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Current status of transplantation and organ donation in the Balkans—could it be improved through the South-eastern European health Network (SEEHN) initiative?

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Abstract

Organ donation and transplantation activity in the majority of Balkan countries (Albania, Bosnia and Herzegovina, Croatia, Macedonia, Moldova, Montenegro, Serbia, Romania and Bulgaria) are lagging far behind international averages. Inadequate financial resources, unclear regional data and lack of governmental infrastructure are some of the issues which should be recognized to draw attention and problem-solving decisions. The Regional Health Development Centre (RHDC) Croatia, being a technical body of the South-eastern European Health Network (SEEHN), was created in 2011 after Croatia's great success in the field over the last 10 years. The aim of the RHDC is to network the region and provide individualized country support to increase donation and transplantation activity in collaboration with professional societies (European Society of Organ Transplantation, European Transplant Coordinators Organization, The Transplantation Society and International Society of Organ Donation and Procurement). Such an improvement would in turn likely prevent transplant tourism.

The regional data from 2010 show large discrepancies in donation and transplantation activities within geographically neighbouring countries. Thus, proposed actions to improve regional donation and transplantation rates include advancing living and deceased donation through regular public education, creating current and accurate waiting lists and increasing number of educated transplant nephrologists and hospital coordinators. In addition to the effort from the professionals, the governmental support with allocated funds per deceased donation, updated legislation and established national coordinating body is ultimately recognized as essential for the successful donation and transplantation programmes. By continuous RHDC communication and support asked from the health authorities and motivated professionals from the SEEHN initiative, an increased number of deceased as well as living donor kidney transplantations in the future should be more realistic.

Keywords: Balkans; deceased donation; kidney transplantation; organ commercialism; SEE Health Network; transplant tourism

Organ transplantation in the South-eastern European countries of the Balkan region

Although transplantation should be a universal human right as the best treatment option in patients with chronic kidney disease equally distributed all over the world, it seems that the health care systems and professionals in the majority of less developed countries in the Balkan region fail to successfully enable this therapeutic practice.

There are several reasons for the lack of progress in the Balkan region, which are not always easy to understand. Data on the topic in the public domain are insufficient, sometimes rather confusing and inappropriately reflect the actual situation, predisposing various speculations. Reasonably, there are problems emerging from the economic deprivation in these developing countries, and the very modest expenditure on public health care has translated into poor transplantation activity, even >10 per million population (p.m.p.) compared to ~50 transplantations p.m.p. in more developed countries. However, it is not only the economic constraint which affects donation and transplantation programmes but also the lack of appropriate

organization (national transplant coordination and/or Competent Authority), legislation, public awareness, education and motivation for organ donation as well as the small number of well trained, skilled and competent procurement and transplantation teams and hospital transplant coordinators, all of which are considered as pre-requisites for the successful deceased donation and transplantation programme [1].

Furthermore, regional cultural conflicts of the past have consistently overwhelmed public health care structures diverting focus from the tertiary health care level and highly complex, sophisticated medicine, and thus, the required attention necessary to address the current regional condition of transplantation medicine and organ donation. Following the post-conflict situations in the majority of Balkan countries of former Yugoslavia, the national health care systems were slowly rebuilding their basic infrastructures. However, besides Slovenian success in transplantation medicine, within the last decade Croatia also progressed successfully, being ranked as the world leader in the rate of kidney and liver transplantation 2010 [2]. Unfortunately, other countries in the region, which had similar political and socioeconomic situations, are still lacking in their basic health infrastructure needs, not even mentioning the issue of an underdeveloped and complex transplant programme.

Development of transplantation programme as prevention of transplant tourism

The lack of developed national transplant systems should be perceived as an extremely important missing prerequisite for prevention of any illegal transplant tourism. Indeed, in contrast to the reported recipients trying to get paid transplants as early as possible, even in an organized transplant system such as in USA [3], the reason why some Balkan recipients resort to utilizing their life savings in order to buy a kidney is due to the absence of well-developed living and deceased donor (DD) transplantation in their own countries, in cases when they have no potential for living related donation. In addition, this type of paid renal transplantation against all medical advice formerly from India, Pakistan and nowadays Egypt has been associated with several medical and social problems [4, 5]. Many surgical complications and invasive opportunistic infections increase the morbidity and mortality in this group of transplant recipients [6]. Expectedly, patients' 1 year and graft survival were found to be as much as 78 and 60%, respectively. Finally, the lack of information from the abroad transplanting centre regarding both donor and recipient and the associated, unacceptable risks on the graft and patient survival in unrelated, paid transplant recipients reinforces the standpoint that this practice should be entirely abandoned. More importantly, the accompanying complications and required treatment of these patients frequently incur substantial costs in the health care expenditure, which should additionally be viewed as an argument in favour of developing the national transplant systems.

