lesions could be better identified in the late arterial phase than in the portal-venous phase (10).

Heart transplantation
Statins are used as a therapy in most patients with cardiovascular diseases nowadays. In a study with 255 patients after heart transplantation it has been investigated whether statins show a survival advantage and in particular whether the incidence is influenced by cancer. In fact it was demonstrated that patients with statin treatment show a significantly lower risk of cancer (11).

International cooperation
Further findings could also be gained from the cooperation with other centres with clinical as well as basic research orientation. Here among others the studies on sirolimus and skin cancer (12), the precursors of dendritic cells of the kidney (13), the role of Notch in epithelial tumors (14) or the evaluation of hepatocellular carcinoma in potential organ recipients (15) have to be mentioned.

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2.4. Continuing education

Nicolas Müller – member organizing committee TNT

Again the seminar *Hot Topics in Transplantation* has been able to attract notable and internationally renowned referees. This was only possible with the support of a generous sponsoring (Astellas Pharma AG, Genzyme GmbH, MSD AG, Novartis Pharma Switzerland AG, Pfizer AG and Roche Pharma (Switzerland) AG), for which we would hereby like to express our sincere thanks!

Hans Lemkuhl (German Heart Institute, Berlin) gave an account on the quickly developing role of assist devices, Kathryn Wood ((Transplantation Research Immunology Group, Nuffield Department of Surgical Sciences, University of Oxford) on the state of tolerance research in transplantation. Thomas Weckerle (Wien) reported in a competent way on Belatacept, a substance from the group of biologicals which has only recently been introduced in the clinical routine. This selection is supposed to illustrate the wide range of topics; the complete programme is included in the attachment.

2.5. Swiss Transplant Cohort Study (STCS)

Nicolas Müller – President of the Scientific Committee STCS

The STCS has gone through another year of growth. The first scientific papers are now published, and in total 33 projects - partly under Zurich guidance - are on the way. Zurich is bearing the major burden of the enrolled patients – of a total of 2655 patients 1022 or one third have been transplanted in the Zurich centre. This is presenting us with a considerable logistic challenge in order to guarantee a perfect processing of the samples and the data collection. Our special thanks go to all those who have contributed!

3. Organ donation network

Markus Béchir / Renato Lenherr – Intensive care

3.1. Structural reorganization: the new network coordination

The expansion to two network coordinators and one medical director allowed the USZ network to grow and to become the present Donor Care Association (DCA). The objective consists in monitoring all organ donation processes in the USZ and in the intercantonal network. In addition to the management of organ donors and the on-site attendance of their family members this also includes the quality management of organ donation processes, the training of the involved persons in the entire network and the public relations work which is essential. With two additional positions of network coordinators the DCA will be completely independent and detached from the Transplant Centre in 2013.

At the USZ the emergency ward has been integrated in the network and a flowchart for the donor recognition has been implemented, which already has had a positive effect on the number of donors and therefore has been extended to other network hospitals.

The DCD program was successfully consolidated. In spite of the initially negative press reports the value of this project becomes increasingly evident: Next to getting donor organs – and thus representing an enormous subjective benefit for some critically ill people – the USZ is gaining high recognition as a pioneer for this kind of organ donation in Switzerland. This has only been possible thanks to the unrelenting and courageous commitment of the entire project group under the management of the project leader PD Dr. med. Markus Béchir

Financially the expansion of the DCA is to a large extent directly compensated by the canton of Zurich.

3.2. Organ donation activities in 2012

2012 has been a successful year for the USZ network. Compared to the previous year the number of organ donors could be increased by 58% altogether. This increase cannot only be explained by the re-implementation of the NHBD donation (=DCD, Donor after Circulatory determination of Death) in October 2011. Heart Beating Donation (=DBD, Donor after Brain Death) has been increased by 44%, too. In the second half-year 2012 more than twice as many Heart Beating Donors than in the first half-year have been registered.

4. General care of transplant recipients in the Transplant Centre

4.1. Anaesthesiologic aspects of transplantation

Marco Zalunardo – Anaesthesia

In line with the trend of the last years also in 2012 many liver-, lung- and heart transplantations have been conducted in patients with highly advanced primary disease and in bad clinical condition. In the foreground stood on the one hand the pulmonary function in the lung recipients, who in many cases were already connected to the heart-lung machine at the time of the transplantation. On the other hand the renal function in several liver recipients was already limited to an extent that already before or during

transplantation a renal replacement therapy (hemofiltration) had to be applied. Another handicap in many of these patients consisted in the strongly compromised blood coagulation, which required the intraoperative application of special monitoring methods (thromboelastography, determination of special coagulation parameters), and therefore from the anaesthesiologic transplantation team a corresponding special knowledge in the field of perioperative coagulation management as well as in particular individual cases a close interdisciplinary cooperation with the hemostaseologists.

From the scientific perspective the multicentric randomized study on postconditioning with Sevofluran in liver transplantations could be concluded (Prof. Dr. B. Beck Schimmer, Dr. J. Bonvini).

4.2. Nursing care in the Transplant Centre

Beatrice Biotti – Nursing representative

4.2.1. Improved interprofessional cooperation

In the summer 2012 the so far only sporadically summoned interdisciplinary case reports have been institutionalized. Each Tuesday alternately liver- and lung transplanted patients are discussed in an interdisciplinary team meeting in order to being able to coordinate the treatment and care plans beyond professional limits.

The discharge management for lung transplanted people has been revised and updated in collaboration with the Division of Pulmonology. Lung transplanted people are often discharged with an IV therapy and therefore have to be intensively trained in the management of IV medication during their hospitalization.

4.2.2. Advanced nursing practice project kidney transplantation

The three brochures "Need-to-know for the preparation of kidney transplantation", "Need-to-know for the period following kidney transplantation" and "Need-to-know for the life after kidney transplantation" have been published in March. The brochures have been elaborated in an interdisciplinary scope in close cooperation with the Centre for Clinical Care Science. In May 2012 the brochures have been granted the Swiss Quality Award 2012 in the category "Empowerment".

On the content of the brochures:

- The first brochure "Need-to-know for the preparation of kidney transplantation" contains the issues which are important for the preparation of kidney transplantation

- The second brochure "Need-to-know for the period following kidney transplantation" contains the issues regarding acute care and is delivered to the patients during hospitalization after kidney transplantation

- The third brochure "Need-to-know for the life after kidney transplantation" is focused on the long term management and is delivered by the nursing expert in the scope of the outpatient follow-up care after kidney transplantation on the occasion of a individual training conversation

On May 1st the data collection in the scope of the randomised control study „Impact of an Advanced Nursing Practice Education Programme on the Health Behaviour in Patients during the first year after Kidney Transplantation" was started. From May 1st until December 31, 2012 11 female and male patients could be included.

The nursing expert ANP has conducted 143 nursing consultations or trainings of patients after kidney transplantation. Further focal aspects were the care of patients who had been transferred to the USZ from the Children's Hospital as well as the collaboration in an information evening for patients on the waiting list for kidney transplantation.

4.2.3. Advanced nursing practice project liver transplantation

For the elaboration of a new evidence-based education concept "liver transplantation" an interdisciplinary project group consisting of nursing expert persons and physicians has been appointed.

For the specification of the contents a literature search, a context analysis and a qualitative study with 11 interviews of focus groups have been conducted. Participants in the focus group interviews were patients (i.e. candidates on the waiting list and liver transplanted), family members of patients, living liver donors and USZ employees directly involved in the patient care around a liver transplantation.

The publication of the brochure is planned for 2013.

4.3. Infectious disease consult service of transplanted patients

Nicolas Müller – Infectious disease specialist

1583 infectious disease consultations including follow-up consultations have been documented by our consult service in patients in connection with transplantation, which corresponds to approximately 25% of all infectious disease consultations held at the USZ. This emphasizes the high significance of infectious disease treatment and prevention in recipients of new organs or of stem cells or islets. In addition to this service on call all new patients on the waiting list for kidney, pancreas or islet cells are routinely examined with regard to their serology and past infections. The regular participation in the weekly rounds of stem cell transplanted as well as newly kidney- or pancreas transplanted patients ensures a continuous attendance and close cooperation. The optimal infectious disease management is also ensured by regular revisions of different guidelines.

4.4. Dermatological follow-up of transplanted patients

Günther Hofbauer – Dermatology

Recipients of solid organs and also of bone marrow/stem cells are seen in the specialized consultation for immune suppressed patients of the Clinic of Dermatology. Under the guidance of PD Dr. Günther Hofbauer more than 2'000 consultations were held in the year 2012. The main focus of this consultation is on prophylaxis, early detection and treatment of the white skin carcinoma (spinocellular skin carcinoma), which represents the most frequent malignant tumour as consequence of long-term immunosuppression. On the one hand existing tumours are detected and removed within the scope of the pre-transplant assessment. On the other hand transplanted patients are advised of the risk of white skin cancer and are taught prevention by appropriate behaviour, clothing, application of sunscreen and early detection.

As one of the largest of several centres worldwide, synthetic alpha MSH has been applied as internal sunscreen for the first time in Zurich in 2009. In the meantime far more than 30 recipients of solid organs have been included in this study, and within 2 years an assessment will be possible on whether a reduction of the risk of skin cancer by increased tanning and thus an increased sun protection of the skin can be obtained. A safety analysis after one year has revealed no objections to the study medication even in the often polymorbid group of organ transplanted, so that we look forward with interest to the final analysis of the study. Furthermore, since 2010 more than 45 organ-transplanted with actinic keratoses, i.e. early forms of white skin cancer, have been included in a second study in the Zurich Centre in order to test the effect

of a superior sunscreen product against white skin cancer. The recruitment should be concluded in 2013; running time of the study is two years.

In a clinical study which was conducted predominantly in numerous French centres, but also in Zurich, the mTOR inhibitor Rapamycin has been applied in patients with skin cancer. The principal author Sylvie Euvrard has been able to demonstrate that after a first incidence of white skin cancer the conversion from calcineurin inhibitors to Rapamycin showed a clear advantage with only few further occurrences of white skin cancer. These results, also from our patients in Zurich, have been published in the well-respected New England Journal of Medicine and will therefore be considered as well in the decision-making for our Zurich patients in the future.

4.5. Psychosocial evaluation of transplanted patients

Josef Jenewein – Psychiatry

The psychiatric-psychotherapeutic evaluation of transplant patients and living donors of the Transplant Centre is conducted by the Division of Consultant and Liaison Psychiatry of the Clinic of Psychiatry and Psychotherapy (Direction: PD Dr. Josef Jenewein).

Also in 2012 there has again been a significant increase of psychiatric evaluations and treatments in patients and donors with altogether more than 1500 consultations.

The need for additional psychic support of patients/donors and family members can be better complied now due to the creation of a supplementary 50% position of a senior physician.

Organization of the team
The team consists currently of three senior physicians with a medical specialty degree in psychiatry and psychotherapy (total job extent 180%) and one psychologist (60%). From October 15, 2012, the team could be complemented with Dr. André Richter.

Research
The prospective study on psychic organ integration in patients after lung transplantation is furthermore running well and will hopefully be concluded by the end of 2013. First results will presumably already be presented at the European Congress of Psychosomatic Medicine (EAPM) in Cambridge. A further interventional study on stress reduction and improved psychic stabilization after transplantation has been successfully submitted at the STCS.

5. The individual transplantation programmes

5.1. Allogeneic stem cell transplantation

Urs Schanz – Haematology

The allogeneic transplantation activities have been invariably high with 51 stem cell transplantations compared to the previous year (2011, n=52). Again a successful double umbilical cord blood transplantation could be performed. The number of non-related transplantations has further increased with 37 compared to the previous year (n=31), which corresponds to a percentage of 73%. Again, as in the previous year, it has to be pointed out that non-related stem cell transplantations are significantly more time- and energy-consuming than related transplantations. This additional expenditure still has to be coped with with unchanged personnel resources, which is only possible due to the extraordinary motivation of the entire team

The planning of the new 16 beds ward is proceeding efficiently and we hope that the opening can take place in 2015.

