

INVITED COMMENTARY

Access to pancreas transplantation should not be restricted because of age

Invited commentary on Schenker *et al.*

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In this issue of *Transplant International*, the outcomes of pancreas transplantation in a series of nearly 400 cases at Ruhr University in Bochum, Germany for older (17% >50 years old) versus younger patients are presented [1]. The conclusion is that the outcomes were not significantly different and that age *per se* should 'no longer' be considered an exclusion criterion. The cases accumulated between 1994 and 2009; up to 2001, only 5% were >50 years old, whereas in 2009 it was about 50%.

According to Registry data, throughout the 1980s and 1990s, there was a constant improvement in outcome in pancreas transplants [2]. Particularly in the USA, this improvement progressively led to performing transplant on higher risk patients. As proportion of high-risk patients increases, the overall results may be impacted. One of the putative risk factors for patient and graft survival rates is older age, and if the desire is to maintain high patient and graft survival rates, some centers may exclude from consideration the older patient, even though the mortality risk of not performing may be higher than performing a transplant [3]. In contrast to Europe, where acceptance criteria have generally been more restrictive, in the USA the proportion of older patients began to increase much earlier [2]. In 1994–1995, older patients

accounted for 15% of pancreas transplants in the USA. By 2008–2009, the proportion had more than doubled, to 35%. During this time period, the overall median age at transplant increased from 37 to 42 years. Thus, 50% of the patients accepted for pancreas transplantation were over or very close to the suggested Euro-transplant age limit. The oldest US recipient of a successful pancreas transplant was 73 years old.

Proportion of pancreas recipients with Type 2 diabetes mellitus (DM) has also steadily increased in the USA. During the first decade of the current millennium, 5–6% of the recipients were classified as having Type 2 DM. Such patients are on the average older than those with Type 1 DM, but nevertheless have a shorter duration of disease.

The most recent analysis of the US data showed no significant difference in pancreas graft function according to recipient age or diabetes type. There was slightly lower long-term patient survival in the older recipients, as is true for older versus younger individuals in the nontransplant population.

One of the risk factors with the highest impact on patient survival is end-stage renal disease [3]. Uraemic patients on the SPK waiting list who do not get transplanted have a very high mortality rate compared with

those who do. In contrast, the survival of pancreas recipients with restored (PAK) or native kidney function (PTA) is higher than that of SPK recipients and not much different from the solitary pancreas transplant candidates on the list who remain waiting [3]. Solitary pancreas transplants are performed very rarely in Europe (only 6% of the Ruhr University cases were PAK or PTA), although they make up a much larger proportion of the total cases in the US (27% for 2004–2008) [2]. Solitary pancreas recipients tend to have less advanced secondary complications of diabetes than SPK recipients, who generally are on dialysis before the transplant. A high proportion of PAK recipients received living donor kidney transplants timed to preempt dialysis and thus were spared the burden of advanced uraemia [4]. This is one reason why the patient survival is better in solitary recipient and it holds true for the older patients as well [2]. In contrast, the mortality of patients over 50 years on the SPK waiting list is extremely high [3], and thus the older uraemic patient actually has more to gain from an SPK transplant than the younger patient, who survives better while on dialysis.

Older patients also have lower rejection rates than younger patients [2]. The difference in rejection rates between older and younger recipients is even greater in solitary than SPK recipients, and at least in this regard there is an advantage to being older if one is to receive a solitary pancreas transplant.

In summary, we agree with the conclusions of Schenker *et al.* [1] that pancreas transplants should be offered to older patients who do not have contraindications to major surgery. Although SPK transplants make up the majority of cases, the complication rate and the high mortality on the SPK waiting list for uraemic diabetics could be lessened by performing a living donor kidney transplant preemptively followed by a PAK transplant. This approach should be considered for the older as well as the young uraemic diabetic who has a living donor volunteer.

References

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