World Health Organisation Guiding Principles on improving organ donation and transplantation and the international transplant community concept on self-sufficiency

The problem of global organ trading has been recognized and the first concerns were expressed through the World Health Assembly (WHA) Resolution in 1987 [7]. Additional resolutions have been adopted, but significant progress has been achieved since 2004, when partnership, collaboration and a global consultation process had been established with the scientific community, professional transplant societies and health authorities for a common global attitude towards transplantation [8]. To address the growing problems of organ commercialism and exploitation of poor vulnerable populations, the Declaration from the Istanbul Summit aims to reinforce the resolution of governments and international organizations to develop laws and guidelines to bring an end to wrongful practices and to preserve the nobility of organ donation [9]. Furthermore, the recently adopted WHA Resolution 63.22 urges Member States 'to strengthen national and multinational authorities and/or capacities to provide oversight, organization and coordination of donation and transplantation activities, with special attention to maximizing donation from DDs and to protect the welfare of living donors (LDs) with appropriate health care services and long-term follow-up' [10]. This new concept of self-sufficiency in transplantation has been promoted as every nation's responsibility to meet the needs of their patients by using resources within their own population and by decreasing the burden on public health care budgets from treating chronic diseases [11].

South-eastern Europe Health Network and Regional Health Development Centre—part of the global transplant networking

Looking for opportunities to promote and support implementation of the self-sufficiency concept in the Balkan Region, it was considered that the South-eastern Europe Health Network (SEEHN) operating under the Regional Cooperation Council, as successor to the Stability Pact for South-eastern Europe (SEE), might serve the goal through its newly designated technical structure named Regional Health Development Centre (RHDC) on Organ Donation and Transplant Medicine, established in Croatia (Zagreb). It has been specifically designated to promote and support implementation of the self-sufficiency concept in the field of transplantation in Balkan countries and at the regional level. In addition, the RHDC is intended to serve as a competent regional resource centre assisting SEEHN countries to create or improve their own donation and transplantation programmes as well as their long-term regional cooperation.

Almost simultaneously, a Task Force Group composed of the professionals from The Transplantation Society and the European Society of Organ Transplantation in collaboration with the International Society of Organ Donation

and Procurement and the European Transplant Coordinators Organization has taken the initiative to address the organ donation and transplantation needs of each country within the SEE geographical region through collaboration with the RHDC Croatia. This project, named SEE initiative, is also supported by the World Health Organisation with Organización Nacional de Transplantes, Council of Europe through the European Directorate for the Quality of Medicines and Health care and the European Commission.

Thus, the first meeting of the RHDC in its role as regional support centre for SEEHN partner countries was held in Zagreb on 22 February 2011 and was aimed at defining and finalizing the operational tool for assessment of specific country needs as well as agreeing on the next steps from their individual forthcoming action plans. Representatives from Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Kosovo, Macedonia, Moldova, Montenegro, Romania, Serbia and Slovenia were invited to participate in this action convening the second meeting of stakeholders on 27–28 May 2011 in Skopje, Macedonia. This was the first ever-formal exchange of information, data and experience among these countries. Data from a pre-defined questionnaire on the current status on transplantation and donation activity in each country that were reported at the meeting is presented in Table 1. The great disparity in the number of transplants and deceased donation between Balkan countries has been presented in Figures 1 and 2, respectively.

What can we learn from the present data? Looking for the number of performed kidney transplantations/p.m.p., Croatia is the world leader with 56, followed by Slovenia (30.5), Serbia (13.2), Romania (10.7) and Bulgaria (7.1), while the Federation of Bosnia and Herzegovina (Bosnia and Herzegovina) and Macedonia with (5.7/p.m.p.) are lagging far behind with an underused and depreciated transplant programme. Macedonia has only a LD programme without any progress towards deceased donation in the last two decades, unlike Albania, Moldova and Montenegro who do not even have an established LD programme. All in all, we may stratify three groups of countries in the Balkans: the excellent transplant programmes in Croatia and Slovenia, insufficiently developed DD programme in Serbia, Romania and especially Bulgaria and Federation of Bosnia and Herzegovina and finally countries urged to improve or even establish a national transplant programme such as Macedonia, Albania, Moldova, Montenegro and Republic of Srpska.