5.2. Autologous stem cell transplantation

Panagiotis Samaras - Oncology

In 2012 sevral staff changes have occurred in the autologous programme. Both the director of the autologous stem cell programme, Prof. Dr. Christoph Renner, as well as the director of the stem cell laboratory, PD Dr. Frank Stenner, left the division. As former vice-director of the programme I have now taken over their tasks on full-time basis. Current vice-director is Dr. Axel Mischo. In collaboration with the City Hospital Triemli 77 patients (compared to 95 patients in 2011) have been treated with high dose chemotherapy and ensuing autologous stem cell retransfusion in the past year. Principal indication was multiple myeloma followed by lymphomas and recurrent germ cell tumors.

In total 117 aphereses have been conducted in 84 patients (1.39 aphereses per patient). The discrepancy between returned (re-transfused) and stored preparations already described in previous years has again increased in 2012; thus 448 cryoconserved stem cell concentrates have been stored by the end of 2012

(compared to 393 concentrates in the previous year, see also Table 1).

Mortality of the autologous transplantation programme at the USZ of around 1% was again significantly below the worldwide reported average of just under 5%. Within the scope of a cooperation of all Swiss centres performing autologous transplantations, the value of a high dose therapy with ensuing autologous stem cell transfusion for patients with M. Hodgkin, who had predominantly been treated with a intensified combination therapy (BEACOPP escalated), could be demonstrated. In the meantime these results have been published in the journal *Leukemia and Lymphoma* (Autotransplant for Hodgkin lymphoma after failure of upfront BEACOPP escalated. Wannesson L et al. Leuk Lymphoma. 2013 Jan; 54(1): 36-40. Epub 2012 Jul 9).

In the sense of a quality control we have also evaluated in the past year the outcome of all patients with lymphoma, in whom a autologous stem cell transplantation had been performed in our centre between 2000 and 2011 (Fig. 2). In addition different prognostic risk factors could be identified in this patient group. These data will presumably be published in 2013.

Autologous stem cell transplantations	77	- 19 %
Stem cell collections	117	+20 %
Stem cell concentrates (cryoconserved)	448	+14 %

Table 2: Relation of autologous stem cell transplantations and collections

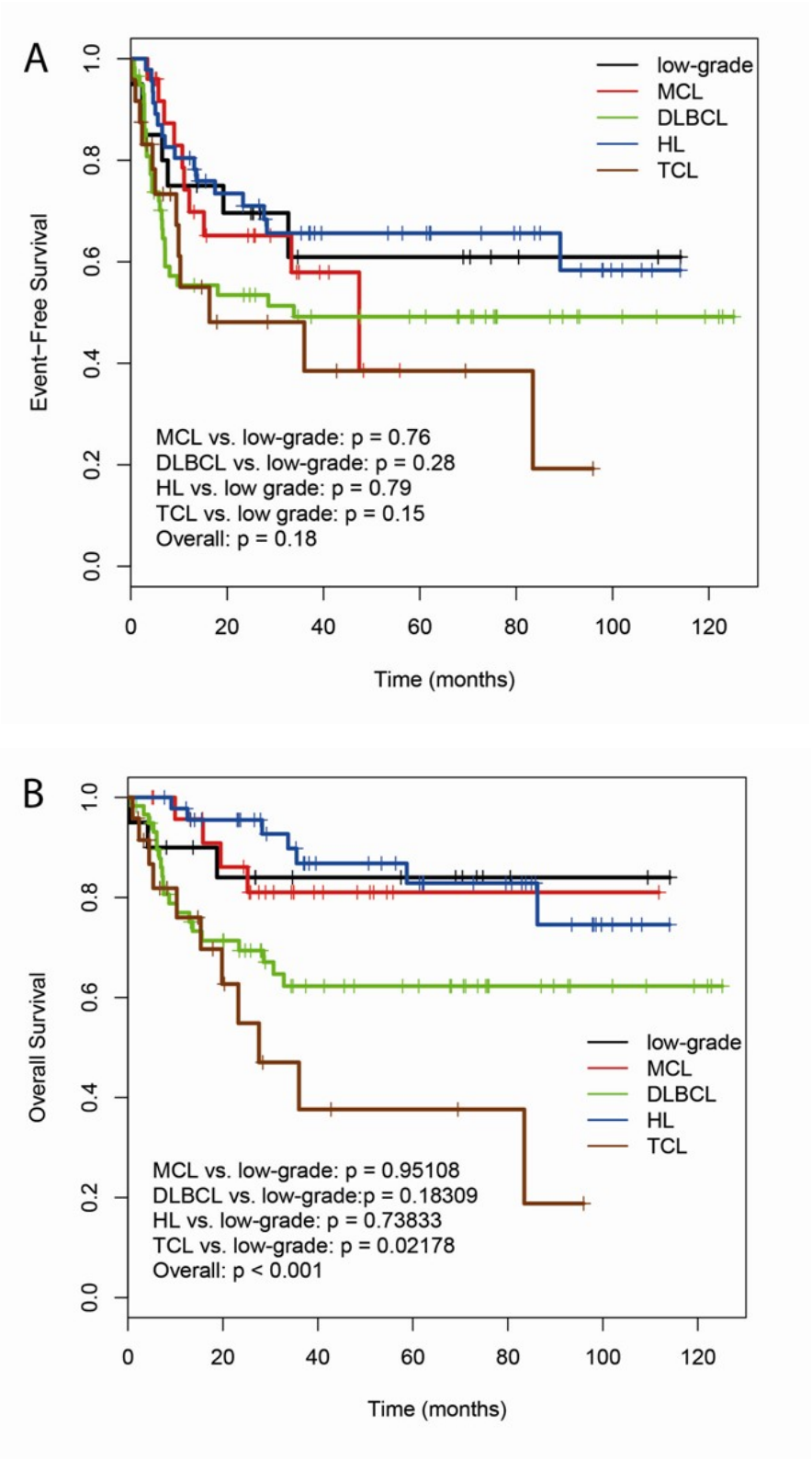


Fig. 2: Event-free and overall survival of lymphoma patients after high-dose chemotherapy and autologous stem cell transplantation classified into lymphoma entities (MCL, mantle cell lymphoma; DLBCL, diffuse large B-cell lymphoma; HL, Hodgkin lymphoma; TCL, T-cell lymphoma).

5.3. Heart transplantation

Markus Wilhelm – Cardiac surgery / Frank Ruschitzka - Cardiology

The overall number of heart transplantations has increased to 392 in 2012. With a 1-year survival rate of more than 85% of all transplanted patients within the last 4 years the USZ is above the international numbers *(Fig. 3)*. Also in the long-term course survival rates of heart transplanted patients at the USZ are above international average *(Fig. 4*). The survival rate 20 years after heart transplantation at the USZ is 55.6%, whereas the international survival rate 20 years after heart transplantation is only 21.1%.

In six patients a heart support system (VAD) has been implanted in 2012. The implantation of short-term heart support systems (ECMO) in patients with acute cardiogenic shock has considerably increased in the reporting year. Resynchronization therapy with biventricular pace maker systems (CRT) has been successfully applied in patients with stable chronic heart failure. With regard to clinical research in the field of heart transplantation it has been published in a highly respected journal that the risk of malignancy under immune suppression is decreased in heart transplanted patients who are treated with statins. In the field of mechanical circulatory support the development of new heart support systems and the modification of systems which are already in use are investigated.

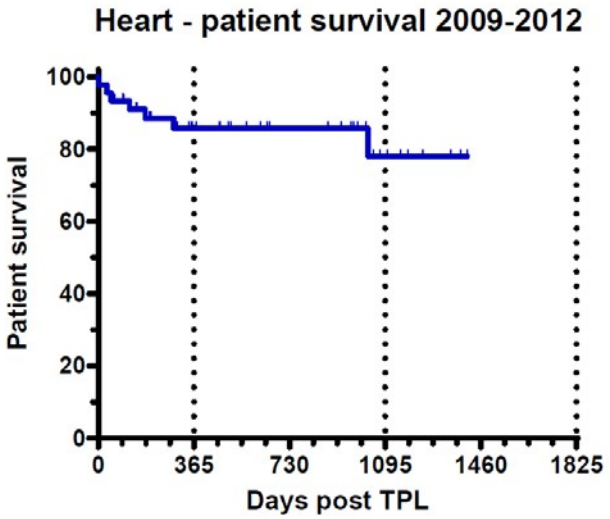


Fig. 3: Survival rate after heart transplantation of the patients transplanted from 2009 - 2012

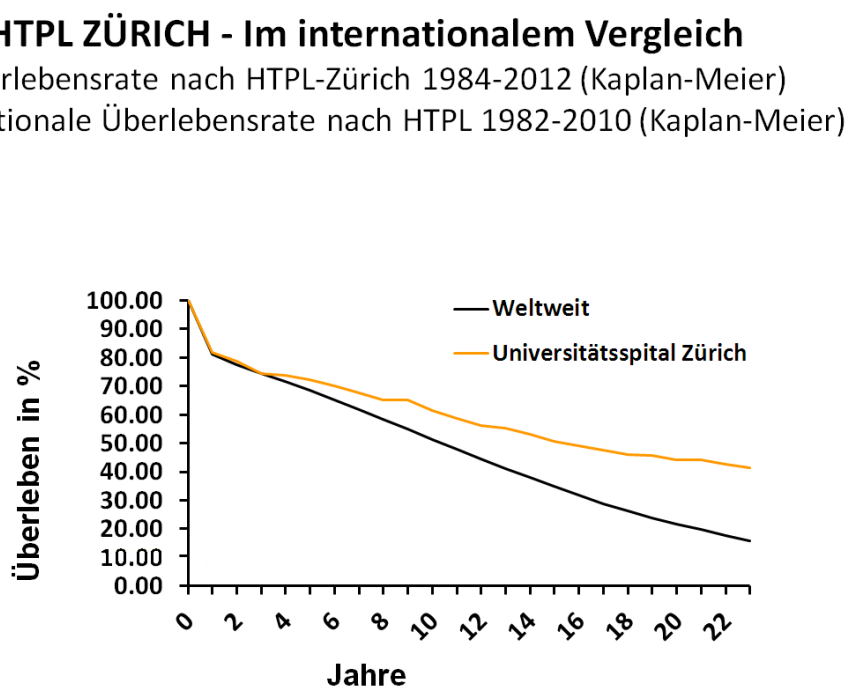


Fig. 4: Survival rate after heart transplantation at the USZ in international comparison (according to the international register of the International Society for Heart and Lung Transplantation (ISHLT).

5.4. Lung transplantation

Sven Hillinger – Thoracic surgery / Macé Schuurmans - Pneumology

As outstanding event of the year 2012 our jubilee "20 Years of Lung Transplantation in Switzerland" has to be mentioned, which we could celebrate in Zurich on October 27, 2012 jointly with the colleagues of the Transplant Centre of French-speaking Switzerland. At this occasion a symposium with scientific contributions of national and international referees has been organized. Afterwards a joint symposium with our patients took place at the Lake of Zurich with contributions by physicians and patients as well, which was received with great enthusiasm and gave rise to interesting discussions at the ensuing apéro riche.

