Organ Exchange in Europe – Barriers and Perspectives for the Future

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Abstract: The situation of organdonation and transplantation is very diffenrent among European states. No common roules about criteria for organ donation exist. The only common problem is organ shortage. As there are specific candidates for organ transplantation due to urgency and/or anatomical specifities a transeuropean network for organ exchange should be established, tor help patients on waiting list and improve international cooperation.

Key words: Organ Exchange; Extended Criteria for Donation; International Rules for Allocation

Within Europe there are 4 supranational transplant exchange organisations with Eurotransplant as the biggest one covering a population of nearly 120 Mill. (Figure 1). The ultimate goal of transplant medicine is to save the life of as many patients on the waiting list as possible. Therefore it is necessary to allocate organs with given specifications to a suitable recipient in order to have the highest success rate. It is evident that especially for the situation of high urgent transplants the number of donors in a small country is insufficient to get a suitable organ in time. Moreover the waiting list must be long enough to find a suitable recipient with a high match grade for kidney transplantation and with a high grade of anatomical matching and other donor specific factors in heart and liver transplantation. Today the situation of organ donation and transplantation is very heterogeneous in Europe. Number of donors varies tremendously between different European countries (Figure 2). At least among Eurotransplant member states there is an exchange of organs but it is limited especially for kidneys to a so called national balance which means in fact, that the country with a high number of donors should not be on a minus balance side of more than twenty organs. The data on organ exchange between other European countries are more or less insufficient. There exists no European institution that would be in charge of data collection of organ exchange crossing European borders. Moreover the acceptance of donors varies enormously. For example in some countries donors are specified as extended criteria donors only by age in other countries according to medical suitability. In fact there is no broadly accepted definition of extended donor criteria. The same is true for the acceptance of patients on the waiting list and the acceptance of organs with extended donor criteria. The different numbers of annual rates of donors per mill. population within Eurotransplant are well known. They are published by the Spanish Procurement Organisation ONT on a yearly base in the Transplant Newsletter. The differences are as big as 47,8 p. mill. population in Spain and less than 2 pmp in some Eastern European Countries. Looking to these data in more detail, there seems to be very few cross border exchange in Europe. This is true for kidneys (Figure 3) as well for liver (Figure 4) and hearts (Figure 5). The Council of Europe has published guidelines on safety aspects to avoid transmission of infectious diseases or tumors from donors to recipients. These quality standards are well known and accepted amongst all European Organ Procurement Organisation. Therefore fears of transmission of disease have no realistic background. Nevertheless there exists a lot of variation regarding the acceptance of Organs. For example Hepatitis C+ donors are commonly not accepted in France and Spain whereas in other countries these organs might be used for recipients who are Hepatitis C+ themselves. European Committees have defined the acceptance of medical criteria however there still exist legal problems regarding transferitransport of organs across the borders such as difficulties with custom regulations and of course communication difficulties. Moreover common agreements about the coverage of expenses for transportation of organs is urgently needed. Countries with a lower per mill. rate of donation tend to use more donors with extended criteria. The oldest donor for kidneys in Germany in 2005 has been 94 years old for liver 86 and for heart 70 years. Of course these organs with extended donor age don't have the same suitability as organs from younger donors. On the other hand these donors can be utilised at least for the older population of waiting patients. Looking to the data of annual death rate per 1.000 patientlyears in the US there is still a quite high death rate especially for paediatric recipients and of course for high urgent candidates. The same is true for the death rate of the paediatric recipients on the heart and lung waiting list. Therefore all donors independent of age should be considered and carefully medically evaluated. Comparing the data of European countries there is not only a difference between the annual rates of donor's p. mill. population but as well the number of retrieved organs per donor (Figure 6). Even taking into

