Introduction

You have here the fifth newsletter with information from Scandiatransplant office. In this issue we proudly present a great amount of new features and improvements concerning the tissue typing and STAMP facilities in the system. The developments are mainly based on wishes from the Tissue Tyers Meeting 2011 in Göteborg and a meeting with part of the STAMP steering committee in Århus.


Remember to notify us if you wish to have relevant courses displayed on the web page.

Purpose

By this information letter we wish to communicate to you about the office status and progress within the system, collaboration with groups related to Scandiatransplant and ongoing working projects.
We hope that you will read it and share the information with whom it might concern.
As always please do not hesitate to contact us for further information, ideas, problems and help.

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1. Local Acceptable Mismatches Program (LAMP)

LAMP is a new option for patients not fulfilling the criteria for inclusion on STAMP. LAMP gives the local transplantation center an improved facility to help finding a local donor due to defined acceptable mismatches. The centers decide themselves which patients and how many should be included on LAMP. The program does not result in any exchange obligation between centers.

The procedure for inclusion of patients to LAMP is described step by step in http://www.scandiatransplant.org/members/stamp/STAMP_meeting_Sep_2011_minutes.pdf/at_download/file

In short:

1. You go to the main 'STAMP - Acceptable Mismatches Programme' menu.

2. In menu 'STAMP/LAMP pre transplantation' enter "Date of accept" and press <F10>. You will now be able to find the record in the menu 'Patients being prepared for STAMP/LAMP'.

3. Methods of determination, acceptable mismatches and comments are registered the same way as for STAMP patients.

4. When sufficient data has been entered you activate the patient on LAMP by changing "Status" from I = Inactive to L = Local programme. The patient is now on LAMP. All LAMP patients are found in the menu 'Patients on LAMP (local programme)'.

5. At recipient search the HLA matches of a LAMP patient will be calculated using the methods for STAMP patients (but will not result in exchange obligation).

6. In the search selection screen a new line has been added.
7. If a match is found for a LAMP patient it will appear on the search result list (marked with an L to the left) depending on search selections.

Please note that no matter what STAMP status a patient has it can always become a LAMP patient. LAMP is an alternative to STAMP.

2. New features concerning STAMP

2.1 Quality control - missing Ab screen
In STAMP guidelines it is stated that 'Recipients in the program must be regularly screened at least every 3 months'.
In the main STAMP menu you will find the new quality control menu 'STAMP patients with PRA older than 3 months'. By entering this menu you will get a display of all patients on STAMP from whom a screen test has not been registered in 3 months.

2.2. Causes of temporary withdrawal
After acceptance it is for varying reasons sometimes necessary to temporarily withdraw a patient from STAMP. The status on the patient's STAMP record will in these cases be changed from Active to Inactive by the center.
When this happens a forced pop up will appear, where the cause of withdrawal should be registered. By pressing >F5<, in the pop up, a list of values will be displayed and the suitable cause(s) of withdrawal can be chosen.

Causes of temporary withdrawal from STAMP
- Positive crossmatch: HLA typing and antibody specification needed
- Further HLA typing required
- Further antibody specification required
- Other, not specified cause

The temporary withdrawal causes are only shown in STAMP extractions.

2.3 Causes of permanent withdrawal
Patients no longer eligible for STAMP, must be permanently withdrawn from STAMP.
You will find the facility for taking patients permanent off STAMP in the bottom of the screen.

Place the cursor in the field 'Permanent withdrawal' and press >F7< followed by >F5< to choose between permanent withdrawal causes.

Causes of permanent withdrawal
- In preparation, does not meet STAMP criteria
- Re-evaluated, does not meet STAMP criteria
- Not accepted on STAMP
- PRA testing not provided according to rules
- Persistent positive cross match
- New HLA antibodies / acceptable mismatches cannot be defined
- Other cause

Important: Permanent withdrawal is PERMANENT withdrawal, there is no way back.