In the reporting year 2012 we have again been able to increase the number of transplantations by 10% to 33 lung transplantations for the first time, among which the first two transplantations with non-heart-beating donors. Both recipients had an uncomplicated postoperative course and could be dismissed into outpatient care after 28 and 21 days, respectively. Furthermore we have been able to perform an ex-vivo perfusion in two lungs with insufficient organ function (aspiration in the basal areas after extended intubation) for 4 hours without technical problems and could observe an improvement of the organ function (above all increase of oxygenation) during this period. Though the values were not adequate for transplantation (lung edema with increased pulmonary-vascular resistance) *(Fig. 5*).

Fig. 5: Ex-vivo-perfusion of a marginal donor lung at the operating room of the USZ

As can be seen in the diagram below, an increase of the pre- and perioperative requirements for extracorporeal membrane oxygenation (ECMO) during the last years can be observed, which considerably complicates the perioperative management of these patients (bleeding complications, infections) and possibly also has a negative influence on the long-term survival of the recipients *(Fig. 6)*. This is also reflected by the fact that patients are admitted to lung transplantation at a very late stage. An essential reason for this is the central lung allocation, which does no longer allow a precise organ allocation.

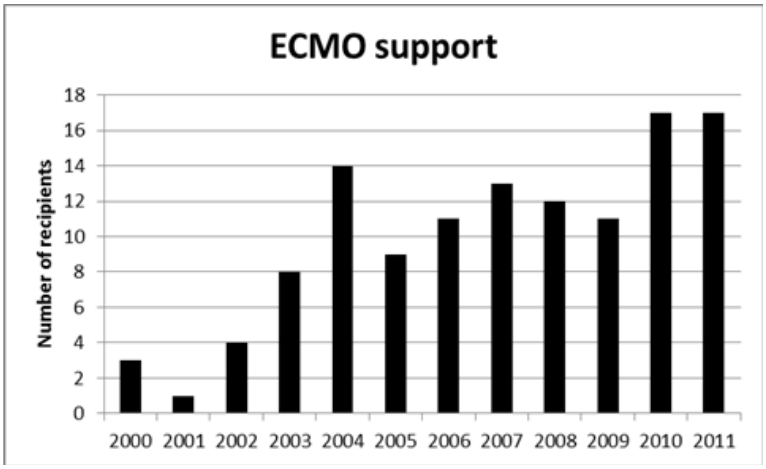


Fig. 6: Number of lung transplantations in patients with ECMO support at the USZ

Dr. Yukio Tusima, thoracic surgeon from Juntendo University of Tokyo, has been engaged as visiting transplant fellow at the Clinic for Thoracic Surgery for one year and is intensively involved in clinical as well as in experimental projects

In his contribution at the TNT seminar of April 23, 2012, entitled "DCD (non heart beating donor) programme at the USZ – experience and results after 6 months", PD Dr. Ilhan Inci could report on the first successful DCD lung transplantation in Switzerland

The autumn symposium of our transplant centre on the subject "Improving long-term care for solid organ recipients" took place on November 16, 2012. From the field of lung transplantation Prof. Annette Boehler summarized the aspects representing important obstacles for lung transplanted on their way to long-term survival. Zurich still has a top survival result by international comparison, which is due to a large extent to our experienced multidisciplinary team, as Prof. Annette Boehler pointed out.

Due to increasingly complex processes (e.g. EMCO), however, a tendency can be observed which might impede further progression of this high standard. Prof. Dirk van Raemdonck from Leuven, the lung representative of our International Advisory Board, has again been able to participate as chairman and board member in this interesting and well attended symposium.

In spite of the tight bed situation more than 50 patients could be admitted and evaluated for an inpatient lung transplantation assessment at the Clinic of Pneumology. Hence there was a further increase of the number of patients on the waiting list and despite increased transplantation activity the waiting periods on the list become longer. The observed tendency toward worsening of the general condition of the patients due to the long waiting periods led increasingly to hospitalizations and even intensive care including mechanical ventilation and/or ECMO as last option before transplantation. This mode of therapy („bridge on mechanical support to transplantation") means a great pressure for the patients as well as for the entire transplant team, since a long and demanding phase of rehabilitation becomes necessary due to the long-lasting ventilation, which can go along with deconditioning of the musculoskeletal system and injury of peripheral nerves and muscles. The post-transplant hospitalization period for these patients is significantly prolonged.

Basically the current situation with increased referrals for transplantation on the one hand and a limited number of transplantations due to lack of donor offers on the other hand leads increasingly to transplantations of patients in a heavily advanced state of disease. This has an impact on the postoperative effort which is becoming more resource-intensive. Similarly the number of patients after lung transplantation increases, which requires an adjustment of human resources in order to guarantee the previous high standard of follow-up care.
In the recent years the cost pressure on the side of the health insurance companies has become increasingly noticeable in the follow-up care of the lung transplanted. This trend has continued at a progressive rate in the current year, whereupon the health insurers increasingly contest the prescription of certain medications and require the application of generics, respectively. This correspondence between physicians and cost-bearers often unsettles the patients and goes along with considerable additional work and expense.

The standards of treatment, which have been established in the Zurich lung transplant team over the years, have been depicted in a publication this year in the continued effort to pass on the long-standing experience also outside the Clinics of Pneumology and Thoracic Surgery of the USZ. Thereby the experience of the care persons, the treating physicians on the individual specialized wards as well as of the specialized divisions and persons involved who completely support and enable the partly specific treatment concepts, respectively, should not be underestimated. This professional competence cannot be transferred to peripheral wards or hospitals just like that.

Lung transplantation remains furthermore one of the main focuses in clinical as well as in experimental research of the Clinic of Thoracic Surgery and Pneumology. This resulted in a total of 26 predominantly international publications and numerous scientific presentations in 2012.

5.5. Liver transplantation

Philipp Dutkowski – Visceral surgery / Beat Mülhaupt- Gastroenterology

In 2012 43 liver transplantations have been performed (vs. 47 in the previous year). The median MELD (Model for Endstage Liver Disease) score at the time of transplantation in 2012 was at 21 (also 21 in the previous year). In 2012 for the first time worldwide hypothermic oxygenated perfusion (HOPE) in DCD liver (donation after cardiac death) has been conducted (n=5) *(Fig. 7)*. The liver, which was perfused after harvesting and short term cold storage, functioned immediately and in comparison to DBD organs (donation after brain death) showed neither increased reperfusion injury (*Fig. 8)* nor increased complications. These results form the basis of an initiated randomized study for machine liver perfusion (Clinical Trials.gov NCT01317342).