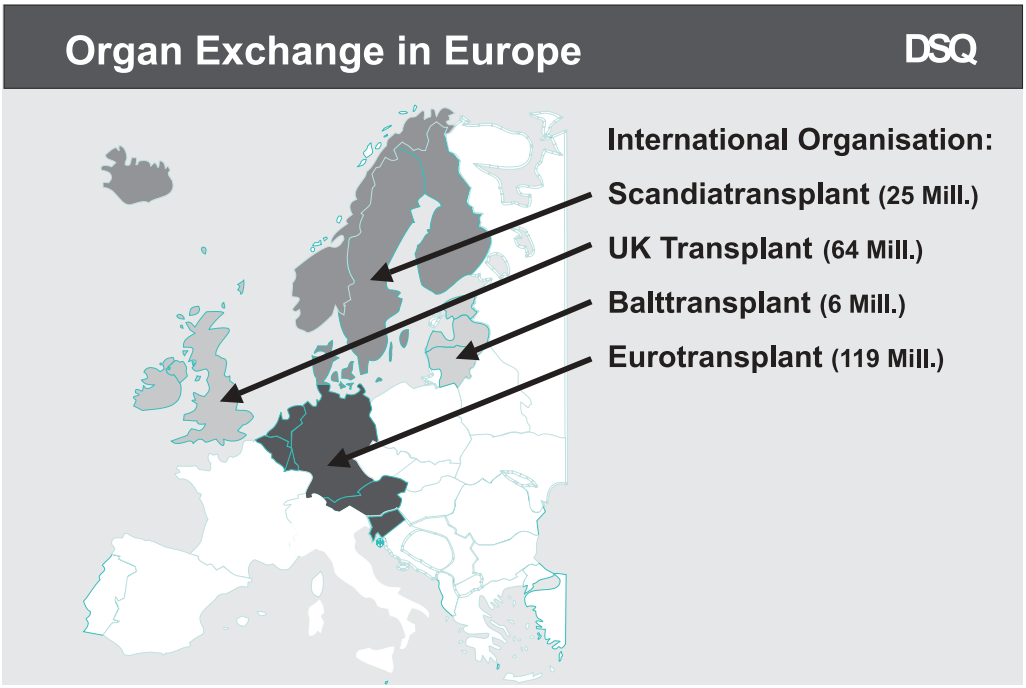

Figure 1.

Figure 2.

account the different average age of donors it is evident that in some countries there is a surplus of organs available which are not used for several reasons. All this shows an enormous heterogeneity amongst European countries regarding the attitude towards organ donation and transplantation. Evidently the medical society was able to formulate criteria on how to evaluate donors in order to avoid transmission of infectious diseases and tumors. Further steps for European cooperation are necessary. 1. Definition of common donor criteria and definition of criteria of extended donors 2. The medical community and in particular the intensive care doctors have to be informed about extended donor criteria 3. Every single donor should be referred to the national Organ Procurement Organisation in order to evaluate the donor and to take care of the whole procedure. 4. Organs should be offered at the first step according to national regulations to patients on the national waiting list. 5. If no suitable recipient can be found on the national basis an international organ offer should be started. 6. An international European body is needed to handle these offers. 7. Candidates for transplantation on national waiting list meeting the given criteria of high urgency, high immunological immunisation or those who need donor organs with specific anatomical criteria like paediatric recipients should be referred to this supra national body. 8. In