When we look at the deceased donation/p.m.p., only Croatia and Slovenia achieved the required minimum of 10 DDs/p.m.p., i.e. 28.9 and 20.5, respectively, and have joined Eurotransplant. The question arises as to where the weaknesses lie in other countries? In comparison with those successful regional models, the observed deficiency can be attributed to the lack of proper organisational infrastructure which lies within the absence of Competent

Table 1. Current status in SEE countries on organ transplantation in 2010 (official data presented by National Focal Point person from each invited country except Kosovo)[a]

Country	AL	BA Fed.	BA RS	BG	HR	MK	MD	ME	RO	RS	SI
Population (million inh.)	3.2	2.3	1.4	7.0	4.4	2.1	3.5	0.7	21	7.5	2
Kidney DD	0	2	0	37	227	0	0	0	137	67	61
Kidney LD	20	11	3	13	20	12	0	0	88	32	0
N-kidney-p.m.p.	NA	5.7	2.1	7.1	56.1	5.7	0	NA	10.7	13.2	30.5
DD/p.m.p.	0	0.43	0	2.87	28.86	0	0	0	3.33	5.06	20.5
N—DD	0	1	0	20	127	0	0	0	70	38	41
Liver LD/DD	0/0	1/0	0	2/13	2/103	0/0	0/0	0/0	7/51	1/21	0/23
Heart	0	0	0	5	36	0	0	0	7	0	19
Pancreas	0	0	0	0	6	0	0	0	0	0	1
N-K/LTx cent.	1/0	2/1	1/0	4/2	4/3	2/0	1/0	0/0	5/1	5/3	1/1
N-WL-kidney	0	170	0	850	225	0	0	0	2661	739	53
N-DD centres	X	1	9	21	31	8	X	X	12	7	10
Legislation	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Consent	Expl.	Expl.	Expl.	Pres.	Both	Expl.	Both	Expl.	Expl.	Expl.	Both
Publ. educ.	N	Y	N	Y	Y	Part.	Y	N	N	Y	Y
Tx registry	N	N	Y	Y	Y	N	Y	N	N	Y	Y
LD. registry	N	N	N	N	Y	N	N	N	N	Y	N
NTC	N	N	N	Y	Y	N	Y	Y	Y	Y	Y
Allocat. rule	NA	N	Y	Y	Y	NA	Y	N	Y	Y	Y
Train. proc. Tx	N	N	Part.	Y	Y	N	Y	N	Y	Part.	Y
Fund/DD-Eur.	0	Gen.	Gen.	Gen.	7000	Gen.	0	Gen.	Gen.	4000	9000
Hosp. Tx cor.	N	N	N	Y	Y	N	Y	Y	Y	N	Y
Train. Tx. med.	N	N	Y	N	Y	N	Y	N	Y	N	Y

[a]Country's codes: AL, Albania; BA Fed., Federation of Bosnia and Herzegovina and BA RS, Republic of Srpska; BG, Bulgaria; HR, Croatia; MK, Macedonia; MD, Moldova; ME, Montenegro; RO, Romania; RS, Serbia; SI, Slovenia. Responses from the pre-defined country report questionnaire: population (million inh.), inhabitans; N-kidney-p.m.p., number of kidney transplantation p.m.p.; N-K/LTx cent., number of kidney/liver transplant centres; N-WL, number on waiting list; N-DD centres, number of potential DDs procuring centres; DD-centr.-$, is there a centralized budget allocation (Y, Yes; N, No); Legislation, is there legislation on transplantation; Consent (Expl., explicit; Pres., presumed, Both); Publ. educ., is there public education on transplantation; NTC, is there National Transplant Coordinator; Allocat. rule, is there allocation rules (NA, not applicable); Train. Proc., is there training in organ procurement (Part., Partially); Fund/DD-Euros, fund given per DD in Eur. (Gen., general); Hosp. Tx cor., is there Hospital Transplant Coordinator; Tx registry, transplant follow-up registry; Train. Tx med., is there adequate and continuous education in Tx surgery and medicine?