www.hope-liver.com

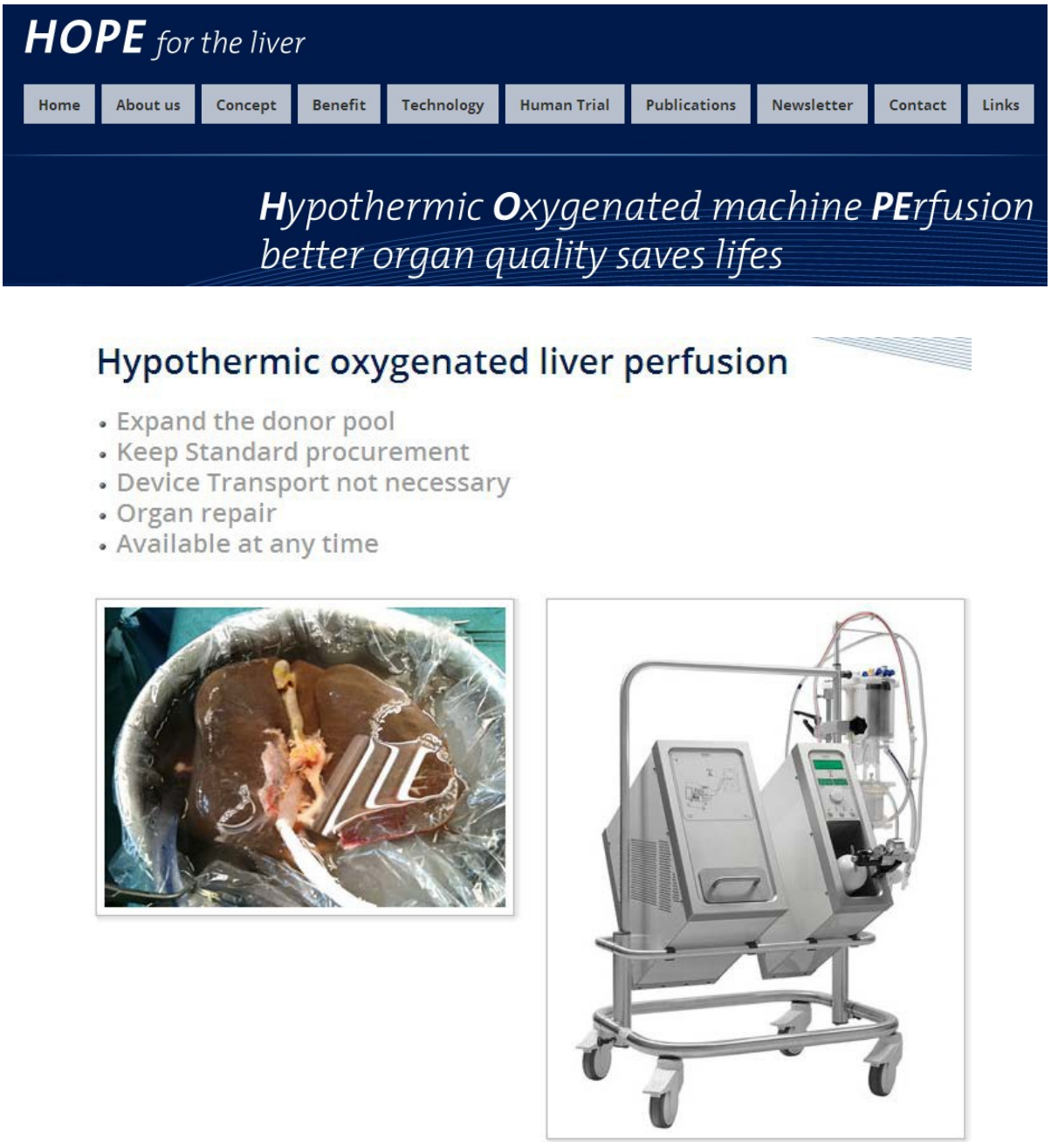


Fig. 7: Equipment for hypothermic oxygenated machine perfusion (IMPE) at the USZ

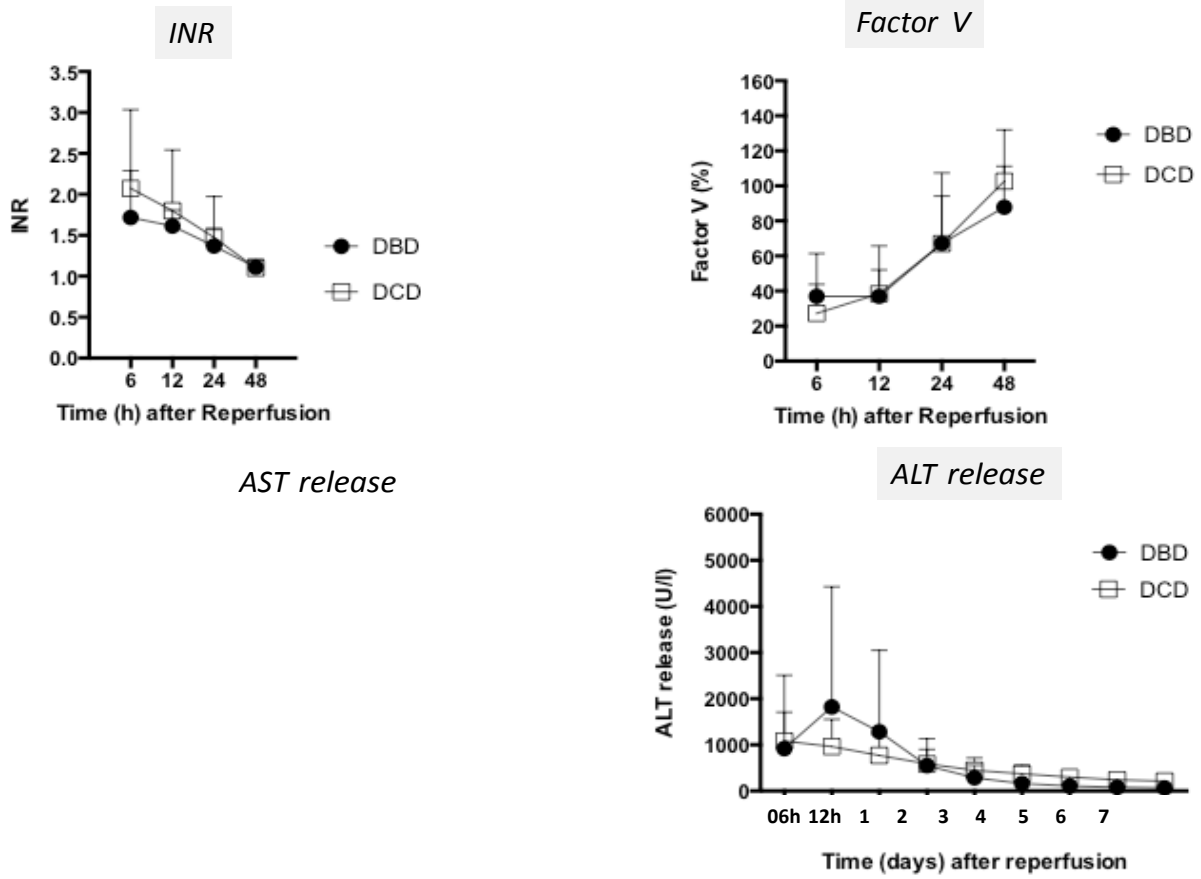


Fig. 8: Comparison of liver function and reperfusion injury between DCD and DBD liver transplantation.

5.6. Kidney transplantation

Thomas Fehr – Nephrology, Jens Brockmann – Visceral surgery

With 80 transplantations in the year 2012 kidney transplantation has again been the most frequent organ transplantation at the TPLZ. Compared to the record year 2011 with 100 transplantations there has been a decrease, which, however, has been only insignificantly below the average numbers of the years 2007-2010 with around 85 transplantations (see attachment). The decrease could predominantly be explained by a reduced number of living donations. Several donor assessments had to be abandoned ahead of time due to an increasing number of co-morbidities of the notified donors, in individual cases also due to concerns of psychosocial nature with regard to living donation.

The year 2012 has also brought along some innovations, though.

- In the first place the continuation of the crossover transplantation programme in collaboration with the University Hospital of Geneva has to be mentioned. In the year 2011 the first transplantation of this kind has been conducted between two couples from Zurich and Geneva, followed by two further transplantations in 2012, each with participation of 3 couples (two from Zurich and one from Geneva at a time). These transplantations faced the TPLZ with considerable logistical challenges, as two living donations with a total of 4 operations had to be conducted in Zurich and another one simultaneously in Geneva. Though it did succeed, and the donors agreed to travel to the respective other centre for the donation so that the cold ischemia time could be kept optimally short. All of the so far conducted – in total 8 – transplantations have concerned couples with considerable immunologic incompatibilities, whose living donation had been postponed for this reason. All 8 kidneys function perfectly for the time being.
- As a further innovation in 2012 infant kidneys from a 2 months old male donor have been transplanted en block. This transplantation went excellently from a technical point of view. The kidneys have grown from an initial size of 4 cm to more than 8 cm and the female receiver enjoys a completely normal kidney function.
- Last but not least 9 further kidney transplantations from DCD donors have been performed in 2012. As had to be expected, in about 50% a delayed graft function with transient dialysis obligation has been diagnosed in the beginning. For the time being, however, all these recipients are dialysis-free. Unfortunately one patient died several months later from a stroke.

In the field of clinical research a dissertation has been successfully concluded in 2012 and published in collaboration with the Division of Infectious Diseases, which has surveyed the current CMV management after kidney transplantation. This work has shown a pleasantly low rate of CMV viral syndrome and CMV disease with only 2.7% each. Furthermore due to the preemptive strategy antiviral therapy could be waived completely in more than 50% of the patients.

From the point of view of basic research the emphasis in the laboratory of Prof. Fehr has been on the analysis of a new class of immune suppressants, the so-called Bcl-2 inhibitors. Works on the mechanism of immunosuppressive effect and on the synergy of cyclosporine could be published in 2012; studies on the establishment and tolerance of chimerism as well as on the suppression of memory T-cells could be submitted and are currently under revision.

5.7. Pancreas transplantation

Jens Brockmann – Visceral surgery

In the year 2012 10 simultaneous pancreas and kidney transplants (SPK) and 2 pancreas transplants alone (PTA) have been performed. With altogether 12 pancreas transplants as many pancreases as never before have been transplanted at the USZ. With the implementation of pancreas transplants alone we aim at being able to help type I diabetics in existing co-morbidities, i.e. hypoglycaemic unawareness and other secondary complications with the exception of diabetic nephropathy. In addition the waiting list of the kidney alone recipients shall not be compromised by this, since in case of occurrence of a renal insufficiency the combined pancreas and kidney transplant is given priority. Due to the internationally published rather worse outcomes of pancreas transplant alone consequent exocrine drainage of these organs into the recipient duodenum is used in order to monitor the transplant via simple gastroscopy with protocol biopsies. This examination is performed at the time of dismissal, every 3 months during the first year, bi-annually in the second year and afterwards once a year after transplantation. Like this rejection reactions ought to be

recognized and controlled in time. Furthermore these results help to further minimize immunosuppression after transplantation. Thus it has been possible to adhere to the steroid-free protocol for immunosuppression also after pancreas transplant alone. Likewise the CNI strain could certainly be reduced in order to minimize the nephrotoxicity of basic immunosuppression

Recipient survival 1 and 5 years after all types of pancreas transplant is 100% and 96%, respectively; transplant survival in the sense of insulin freedom 1 and 5 years after transplantation is 86-77%, which is above average also by international comparison. Fortunately there was no death of patients on the waiting list in this reporting year as well. The average waiting time for a pancreas organ could be further reduced to currently 100 days approximately.

5.8. Islet transplantation

Roger Lehmann – Endocrinology and diabetology

In the field of islet transplantation the year 2012 has been shaped by three different factors:

a. The new common immunosuppression protocol for islet- and pancreas transplantation have been successfully implemented. As mentioned in the last report the protocol consists of an induction with thymoglobulin and a short prednisone therapy (4 days). The maintenance therapy consists of tacrolimus (Prograf) and myfortic (mycophenolic acid). As adjuvants in islet transplantation etanercept (Enbrel) and a GLP-1 receptor agonist (liraglutid) are used. The number of transplantations is not sufficient for a conclusive evaluation yet, though the function of the islet transplants appears to have significantly improved.
b. Zurich has recruited the first patient for the multicentric international islet transplant study (NN221-3619), which tests the effects of a GLP-1 therapy during the isolation of islets and post islet transplantation in patients with maintained renal function. In this study the induction therapy in islet transplantation by means of Alemtuzumab (Campath) is conducted for the first time in Switzerland. In January 2013 the rigid inclusion criteria have been somewhat loosened and revised in order to qualify and include more patients for the study in this year.
c. On November 4, 2012 after 88 simultaneous islet-kidney- and islet-after-kidney transplantations **the first islet transplant alone** has been conducted in Zurich in a female patient, who has suffered more than 60 severe hypoglycaemias during the past 3 years even under insulin pump therapy and continuous glucose measurement. HbA1c could be reduced from 8.8% to 6.1% and the insulin supply to 10 E per day. So far no further hypoglycaemias have occurred and on February 12, 2013, another islet transplantation could be performed, whereupon the patient was supposed to become insulin-independent.

With regard to research the plates developed by us for the culture of pseudoislets laminated with nanoparticles could be tested for the first time also in pig islets. With the production of these small pseudoislets by means of the plates the survival of islets in pig liver ought to be improved (common project with the University of Dresden (Dr. B. Armann / Prof. St. Bornstein).

As an expression of the regression of multiorgan donors in 2012 from 99 to 89 in Switzerland and a tendency toward marginal donors for islet transplantation only 6 islet transplantations have been performed. The number of pancreas- and islet transplantations in Switzerland was 29, of which more than 50% have been conducted in Zurich. Islet transplantations split as follows among the different categories: one simultaneous islet-kidney transplantation and autotransplantation, respectively, 3 islet-after-kidney transplantations and the first islet transplantation alone. We are planning to amplify the programme for autotransplantation of islets and to better communicate it in external hospitals.
Hence the Zurich islet transplantation programme since the year 2000 comprises 89 islet transplantations in 37 patients. Of all these patients 33 had a C-peptide production up to 13 years after the first transplantation. The subsequent figure shows the **long term results with regard to glycaemic control** (HbA1c) of all patients **over the last 10 years** *(Fig. 9)*.

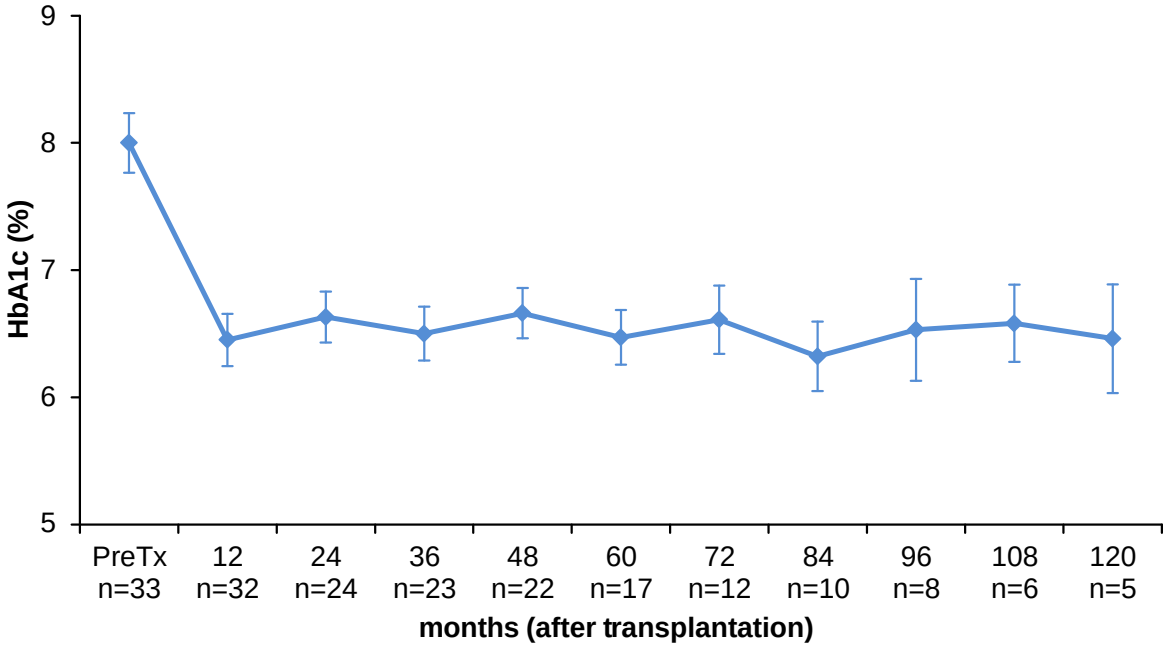


Fig. 9: Long term results of islet transplantation and glycaemic control, respectively, over the last 10 years

The interdisciplinary collaboration with the Clinic of Visceral Surgery under the guidance of PD Dr. J. Brockmann and the Clinic of Nephrology under the guidance of Prof. Th. Fehr / Prof. R. Wüthrich with respect to the care of islet- or pancreas- and kidney transplantations works extremely well. All patients are discussed and the indication for pancreas- or islet transplantation is decided jointly with the patient. The islet transplantation team has been expanded by the appointment of an additional senior physician (Dr. Ph. Gerber) who is in charge of transplantation and patient care.