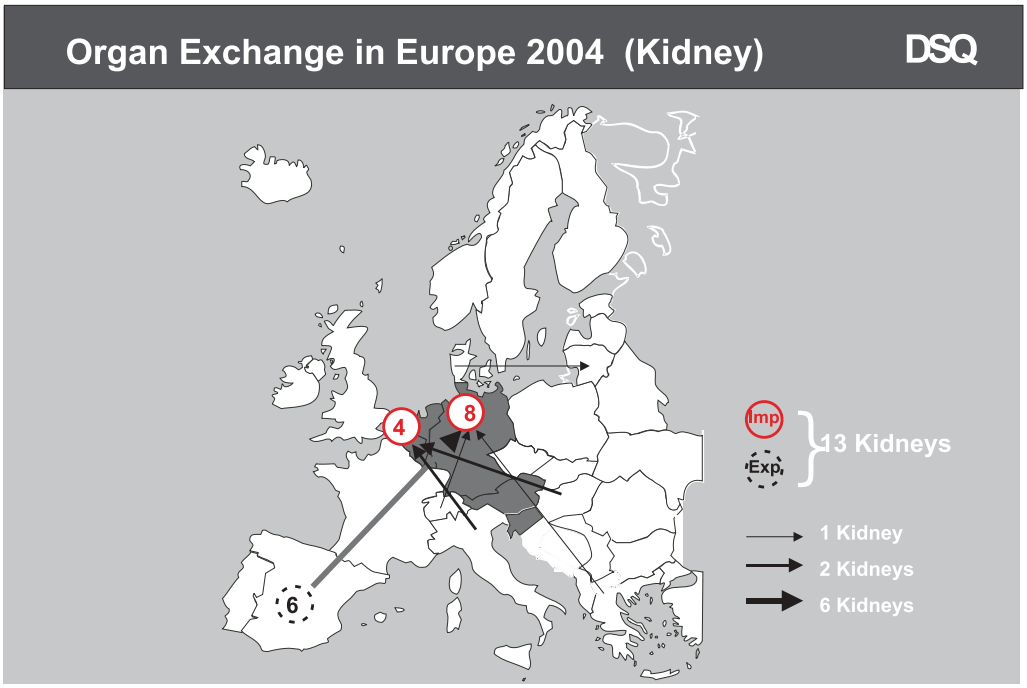

Figure 3.

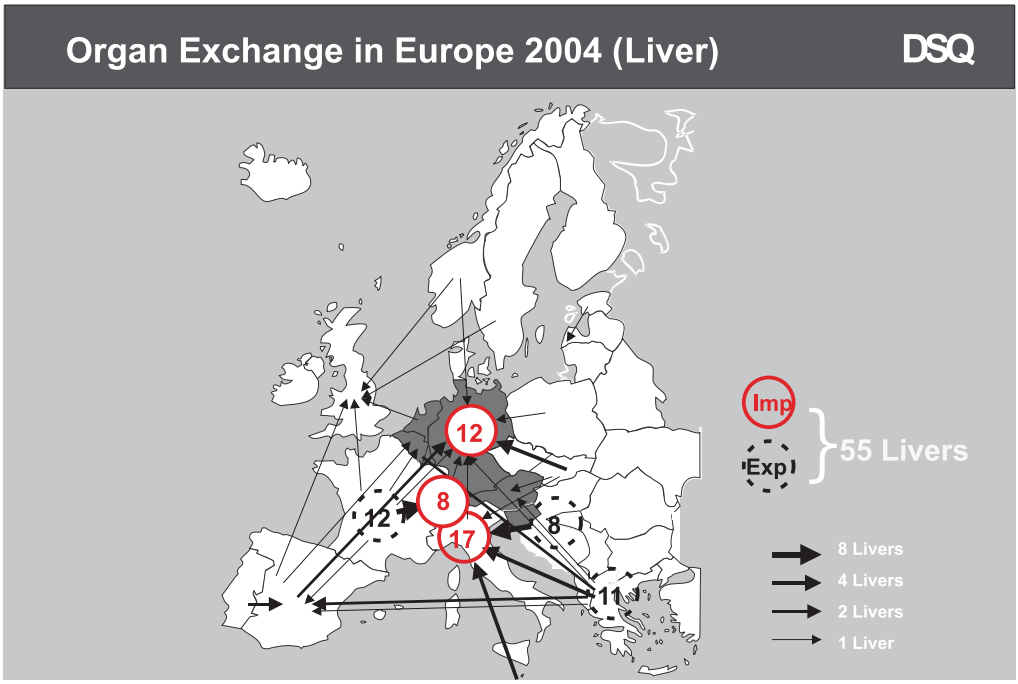

Figure 4.

order to avoid one way donation there should be some kind of "pay back" for every single organ. It's a major goal of all those taking responsibility in the field of transplant medicine to save the life of as many patients on the waiting list as possible. Looking at the extreme differences in organ donation in Europe it's necessary to have a closer cooperation amongst European transplant procurement organisations building up an atmosphere of trust amongst each other.

