LETTER TO THE EDITORS

Restructuring training in transplantation surgery . . .and medicine: a necessity on both sides of the Atlantic

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Schlottmann et al. state in their letter in this issue that abdominal transplant surgery in the United States, in contrast to other surgical specialities, faces a major problem: the recruitment of 'local' fellows. This is a surprising reality taken into account the existence of the well-developed national residency matching programme endorsed by the American Society of Transplant Surgeons (ASTS) [1]. The importance of the problem is clearly shown by the high incidence of vacant positions (up to 25%!) in abdominal transplant fellowship programmes. This number highly contrasts to the ones observed in the vascular (5%), colorectal (3.2%) and thoracic (0%) US surgical programmes. Unfortunately, these numbers are not available for (the, in my opinion, better comparator) hepatobiliary-pancreatic surgical programme. Luckily enough (for the recipients), the 'abdominal transplant surgery fellowship gap' is filled up, at least temporarily, by a substantial number of International Medical Graduates (IMG). Those graduates not only occupy more than half of transplant fellowships, a number 2.5 times higher than noted in the other above-mentioned specialities, but also three-quarter of them, at least when trained in North America, will take up a staff member position in a US transplant centre. The here reported alarming observations clearly point out that training in transplantation surgery and organization of transplant activities are worldwide spread problems. When giving his presidential address at the 1974 inaugural ASTS meeting, Th. Starzl was already concerned not only about the real need of transplant centres and their optimal localization (today the US and the European Community harbour, respectively, 133 and 179 liver transplant centres meaning one centre per 2.3 and 2.8 million inhabitants, respectively) but also about the need for adequate training of a sufficient number of transplant surgeons [2]. Unfortunately, both concerns remain still valid almost half a century later.

A differential analysis from either side of the Atlantic Ocean is here on its' place. Three important reflections, all of them specific for transplantation surgery, are to be made in relation to the Schlottmann *et al.* observations. The first two deal with the 'inflow and outflow' of transplant surgeons. Both problems exist on both sides of the Atlantic. Let us first address the 'inflow problem'. Certainly, transplant surgery has without any doubt a reduced attractivity due to the heavy workload (with workweeks largely encompassing 60 hrs and number of nights on call per week reaching one in 2–4 days) frequently realized under suboptimal conditions [3]. This situation leads to high levels of both physical and mental stress. Psychological job demands, frequency *of* and discomfort *in* difficult patient interactions, lack of decisional authority, insufficient coworker, supervisor as well as hospital administration support are all responsible for high levels of emotional exhaustion (30%) and depersonalization (18%) as well as low levels of personal accomplishment (37%). These three elements explain the high level of burn out in transplant surgeons and fellows [4,5]. Secondly, the 'outflow problem' needs to be taken seriously. The loss of well-trained transplant surgeons or fellows is even of greater concern as indeed their deviation towards alternate career paths represents an important waist of both intellectual and financial investment, not to forget thereby the efforts of the mentors [6]. A previously performed enquiry carried out within the surgical membership of the European Society for Organ Transplantation (ESOT) revealed that lack of career planning, too narrow surgical spectrum and disproportion between salary and performed workload and personal and familial inconvenience were the leading arguments to leave the transplant scene [7,8]. The financial aspect is probably of less importance in the

doi:10.1111/tri.13139

United States as income of transplant surgeons is known to be at least three times higher in the United States than in Europe. Both 'inflow and outflow' problems should foster a revision of the organization of transplant centres in general and of transplantation surgery in particular. Does every academic hospital need to perform all types of transplantation (see the above-cited numbers of centres/pm) and what about high-volume transplant surgery [9]? Rationalization of transplant surgery *and medicine* is at stake especially in an era were health cost savings become very important. A more centralized transplant care afforded by large(r) teams of competent professionals would without any doubt benefit the transplant centres as such change would allow to improve working conditions, multidisciplinary collaboration, scientific output, administrative convenience as well as financial reward of the transplant surgeons.

The third reflection relates to the question why so many young European (as well as Asian and Australian) surgeons, eager to learn both about transplantation surgery and medicine, leave their country of origin for the United States and Canada. The answer to this question is simple; it is the lack of ASTS-type accredited transplant training programmes in which an exposure to all aspects of transplantation is guaranteed [10]. The concept of learning the trainee or fellow about *all* aspects of transplant medicine *and* surgery is the only one able to give transplantation back it's (lost) lustre, making it thereby again one of the most fascinating disciplines of medicine. Let's go back to the past. Let's merge again general medicine and general surgery, but now with an eye to the future, this means in a modernized and upgraded way. The, outside North America, almost nonexisting concept of transplantation fellowships greatly contrasts with the, widely advocated, 'salamization' of transplant care advocated in most non-US centres and this already from the early post-transplantation period onwards! Moreover, the multitude of involved caregivers leads, unluckily enough, many times to a rupture of the, so necessary, link between transplant surgery and transplant medicine. Instead of being 'downgraded' to a 'technician' and inhibited in the professional growth by a lack of decisional authority in his/her original environment, the non-US (or IMG) surgical fellow really feels rapidly 'upgraded' in a scientifically stimulating environment of the well-structured North American training programmes. Needless to say that the following 'hand and brain drain' is contraproductive for the development of transplantation surgery (and medicine) especially in Europe. One can easily understand the magnitude of the problem when counting the number of transplantation chairs and staff positions that are occupied in the United States by originally non-US citizens! The best way to tackle these disparities is to improve both training and recognition of the future generations of transplant surgeons. One really has to practice transplantation surgery in order to fully understand it's formidable impact on personal and familial lifestyle. The establishment of examinations (with self-written reporting on surgical activities followed by high-level, oral examinations related to both organ donation and all types of solid organ transplantation) and the, recently implemented, accreditation of transplant centres organized by the European Board of Surgery Transplant Surgery (EBTS), a section of the Union Européenne de Medecins Spécialistes (UEMS), have been the first steps taken towards the recognition of transplant surgery as a fully recognized speciality and towards the installation of UEMS-EBTS accredited fellowships in transplantation. This project has been worked out in close collaboration with the learning transplant society, ESOT. The final aim of this UEMS-EBTS-ESOT project is to foster on a worldwide scale the exchange of young transplant professionals between accredited transplant training programmes in Europe and North America. Such exchange programmes will lead to improved knowledge and skill, to sensitization for each other problems and concerns and hopefully to a good equilibrium of surgical transplant manpower on both sides of the Atlantic. Without any doubt the winner of such endeavour will be the transplant recipient!

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