5.9. Small bowel transplantation

Jens Brockmann – Visceral surgery

No small bowel- or multivisceral transplantation has been performed at the USZ in the year 2012. 2 patients have been evaluated with respect to small bowel transplantation alone in short-bowel syndrome and are awaiting their transplantation.

Since the end of 2012 Dr. Christoph Gubler completes the transplantation board on the part of gastroenterology as representative of small bowel and multivisceral transplantation.

6. Attachments

6.1. Staff of the Transplant Centre

	Direktorium	Kuratorium
Head	**Coordinator** Prof. Thomas Fehr	**Chairman** Prof. Pierre-Alain Clavien
Heart	Prof. Frank Ruschitzka PD Dr. Markus Wilhelm	Prof. Thomas Lüscher Prof. Volkmar Falk
Lung	Dr. Macé Schuurmans PD Dr. Sven Hillinger	Prof. Annette Boehler Prof. Walter Weder
Liver	*New: Prof. Beat Müllhaupt a.i. (from 01-01-2012)*	Prof. Beat Müllhaupt Prof. Pierre-Alain Clavien
Kidney	Prof. Thomas Fehr PD Dr. Marc Schiesser	Prof. Rudolf Wüthrich Prof. Pierre-Alain Clavien
Pancreas and islet cells	Prof. Roger Lehmann PD Dr. Jens Brockmann	Prof. Giatgen Spinas Prof. Pierre-Alain Clavien
Small bowel- and multi-visceral transplantation *(new from 10-01-2012!)*	PD Dr. Jens Brockmann Dr. Christoph Gubler	Prof. Pierre-Alain Clavien
Stem cells	PD Dr. Urs Schanz PD Dr. Frank Stenner (till 04-31-2012), *new: Dr. Panagotios Samaras (from 05-01-2012)*	Prof. Markus Manz Prof. Christoph Renner (till 11-30-2012), *end of 2012: vacant*
Consultant services	Prof. Nicolas Müller, Infectious diseases PD Dr. Günther Hofbauer, Dermatology PD Dr. Josef Jenewein, Psychiatry	PD Dr. Urs Schwarz
Anaesthesiology	Prof. Marco Zalunardo	Prof. Donath R. Spahn
Care	Béatrice Biotti	Prof. Regula Spirig
Intensive care medicine	PD Dr. Markus Béchir	
Transplant coordination	Werner Naumer	
Research	Prof. Rolf Graf	
Data manager	Uschi Schäfer	
Clinical manager	Andreas Käser	
Dean		Prof. Klaus Wilhelm Grätz

	International Advisory Board
Heart	Prof. Ernst Wolner, Vienna, Austria
Lung	Prof. Dirk van Raemdonck, Leuven, Belgium
Liver	Prof. Xavier Rogiers, Ghent, Belgium
Kidney	Prof. Ulrich Frei, Berlin, Germany
Pancreas and islet cells	Prof. Peter Friend, Oxford, Great Britain
Stem cells	Prof. Bob Lowenberg, CA Rotterdam ZH, Netherlands
Anaesthesiology and intensive care medicine	Prof. Christian Putensen, Bonn, Germany

		Advisory Board of the Transplant Centre
Bellinzona	Ospedale San Giovanni	Prof. Dr. med. Claudio Marone
Chur	Kantonsspital	Dr. med. Walter Brunner
Chur	Kantonsspital	PD Dr. med. Adrian Wäckerlin
Faltigberg-Wald	Züricher Höhenklinik Wald	PD Dr. med. Matthias Hermann
Frauenfeld	Kantonsspital	Dr. med. Markus Hugentobler
Gais	Klinik Gais AG	Dr. med. Angelika Bernardo
Lachen	Spital	Dr. med. Andreas Hirlinger
Luzern	Kantonsspital	Dr. med. Pablo Muñoz
Münsterlingen	Kantonsspital	PD Dr. med. Thomas Neff
Seewis	Rehabilitationszentrum	Dr. med. Willhard Kottmann
St. Gallen	Kantonsspital	Dr. Dr. med. David Semela
Uster	Spital Uster	Dr. med. Christian Trachsel
Winterthur	Kantonsspital	Dr. med. Thomas Kistler
Zollikerberg	Spital Zollikerberg	Dr. med. Jörg Bleisch
Zürich	Kinderspital	Prof. Dr. med. Bernhard Frey
Zürich	Stadtspital Waid	Prof. Dr. med. Patrice Ambühl

6.2. List of network hospitals

GZO Spital Wetzikon
Hirslanden Klinik Aarau
Kantonsspital Chur
Kantonsspital Frauenfeld
Kantonsspital Glarus
Kantonsspital Münsterlingen
Kantonsspital Schaffhausen
Kantonsspital Winterthur
Kantonsspital Zug
Kinderspital Zürich
Klinik Hirslanden Zürich
Klinik im Park
Kreisspital Männedorf
Spital Bülach
Spital Lachen
Spital Limmattal
Spital Luzern
Spital Schwyz
Spital Uster
Spital Zimmerberg
Spital Zollikerberg
Stadtspital Waid
Stadtspital Triemli

6.3. Transplantation activities 2008 – 2012

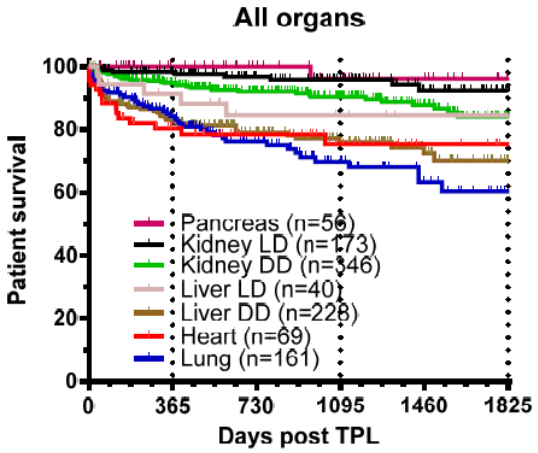
Organ	2008	2009	2010	2011	2012
Heart total	**9**	**9**	**12**	**14**	**11**
- Heart and kidney	1	0	0	0	0
Lung total	**25**	**26**	**26**	**30**	**33**
thereof DCD	0	0	0	0	2
Leber total	**28**	**50**	**45**	**47**	**43**
- NHBD single-liver	23	44	41	39	39
thereof DCD	*0*	*0*	*0*	*1*	*3*
- Living donor liver	4	4	2	7	4
- Liver and kidney	1	2	2	1	0
Kidney total	**83**	**85**	**88**	**100**	**80**
- NHBD single-kidney	42	47	44	57	47
thereof DCD	*0*	*0*	*0*	*6*	*9*
- Living donor kidney	29	29	30	32	22
- Kidney and pancreas	10	7	9	9	10
- Kidney and islet cells	0	0	3	1	1
- Kidney and heart	1	0	0	0	0
- Kidney and liver	1	2	2	1	0
Pancreas total	**10**	**7**	**9**	**11**	**12**
- Pancreas alone	0	0	0	1	2
- Pancreas and kidney	10	7	9	9	10
- Pancreas / small bowel (multivisceral)	0	0	0	1	0
Inseln total	**7**	**5**	**9**	**6**	**5**
- Islet cells alone	7	5	6	5	4
- Islet cells and kidney	0	0	3	1	1
Small bowel / multivisceral	**0**	**0**	**0**	**1**	**0**
Stem cells total	**-**	**-**	**119**	**148**	**128**
- autologous	(not at TPLZ)	(not at TPLZ)	65	96	77
- allogeneic	36	34	54	52	51

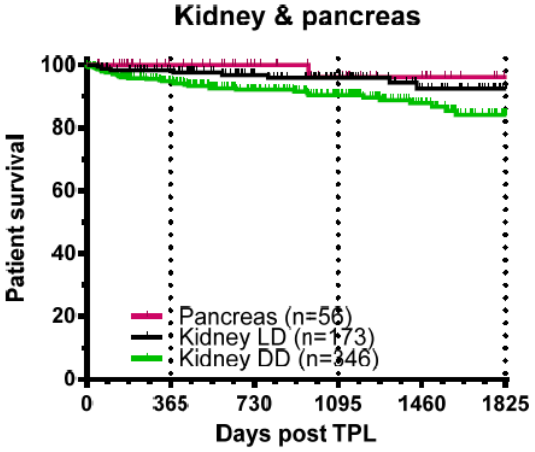
Multi-organ donations at the USZ	2008	2009	2010	2011	2012
Donors from USZ	8	2	7	5	12
- thereof DCD	*0*	*0*	*0*	*3*	*6*
Spender aus ZH Netzwerk	7	10	3	7	7
Total donors USZ plus network	**15**	**12**	**10**	**12**	**19**