A new menu has been added 'Patients permanently withdrawn from STAMP',

### STAMP – ACCEPTABLE MISMATCHES PROGRAMME

<table>
<thead>
<tr>
<th>Scandia Number</th>
<th>Pers Num</th>
<th>Sex F Female</th>
<th>ABO A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tx Center</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR Aarhus</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date of w influx</th>
<th>dial/Tr cn AB Aalborg</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-JAN-1999</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blood group A2</th>
<th>B1</th>
<th>B2</th>
<th>C2</th>
<th>DRI</th>
<th>E1</th>
<th>E2</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most recent PRA 1</th>
<th>13-DEC-2010</th>
<th>K</th>
<th>94</th>
<th>CDC</th>
<th>LUNI</th>
<th>TI</th>
<th>54</th>
<th>CDC</th>
<th>LUNI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most recent PRA 2</td>
<td>29-SEP-2010</td>
<td>K</td>
<td>94</td>
<td>CDC</td>
<td>LUNI</td>
<td>TI</td>
<td>56</td>
<td>CDC</td>
<td>LUNI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date of accept</th>
<th>Sign up Y Yes Status A Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>23-AUG-2010</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methods of dettern</th>
<th>Acc. mismatches</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDC</td>
<td>LUNI</td>
</tr>
<tr>
<td>ABO</td>
<td>B73, B81, DQ2, 4, 5, 7, DR3, 4, 8, 11, 13, 14, 15, 18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comments STAMP check</th>
<th>Event log</th>
<th>Score change</th>
<th>Permanent withdrawal</th>
<th>Date/Use of First Reg/Last Change 23-AUG-2010</th>
<th>ARPK</th>
<th>23-AUG-2010</th>
</tr>
</thead>
</table>

Count: 1

<Replace>
were all permanent withdrawals of STAMP records are displayed.

### 2.4. Quality control – STAMP criteria check

Now available at any time in the STAMP process, both before and after acceptance, is a possibility to check if all STAMP acceptance criteria, as described in the STAMP guidelines, are fulfilled. The evaluation facility is found in the bottom left screen.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wait time &gt; 1 yr or child</td>
<td>The total waiting time on kidney waiting list and present age on the patient is calculated. Total waiting time on kidney waiting list must be more than one year. (Excepted are children they do not have to wait one year on kidney waiting list before acceptance).</td>
</tr>
<tr>
<td>2. HI PRA &gt;= 80% at present</td>
<td>Defines if the patient is highly immunized (PRA ≥ 80%) in last registered antibody screen test</td>
</tr>
<tr>
<td>3. Most recent PRA &lt; 3 months</td>
<td>Checks if the last registered antibody screen test is done within the last 3 months</td>
</tr>
<tr>
<td>4. HI &gt;= x2 &gt; 3 months</td>
<td>Identifies if highly immunized test result is identified in two consecutive samples over a period of more than 3 months.</td>
</tr>
<tr>
<td>5. A,B,DR,DQ splits</td>
<td>A check is done weather the recipient HLA-antigens are assigned at split level.</td>
</tr>
</tbody>
</table>
A '*' in front of an allele indicates that the assigned HLA type contains a broad type which is serological typed. A '!' in front of an allele indicates that the problematic broad type is genomic typed.

6 Acc. mm. Splits
Checks if all acceptable mismatches are registered as splits

7 Id. antib. Splits
Checks if all identified antibodies are registered as splits

8 Patient DQ in Acc. mm.
Checks if patients own DQ is entered as acceptable mismatch.

9 No identif. AB in Acc. mm.
Compares one to one if any identified antibodies by mistake are given as acceptable mismatches.

Example of a STAMP record check; to the right it is stated if every single criteria is accepted or not. The conclusion of this check is that:

- a new sample needs to be antibody screen tested (and the result entered into Scandiatransplant)
- a broad type DR3 is given as an acceptable mismatch this indicates that it is necessary also to check if DR17 and DR18 are given as acceptable mismatches.

The STAMP check is a quality control and is meant as a help, it does not inflict with the activation of patients to STAMP.