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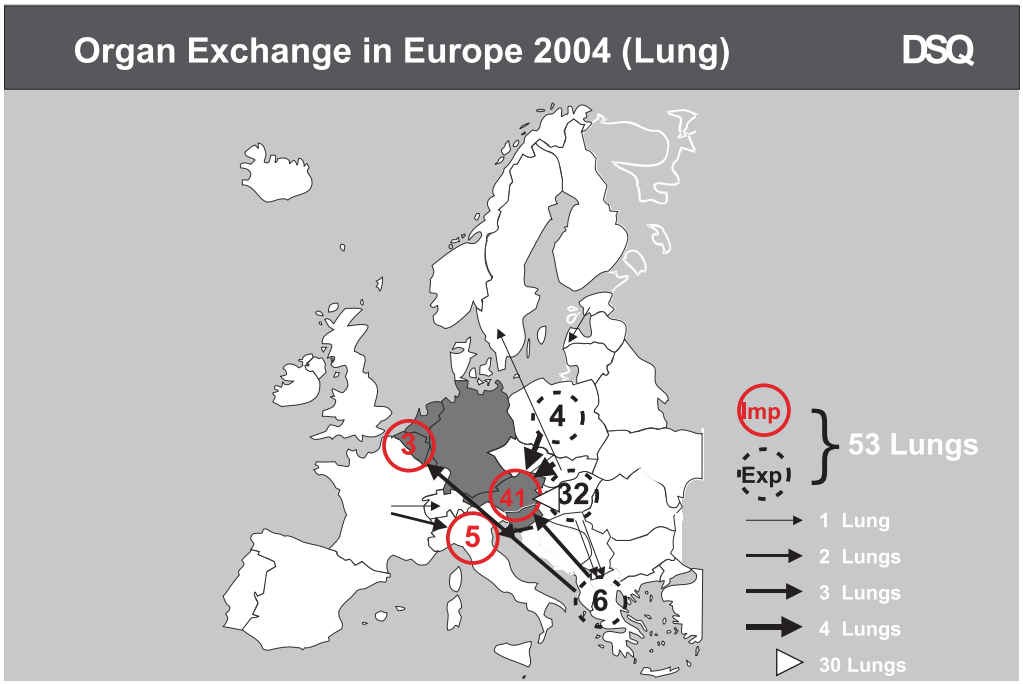

Figure 5.

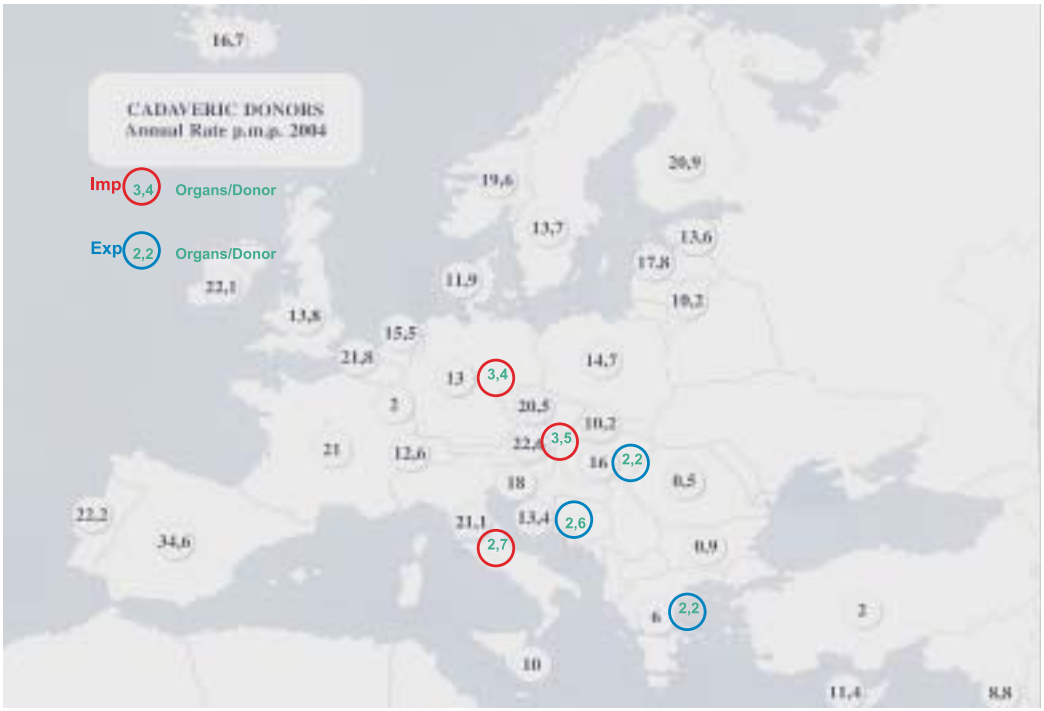

Figure 6.