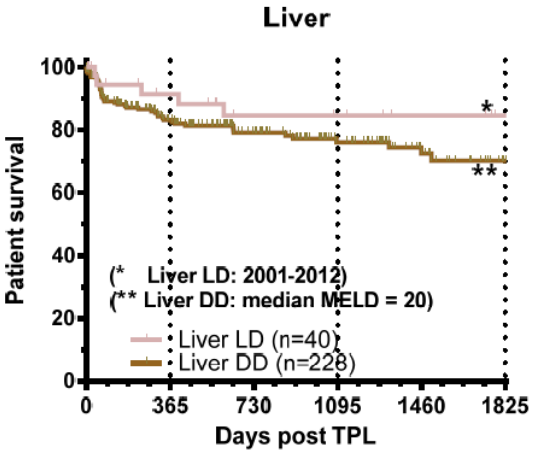
6.4. Outcome 2007- 2012

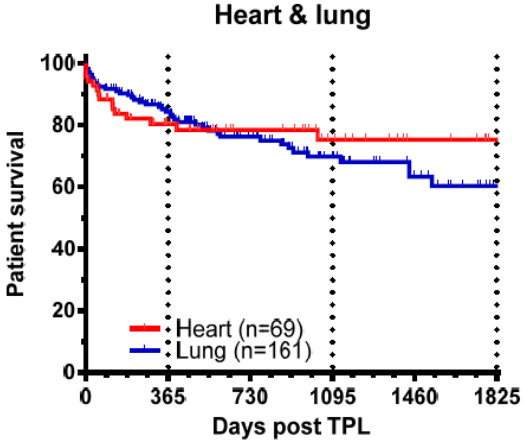
Thomas Fehr and Uschi Schäfer

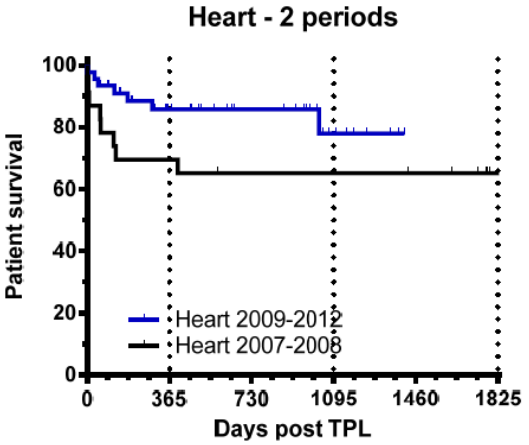
6.4.1. Patient survival



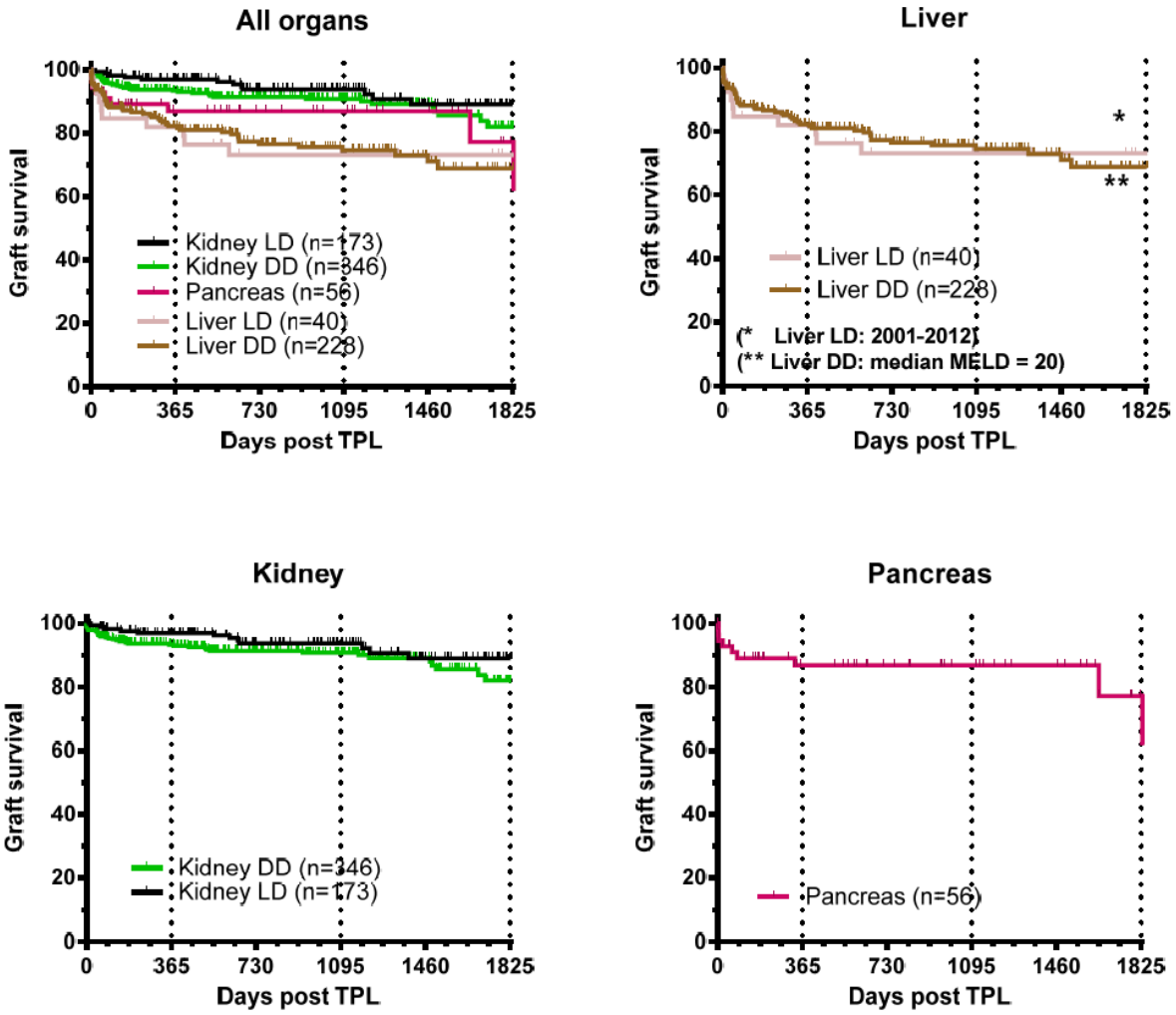








6.4.2. Graft survival (death-censored)



6.4.3. KM estimates for 1-, 3- and 5-year survival

Kaplan Meier Survival Proportions 2007-2012

Organ	Patient survival			Death-censored graft survival		
	1 year	3 years	5 years	1 year	3 years	5 years
Heart	80.40%	75.30%	75.30%			
Lung	84.30%	69.80%	60.40%			
Liver LD	91.40%	84.60%	84.80%	82.00%	73.20%	73.20%
Liver DD *	83.20%	76.10%	70.20%	82.20%	74.50%	68.90%
Kidney LD	98.20%	95.90%	92.30%	97.00%	93.80%	89.10%
Kidney DD	94.80%	90.40%	84.10%	93.40%	90.80%	82.10%
Pancreas	100.00%	96.20%	96.20%	86.90%	86.90%	77.30%

* Der mediane lab MELD score im Beobachtungszeitraum betrug ?.
DD = deceased donor, LD = living donor

* The median lab MELD score within the period of observation was?

6.5. International Advisory Board (IAB) Meeting 2012

Thomas Fehr – coordinator TPLZ

In preparation of the 6th international autumn symposium on November 16th, 2012, a meeting of the International advisory board of our centre took place at Restaurant Palmhof in Zurich.The subsequent members were present:

- *on behalf of IAB:* Pieter Friend, Christian Putensen, Dirk van Raemdonck, Ernst Wolner (excused: Ulrich Frei, Bob Löwenberg, Xavier Rogiers)
- *on behalf of TPLZ:* Thomas Fehr (coordinator TPLZ), Annette Boehler, Philipp Dutkowski (representative of P.A. Clavien), Volkmar Falk, Klaus Wilhelm Grätz (dean), Thomas Lüscher, Markus Manz, Beat Müllhaupt, Giatgen Spinas, Walter Weder, Bastian Grande

As an introduction Thomas Fehr (coordinator TPLZ) presented the events, numbers and facts of the year 2012 as starting point for discussion. The ensuing discussion was led by Walter Weder. The following subjects were addressed:

Organ donation

The activities of the TPLZ in the field of DCD transplantation as well as the reorganization of the transplant medicine with complete separation of the organ donation network from the transplantation centre are positively noted by everyone present. It is to be hoped that the increase of the number of multiorgan donors in the Zurich organ donation network observed in the second term of 2012 will continue in 2013. The absolute number is still low.

The recently concluded SwissPOD study on the examination of deaths in all accredited intensive care units of Switzerland with regard to potential organ donors is discussed briefly. The results are expected for the beginning of 2013.

Some central items regarding the promotion of organ donation are again mentioned:

- E. Wolner and D. van Raemdonck emphasize that the local ICU's have to be adequately remunerated for their work!
- C. Putensen points out that it is indispensable that a study analogous to the SwissPOD, i.e. a continuous monitoring, be continued in order to maintain a certain pressure on behalf of the political authorities, namely on a local, but even better on a national level.
- A. Boehler mentions that this monitoring should absolutely include the emergency units to a greater extent.
- E. Wolner reminds that also the patient organizations ought to be included in the efforts around organ donation. When they become active they can deploy a great political impact, as is the case e.g. in Vienna.

The craniectomy policy in different hospitals is discussed briefly. Since it is relatively high at the USZ, the continuation of a DCD programme at the USZ is very important in order to being able to evaluate craniectomized potential donors with unfavourable diagnosis as organ donors

Heart transplantation

The upcoming determination regarding the heart transplant centre in Switzerland is mentioned again. E. Wolner emphasizes again – as in the last year - the criteria that will be crucial in this decision. It is not primarily the number of transplanted hearts (which is more or less equal in all 3 centres), but

- how well the HTPL programme is embedded into an integrated programme on the management of cardiac failure
- whether there is an active assist device programme maintained
- whether academic research is done in the field of HTPL

Wolner also points out that future annual reports should also contain the number of implanted assist devices and transplantations of such patients (heart, lung, liver).

V. Falk and T. Lüscher mention some progress which has been achieved in the course of the last years, namely:

- In the field of assist devices a strategic partnership with the ETH Zurich concerning the development of a new "artificial heart".
- In the field of implantation of ECMO's the Clinic of Cardiovascular Surgery has established a collaboration with REGA, where representatives of the clinic are flown out in order to implant ECMO's in peripheral locations in patients with cardiogenic shock and end stage lung disease. Afterwards these patients are preferentially referred to the USZ.
- In the field of clinical heart transplantation a prolongation of the waiting list that is not due to a modification of the listing criteria, but to increased referrals. Among other things a strategic partnership with the Cardiocentro in Lugano could be established.

Further transplantation programmes

- D. van Raemdonck inquires about activities in the field of tracheal transplantation in Zurich. In Leiden they have transplanted 6 patients, 4 of whom with success, 2 with graft failure due to rejection. The used technique consists in the forearm implantation of the trachea for revascularization during 2-3 weeks previous to orthotope transplantation. W. Weder replies that no such transplantations have been conducted in Zurich so far.
- D. van Raemdonck furthermore inquires about the ex vivo lung perfusion system used in Zurich. W. Weder replies that Zurich has developed its own system.
- P. Friend inquires whether and how the living liver programme will be continued in Zurich. P. Dutkowski answers that in the course of the last 12 years since the start 39 such transplantations have been conducted and that the living liver donation is primarily reserved to recipients who due to their medical situation have no realistic chance to obtain an organ within a reasonable period of time in the current allocation system. The programme is supposed to be continued as it is.
- M. Manz describes his evaluation concerning the further development of the stem cell programme. Due to the increasing indications for allogeneic and decreasing indications for autologous transplantation the numbers will increasingly shift in favour of the former. Moreover a new stem cell transplant ward is currently in projection.
- T. Fehr mentions that a project group for the implementation of composite tissue transplantation will be established in 2013. The leaders will be P. Giovanoli and J. Plock from the Clinic for Reconstructive Surgery; support will be provided by the TPLZ.

General subjects

- D. van Raemdonck inquires about the impact of the SwissDRG on transplantation in Switzerland. W. Weder replies that in the case of freshly transplanted a lump sum compensation system had already existed before and that therefore no drastic consequences have been realized.
- The subject "Generic Drugs" is briefly touched on. P. Friend reports that >90% of the patients in Oxford have been switched to tacrolimus without significant problems.