In the cases where an email is sent to the steering committee, the results of the STAMP check will automatically be included in the message.
3. New features concerning identified antibodies

3.1. Donor specific antibodies (DSA) in search
Results of deceased donor search for best matching kidney patients will now also contain DSA.

<table>
<thead>
<tr>
<th>PRI Scandia Surname</th>
<th>AE Ag UT TX IM AB DR EP DSA CH HBS TX SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>0 e NO ST MM MM MM MM MM MM MM MM MM MM MM</td>
</tr>
<tr>
<td></td>
<td>V V Ag CH RC</td>
</tr>
<tr>
<td></td>
<td>0 46 41 4 3 3 3 0 *</td>
</tr>
<tr>
<td></td>
<td>0 48 43 3 3 3 3 0 *</td>
</tr>
<tr>
<td></td>
<td>0 52 44 3 3 3 3 0 *</td>
</tr>
<tr>
<td></td>
<td>0 56 43 1 3 3 3 0 *</td>
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<tr>
<td></td>
<td>0 64 42 1 3 3 3 0 *</td>
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<tr>
<td></td>
<td>0 57 42 1 3 3 3 0 *</td>
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<tr>
<td></td>
<td>0 78 23 1 3 3 3 0 *</td>
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<tr>
<td></td>
<td>0 78 23 1 3 3 3 0 *</td>
</tr>
<tr>
<td></td>
<td>0 85 17 1 3 3 3 0 *</td>
</tr>
<tr>
<td></td>
<td>0 85 17 1 3 3 3 0 *</td>
</tr>
</tbody>
</table>

When a patient in the DSA column is marked */(*) press >F5< to view DSA along with repeated mismatches.

'*' in DSA column indicates that the this patient at the moment has important antibodies against donor that needs to be taken into account. In the ex. below B5 needs to be taken into account A1 does not.
"(*)" in DSA column indicates that all of the donor specific antibodies no longer are of clinical relevance.

Please note this is a one to one comparison be aware of identified antibodies (or search HLA) given as broad types.

3.2 Inactivating identified antibodies
When an identified antibody no longer should be taken into account it is now possible to inactivate it instead of deleting. After inactivation it will be displayed in brackets in the summary and in case of DSA in kidney patient search.

Enter the menu 'Updating Of Waiting List Data', make a query on the specific patient and enter the 'Antibody screen test' menu.

Place the cursor on 'edit allowable antibodies', press >F7< and place a >X< in front of the identified antibodies you wish to allow.
3.3 New low immunised (LI) HLA antibody status

The new status is used and displayed for low PRA values (1-9%).

HI – PRA ≥ 80%
I – PRA 10-79%
LI – PRA ≤ 9%
NI – PRA 0%
PI – previously immunised
ND – Not done
4. Calculated frequency for PRA and transplantability

A donor pool, based on 1000 recently HLA typed deceased donors registered in Scandiatransplant, has been made. In the near feature each tissue typing lab will receive a list with donors that needs retyping. This is to improve the following calculations:

4.1 Frequency calculated combined PRA

On the basis of registered identified antibodies on a specific patient it is possible to make a percentage calculation of a combined PRA class I and II.

Enter the menu 'Updating Of Waiting List Data', make a query on the specific patient and choose the 'Antibody screen test' menu.
Press >F1< and a combined PRA value, containing class I and II antibodies, will be calculated and saved. Recalculating of changes can be made by pressing >F1< again. The last date of calculation together with the PRA values will always be displayed.

4.2 Frequency calculated transplantability
In STAMP it is possible to get
- a 'frequency calculated transplantability' based on patient's own tissue type
- a 'frequency calculated transplantability with acceptable mismatches' based on patient's own tissue type and acceptable mismatches.

The calculation is solely based on the HLA types in the donor pool and do NOT take AB0 into account.

Place the cursor in the field 'Calc. frequency' and press >F7< to get a pop up.
By pressing >F10< you get the calculated match frequency among the 1000 donor types with and without acceptable mismatches.