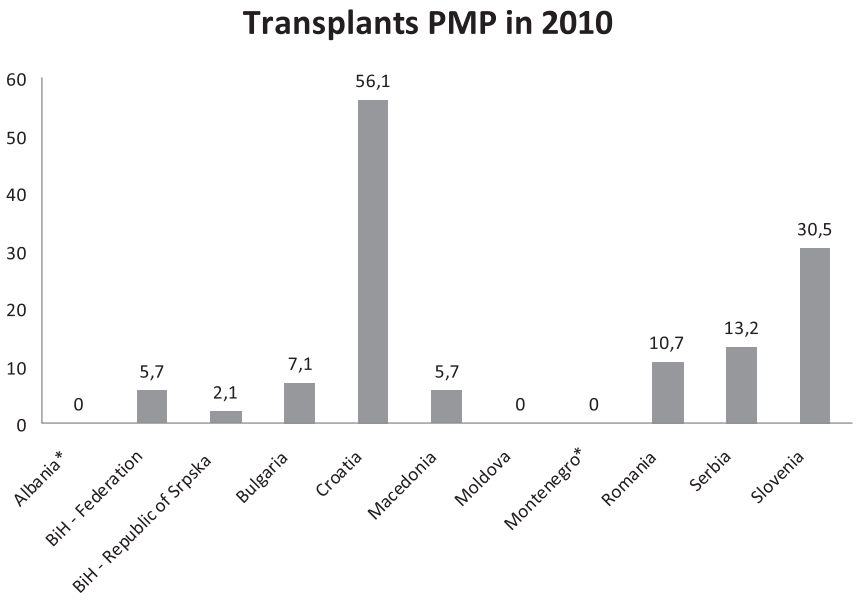

Fig. 1. Number of transplanted kidneys per SEE country regardless of the type and origin of transplantation. (* These two countries have not developed their own transplant programme).

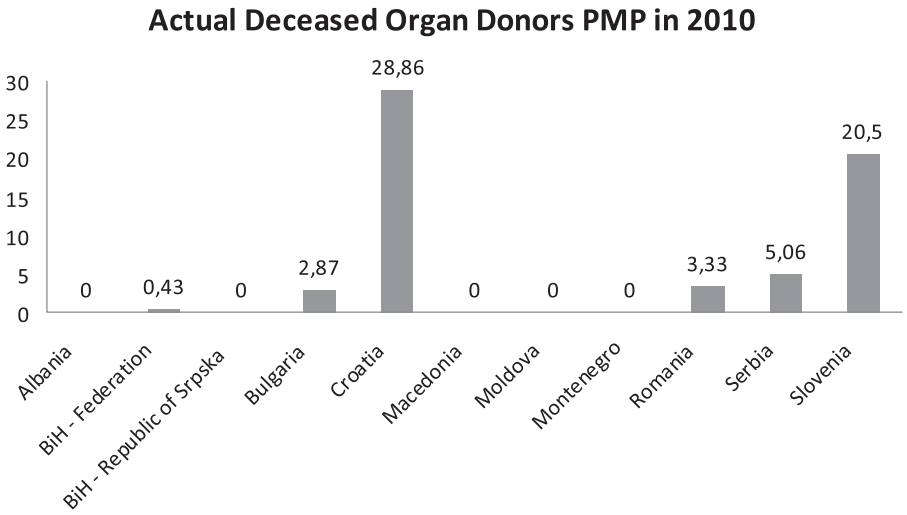

Fig. 2. Actual number of DDs per SEE country and p.m.p.

Authority or National Transplant Coordinator/body, lack of regular public education, allocated funds per deceased donation and transplant medicine, established registries, transplant waiting list management and highly trained transplant coordinators.

Conclusion

To our best knowledge, this is the first official report of SEE countries on transplantation and organ donation, which was a subject of many speculations and blurred public opinion until now. Only recognition and acknowledgement of the languishing organ donation and transplantation condition present in most of the region can draw attention and problem-solving decisions. This has a much greater impact surely when arranged through or in presence of the international transplant community.

Finally, what are the defined priorities for the future? In countries lacking a centralized national body, actions must be taken to implement such. Where LD transplantation is absent or insufficient, transplant professionals should initiate to start or increase the programme as an immediate and prompt action. Composing the official waiting lists, registries of transplant recipients and LDs should follow coupled with the composition of a few committed multidisciplinary transplantation teams, and coordinators, which is perceived as a prerequisite for development of DD transplant programme. Here, the governmental cooperation and support with necessary organizational and infrastructural

investments to update the legislation, establish the national coordinative body and appoint in house coordinators are ultimately recognized as essential. By continuous RHDC communication and support asked from the health authorities, and motivated professionals from the SEEHN initiative, we hope for a stepwise increase in the number of deceased as well as LD kidney transplantations in the future.

Conflict of interest statement. None declared.

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