6.6. Scientific publications 2012

1. **Arnold AW, and Hofbauer GF**. Human papillomavirus and squamous cell cancer of the skin--epidermodysplasia verruciformis-associated human papillomavirus revisited. *Curr Probl Dermatol* 43: 49-56, 2012.
2. **Benden C**. Specific aspects of children and adolescents undergoing lung transplantation. *Curr Opin Organ Transplant* 17: 509-514, 2012.
3. **Benden C, Danziger-Isakov L, and Faro A**. New developments in treatment after lung transplantation. *Curr Pharm Des* 18: 737-746, 2012.
4. **Benden C, Edwards LB, Kucheryavaya AY, Christie JD, Dipchand AI, Dobbels F, Kirk R, Rahmel AO, Stehlik J, and Hertz MI**. The Registry of the International Society for Heart and Lung Transplantation: fifteenth pediatric lung and heart-lung transplantation report--2012. *J Heart Lung Transplant* 31: 1087-1095, 2012.
5. **Benden C, Ridout DA, Edwards LB, Boehler A, Christie JD, and Sweet SC**. Body mass index and its effect on outcome in children after lung transplantation. *J Heart Lung Transplant* 32: 196-201, 2013.
6. **Berger C, Boggian K, Cusini A, van Delden C, Garzoni C, Hirsch HH, Khanna N, Koller M, Manuel O, Meylan P, Nadal D, Weisser M, and Mueller NJ**. Relevance of cohort studies for the study of transplant infectious diseases. *Curr Opin Organ Transplant* 17: 581-585, 2012.
7. **Berger MD, Gerber B, Arn K, Senn O, Schanz U, and Stussi G**. Significant reduction of red blood cell transfusion requirements by changing from a double-unit to a single-unit transfusion policy in patients receiving intensive chemotherapy or stem cell transplantation. *Haematologica* 97: 116-122, 2012.
8. **Bettens F, Passweg J, Schanz U, Chalandon Y, Heim D, Gungor T, Stussi G, Nicoloso G, Baldomero H, Gratwohl A, and Tiercy JM**. Impact of HLA-DPB1 haplotypes on outcome of 10/10 matched unrelated hematopoietic stem cell donor transplants depends on MHC-linked microsatellite polymorphisms. *Biol Blood Marrow Transplant* 18: 608-616, 2012.
9. **Birrenbach T, Bertschy S, Aebersold F, Mueller NJ, Achermann Y, Muehlethaler K, and Zimmerli S**. Emergence of Blastoschizomyces capitatus yeast infections, Central Europe. *Emerg Infect Dis* 18: 98-101, 2012.
10. **Ceschi A, Rauber-Luthy C, Kupferschmidt H, Banner NR, Ansari M, Krahenbuhl S, and Taegtmeyer AB**. Acute calcineurin inhibitor overdose: analysis of cases reported to a national poison center between 1995 and 2011. *Am J Transplant* 13: 786-795, 2013.
11. **Chatzizacharias NA, Vaidya A, Sinha S, Sharples E, Smith R, Jones G, Brockmann J, and Friend PJ**. Risk analysis for deterioration of renal function after pancreas alone transplant. *Clin Transplant* 26: 387-392, 2012.
12. **Christie JD, Edwards LB, Kucheryavaya AY, Benden C, Dipchand AI, Dobbels F, Kirk R, Rahmel AO, Stehlik J, and Hertz MI**. The Registry of the International Society for Heart and Lung Transplantation: 29th adult lung and heart-lung transplant report-2012. *J Heart Lung Transplant* 31: 1073-1086, 2012.
13. **Cippa PE, Kraus AK, Lindenmeyer MT, Chen J, Guimezanes A, Bardwell PD, Wekerle T, Wuthrich RP, and Fehr T**. Resistance to ABT-737 in activated T lymphocytes: molecular mechanisms and reversibility by inhibition of the calcineurin-NFAT pathway. *Cell Death Dis* 3: e299, 2012.
14. **Clavien PA, Lesurtel M, Bossuyt PM, Gores GJ, Langer B, and Perrier A**. Recommendations for liver transplantation for hepatocellular carcinoma: an international consensus conference report. *Lancet Oncol* 13: e11-22, 2012.
15. **Danzer C, Eckhardt K, Schmidt A, Fankhauser N, Ribrioux S, Wollscheid B, Muller L, Schiess R, Zullig R, Lehmann R, Spinas G, Aebersold R, and Krek W**. Comprehensive description of the N-glycoproteome of mouse pancreatic beta-cells and human islets. *J Proteome Res* 11: 1598-1608, 2012.
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41. **Kempf W, Mertz KD, Kanitakis J, and Hofbauer GF**. Critical skin cancer in organ transplant recipients--a dermatopathological view. *Curr Probl Dermatol* 43: 18-35, 2012.
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50. **Melloul E, Raptis DA, Oberkofler CE, Dutkowski P, Lesurtel M, and Clavien PA**. Donor information for living donor liver transplantation: where can comprehensive information be found? *Liver Transpl* 18: 892-900, 2012.
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59. **Schemmer P, Lemasters JJ, and Clavien PA**. Ischemia/Reperfusion injury in liver surgery and transplantation. *HPB Surg* 2012: 453295, 2012.
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65. **Steiner UC, Trueb RM, Schad K, Kamarashev J, Koch S, French LE, and Hofbauer GF**. Trichophyton rubrum-induced Majocchi's Granuloma in a heart transplant recipient. A therapeutic challenge. *J Dermatol Case Rep* 6: 70-72, 2012.
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6.7. Transplantation awards 2012

On the occasion of the autumn symposium in November 2012 the awards of the Transplant Centre Zurich have been assigned for the third time.

TPLZ science award 2012
Dr. med. Kuno Lehmann, Clinic of Visceral and Transplant Surgery, for his work:
"Liver Failure after Extended Hepatectomy in Mice is Mediated by a p21-Dependent Barrier to Liver Regeneration" Gastroenterology. 2012 Dec;143(6): 1609-1619

TPLZ merit award 2012
Team of the HLA typing laboratory at the USZ

6.8. Continuing education programme 2012

6.8.1. Autumn Symposium 2012 „Improving long-term care for solid organ recipients"

6.8.2. Monthly seminar „Hot topics in transplantation" (TNT)

6.8.3. Symposium Clinical Ethics „Organ transplantation – who is allowed on the list?"

6.8.4. Symposium HLA laboratory „HLA-antibodies in solid organ transplantation"

6th Annual Symposium of the Transplant Centre Zurich "Improving long-term care for solid organ recipients"

Friday, November 16th, 2012, University Hospital Zurich, Grosser Hörsaal OST

UniversitätsSpital Zürich

Improving long-term care for solid organ recipients

from 12.15 ***Warm Lunch (Dick & Davy)***

13.30–13.40 **Welcome address**
Jürg Hodler, Zurich
Pierre-Alain Clavien, Zurich

13.40–14.00 **Transplant Centre Zurich: annual report**
Thomas Fehr, Zurich

Part I – Abdominal organs
Roger Lehmann and Christian Putensen

14.00–14.30 ***Kidney:* Recurrent primary glomerulonephritis post kidney transplantation – novel therapeutic options**
Claudio Ponticelli, Milano

14.30–15.00 ***Liver:* Long-term outcome of patients with chronic hepatitis C after liver transplantation**
Beat Müllhaupt, Zurich

15.00–15.30 ***Pancreas/Islets:* How to preserve long-term beta cell survival?**
Peter Friend, Oxford

15.30–16.00 ***Coffee break (Dick&Davy)***

16.00–16.10 **Awards Zurich Transplant Center**
Jens Brockmann, Zurich

Part II – Thoracic organs
Ernst Wolner and Dirk van Raemdonck

16.10–16.40 ***Heart:* Is heart transplantation challenged by modern ventricular assist devices?**
Markus Wilhelm, Zurich

16.40–17.10 ***Lung:* Hurdles in long-term survival after lung transplantation**
Annette Boehler, Zurich

Part III – Neoplastic complications
Günther Hofbauer and Nicolas Müller

17.10–17.40 ***Skin cancer:* Prevention of skin cancer in organ transplant recipients by mTOR inhibitors**
J.N. Bouwes Bavinck, Leiden

17.40–18.10 ***PTLD:* Post-transplant lymphoproliferative disorders – current management**
Michael Green, Pittsburgh

18.10–18.15 **Closing remarks**
Pierre-Alain Clavien, Zürich

from 18.15 ***Apéro (Dick&Davy)***

Speakers

Dr. Jan Nico Bouwes Bavinck
Division of Dermatology
University Medical Centre, Leiden

Prof. Annette Boehler
Division of Pulmonology
University Hospital Zurich

PD Dr. Jens Brockmann
Division of Visceral and
Transplantation Surgery
University Hospital Zurich

Prof. Thomas Fehr
Transplantation Centre Zurich
Division of Nephrology
University Hospital Zurich

Prof. Peter Friend
Director of the Oxford Transplant Centre
University Hospital Oxford
Member of International Advisory Board

Prof. Michael Green
Surgery & Clinical and Translational Science
University of Pittsburgh

Prof. Beat Müllhaupt
Division of Gastroenterology
and Hepatology
University Hospital Zurich

Prof. Claudio Ponticelli
Division of Nephrology
Humanitas Hospital Milano

PD Dr. Markus Wilhelm
Division of Cardiovascular Surgery
University Hospital Zurich

Chairmen

Prof. Pierre-Alain Clavien
Division of Visceral and Transplantation
Surgery
University Hospital Zürich

Prof. Jürg Hodler
Medical director
University Hospital Zurich

PD Dr. Günther Hofbauer
Division of Dermatology
University Hospital Zurich

Prof. Roger Lehmann
Division of Endocrinology and Diabetology
University Hospital Zurich

Prof. Nicolas Müller
Division of Infectious Diseases
University Hospital Zurich

Prof. Christian Putensen
Clinic for Anaesthesiology and Surgical
Intensive Care, Rheinische Friedrich
Wilhelms University, Bonn
Member of International Advisory Board

Prof. Dirk van Raemdonck
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University Hospital Gasthuisberg, Leuven
Member of International Advisory Board

Prof. em. Ernst Wolner
Division of Cardiothoracic Surgery
Vienna General Hospital
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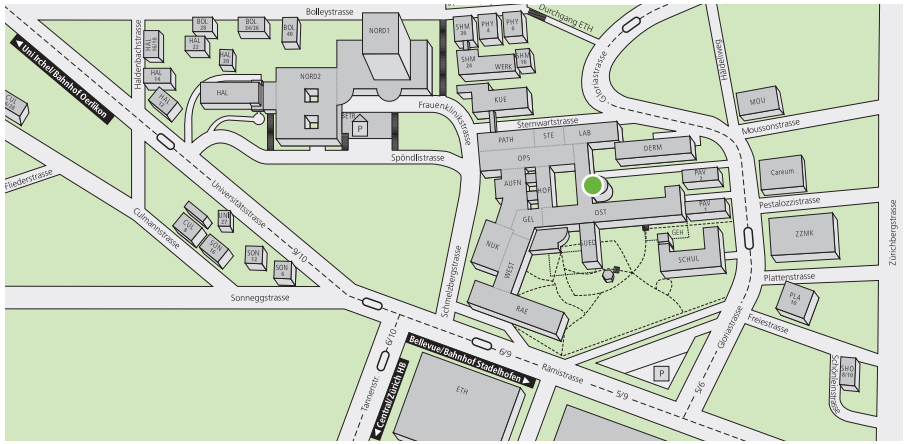
Location



Grosser Hörsaal Ost
University Hospital Zurich
Gloriastrasse 29
CH-8091 Zurich

Registration

Please e-mail your registration by Friday, November 2th 2012 to: kathrin.kocher@usz.ch

Credits

SGIM Swiss Society of Internal Medicine: 4.5 points
SGG Swiss Society of Gastroenterology: 4 points
SGC Swiss Society of Surgery: 4 points
SGED Swiss Society of Endocrinology: 3.5 points
SGMO Swiss Society of Oncology: 1 point
SGN Swiss Society of Nephrology: 4 points
SGINF Swiss Society for Infectious Diseases: 4 points
SGAR Swiss Society of Anesthesiology and Reanimation: 4.5 points
SGDV Swiss Society of Dermatology: 4 points
SGI Swiss Society of Intensive Care Medicine: 4 points

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TNT SEMINAR

Hot Topics in Transplantation

Vortrag 17.15 bis 18.00 Uhr
mit anschliessendem Apéro
Kleiner Hörsaal OST, B HOER 5

Datum	Topic	Thema	Referent	Affiliation	Host
30.01.2012 (Kleiner Hörsaal PATH C 22)	Herz	Ventricular assist device als Überbrückung zur Herztransplantation und immunsuppressive Strategien danach	**Hans Lehmkuhl**	Klinik für Herz, Thorax- und Gefässchirurgie, deutsches Herzzentrum Berlin	F. Ruschitzka
27.02.2012	Endokrinologie	Transplantation und Osteoporose	**Diana Frey**	Klinik für Rheumatologie, UniversitätsSpital Zürich	Th. Fehr
26.03.2012	Basic science	Transplantation Tolerance – translating findings from the bench to the bedside	**Kathryn Wood**	Transplantation Research Immunology Group, Nuffield Department of Surgical Sciences, University of Oxford	M. Schneider
23.04.2012	ICU / Niere / Leber / Lunge	DCD (non heart beating donor) Programm am USZ – Erfahrungen und Resultate nach 6 Monaten.	**J. Brockmann, M. Béchir, I. Inci, P. Dutkowski**	Transplantationszentrum, UniversitätsSpital Zürich	Th. Fehr
28.05.2012	-	Fällt aus (Pfingstmontag)	-	-	-
25.06.2012	Niere / Leber	Belatacept- a new immunosuppressive principle: the Vienna experience	**Thomas Wekerle**	Division of Transplantation, Dept. of Surgery, Medical University of Vienna	Th. Fehr
27.08.2012	Lunge	Non-heart beating donor lung transplantation	**Michiel Erasmus**	University of Groningen, Netherlands	S. Hillinger
24.09.2012	Psychosoziale Medizin	Sleep quality, sleepiness and sleep disorders in renal transplant recipients: Time to wake up!	**Hanna Burkhalter**	Institute of Nursing Science, University of Basel	N. Müller
29.10.2012	Stammzellen	Der Stellenwert der Photopherese in der Behandlung der Graft-versus-Host Erkrankung	**Hildegard Greinix**	Knochenmarktransplantation, Medizinische Universität Wien	U. Schanz
26.11.2012	Pankreas / Inseln	Islet Transplantation Update 2012: Present and future strategies	**Thierry Berney**	Divisions of Visceral Surgery and Transplantation, Hôpitaux Universitaries de Genève	R. Lehmann

UniversitätsSpital Zürich **Transplantationszentrum**

Organisation: Prof. Thomas Fehr
PD Dr. Sven Hillinger
Prof. R. Lehmann
PD Dr. Nicolas Müller
PD Dr. Urs Schanz
PD Dr. Marc Schiesser
Dr. Mårten Schneider

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Organtransplantation –
Wer darf auf die Liste?

Einladung zum Symposium des Klinischen Ethikkomitees und des Transplantationszentrums am UniversitätsSpital Zürich

19. April 2012, 14.00 Uhr, UniversitätsSpital Zürich

UniversitätsSpital
Zürich

Sehr geehrte Damen und Herren

Weltweit – so auch in der Schweiz – warten sehr viele Patientinnen und Patienten auf ein lebensrettendes Organ. Umso wichtiger ist es, dass mit den wenigen vorhandenen Organen gerecht umgegangen wird.

Aber wer darf auf die Transplantationsliste? Die Patienten, bei denen eine Transplantation medizinisch am dringlichsten ist? Oder diejenigen, bei denen eine Transplantation den grössten medizinischen Nutzen verspricht? Und was heisst es dabei, nicht gegen Patienten zu diskriminieren?

Bei psychiatrischen Patientinnen und Patienten können sich diese Fragen mit besonderer Schärfe stellen. Zum Beispiel dann, wenn ein Patient aufgrund eines wiederholten Suizidversuchs besonders dringlich eine Leber braucht, aber unklar ist, wie der langfristige Transplantationserfolg sein wird. Welchen medizinischen Nutzen hat in dieser Situation die Transplantation für den Patienten? Und ist es diskriminierend, aufgrund eines psychiatrisch oder psycho-sozial bedingten geringeren Nutzens von einer Listung des Patienten abzusehen?

Mit dem Symposium «Organtransplantation – Wer darf auf die Liste? Psychiatrische und ethische Aspekte» möchten wir Ihnen die Möglichkeit geben, an der Diskussion um diese Fragen teilzunehmen.

Wir freuen uns auf Ihr Kommen.

Eine Anmeldung ist nicht notwendig.

Herzliche Grüsse

PD Dr. Tanja Krones
Klinische Ethik

Prof. Thomas Fehr
Transplantationszentrum

Organtransplantation – Wer darf auf die Liste? Psychiatrische und ethische Aspekte

Datum: 19. April 2012
Zeit: 14.00–17.00 Uhr mit anschliessendem Apéro
Ort: Hörsaal WEST, UniversitätsSpital Zürich

Programm

14.00–14.10 Uhr	**Begrüssung** Lars French und Thomas Fehr
14.10–14.30 Uhr	**Fallvorstellung: Lebertransplantation bei wiederholtem Suizid?** Philipp Dutkowski
14.30–15.00 Uhr	**Psychiatrische und psycho-soziale Aspekte bei der Listung zur Transplantation** Angela Brucher
15.00–15.30 Uhr	**Rechtliche Situation in der Schweiz** Bernhard Rütsche
15.30–15.45 Uhr	**Kaffeepause**
15.45–16.15 Uhr	**Ethische Perspektiven** Tanja Krones
16.15–17.00 Uhr	**Roundtable-Diskussion** Angela Brucher, Philipp Dutkowski, Thomas Fehr, Lars French, Franz Immer, Tanja Krones, Susanne Nyfeler, Bernhard Rütsche, Michelle Salathé
17.00 Uhr	**Apéro**

Moderation: Annette Rid
Credits: beantragt bei SGN, SGPP, SGIM und SGC

Beitragende

Dr. med. Angela Brucher
Oberärztin, Klinik für Psychiatrie und Psychotherapie, UniversitätsSpital Zürich

Prof. Dr. med. Philipp Dutkowski
Leitender Arzt und Teamleiter Lebertransplantation, Klinik für Viszeral- und Transplantationschirurgie
UniversitätsSpital Zürich

Prof. Dr. med. Thomas Fehr
Leitender Arzt, Klinik für Nephrologie und Koordinator des Transplantationszentrums, UniversitätsSpital Zürich

Prof. Dr. med. Lars French
Direktor der Dermatologischen Klinik und Präsident des Klinischen Ethikkomitees, UniversitätsSpital Zürich

PD Dr. med. Franz Immer
Facharzt für Herzchirurgie und CEO Swisstransplant

PD Dr. med. Tanja Krones Dipl. Soz.
Leitende Ärztin Klinische Ethik und Geschäftsführerin des Klinischen Ethikkomitees, UniversitätsSpital Zürich

Susanne Nyfeler PhD, MBA
Co-Sektionsleiterin Transplantation und Fortpflanzungsmedizin Bundesamt für Gesundheit

Prof. Dr. iur. Bernhard Rütsche
Ordinarius für Öffentliches Recht und Rechtsphilosophie, Universität Luzern

Dr. med. Annette Rid
Oberassistentin am Institut für Biomedizinische Ethik, Universität Zürich, und Assistenzärztin Klinische Ethik UniversitätsSpital Zürich

Lic. iur. Michelle Salathé, MAE
Leiterin des Ressorts Ethik und Stellvertretende Generalsekretärin Schweizerische Akademie der Medizinischen Wissenschaften

Veranstaltungsort

UniversitätsSpital Zürich
Hörsaal WEST
(Bitte Ausschilderung ab Haupteingang Rämistrasse 100, Zürich beachten)

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UniversitätsSpital Zürich

Symposium of the HLA Laboratory and Transplant Centre Zurich
"HLA antibodies in solid organ transplantation"

Thursday, May 10th 2012, 09.15–17.15,
University Hospital Zurich, Kleiner Hörsaal OST

UniversitätsSpital
Zürich

Dear Colleagues,

In recent years re-transplantation has become common practice in solid organ transplantation not only for kidney, but also for liver, lung, pancreas, intestine and heart recipients. Therefore, HLA sensitization has become an increasing problem in the field of solid organ transplantation. The advent of novel solid phase assays allows precise determination of the specificity and strength of a given antibody. This in turn has led to a number of studies on pre- and post-transplant risk assessment in solid organ recipients providing guidance for immunosuppressive management.

In the first part of this symposium, we will discuss the role of HLA-C, -DP and MICA in solid organ transplantation and thereafter, address which antibodies and which MFI levels are relevant for clinicians. Technical problems such as the impact of the prozone effect and novel assays such as C1q binding will be highlighted. During the afternoon, we will focus on HLA antibody testing in kidney, pancreas, heart and multi-visceral transplantation.

Once again, this year will be another important one for the Zurich HLA Laboratory. In 2011 we were able to move the lab into a totally refurbished setting. The new rooms fulfil all technical criteria for EFI accreditation, which we applied for in 2012. We are confident that this symposium will highlight these important advancements. We are looking forward to welcome you as our guest on May 10th in Zurich.

With kind regards,

Thomas Fehr Urs Schanz Jens Brockmann Barbara Rüsi

Part I – Technical aspects of HLA antibody testing

Chair: Jean-Marie Tiercy, Geneva

09.15–09.55	**HLA-C, -DP and MICA in organ transplantation** Joannis Mytilineos, Ulm
09.55–10.35	**The prozone effect in HLA antibody testing and other interference factors** Nils Lachmann, Berlin
10.35–11.00	***Coffee break (Dick&Davy)***
11.00–11.45	**What determines pathogenicity of an HLA antibody: MFI? C1q binding? Affinity?** Peter Brescia, Los Angeles
11.45–12.15	**EFI accreditation: critical issues** Jean-Marie Tiercy, Geneva
12.15–13.30	***Lunch (Dick&Davy)*** *(In parallel: HLA Lab visit for interested participants)*

Part II – Clinical implications of HLA antibody testing

HLA antibodies in kidney transplantation

Chair: Thomas Fehr, Zurich

13.30–14.00	**Pre-transplant risk assessment for kidney allocation: the Swiss cPRA project** Jean Villard, Geneva
14.00–14.30	**Is there a role for HLA antibody monitoring post kidney transplantation?** Stefan Schaub, Basel

HLA antibodies in other solid organ transplants

Chair: Jens Brockmann, Zurich

14.30–15.00	**Heart transplantation** Thomas Fehr, Zurich
15.00–15.30	***Coffee break (Dick&Davy)***
15.30–16.00	**Liver transplantation** Philipp Dutkowski, Zurich
16.00–16.30	**Pancreas/islet transplantation** Diego Cantarovich, Nantes
16.30–17.00	**Small bowel/multivisceral transplantation** Andreas Pascher, Berlin
17.00–17.15	**Closing remarks** Thomas Fehr, Zurich
17.15	***Apéro***

Speakers and Chairmen

Peter Brescia
International Division Manager One Lambda
Canoga Park CA

PD Dr. Jens Brockmann
Division of Visceral and Transplant Surgery
University Hospital Zurich

Prof. Dr. Diego Cantarovich
Division of Transplantation
University Hospital Nantes

Prof. Philipp Dutkowski
Division of Visceral and Transplant Surgery
University Hospital Zurich

Prof. Thomas Fehr
Transplantat Centre Zurich
Division of Nephrology
University Hospital Zurich

Nils Lachmann
Scientific advisor BmT GmbH
Meerbusch-Osterath

PD Dr. Joannis Mytilineos
Division for Clinical Transfusion Medicine
and Immunogenetics
University Hospital Ulm

PD Dr. Andreas Pascher
Division of Visceral and Transplant Surgery
Charité – University Hospital Berlin

PD Dr. Stefan Schaub
Division of Transplant Immunology
and Nephrology
University Hospital Basel

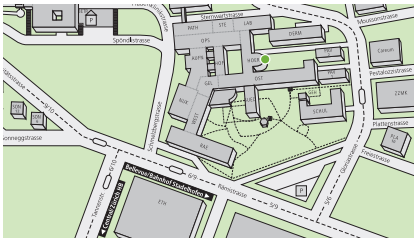
PD Dr. Jean-Marie Tiercy
National Histocompatibility Reference
Laboratory
University Hospital Geneva

PD Dr. Jean Villard
Immunology and Transplantation Unit
University Hospital Geneva

Credits: requested by SGN, SGIM, SGC,
SGH and SGA

Location

University Hospital Zurich
Kleiner Hörsaal OST B
(Please note the signposting)



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