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Editorial

Kidney–pancreas transplantation — An excellent treatment alternative for the patient with insulin-dependent diabetes and advanced chronic kidney disease

Trasplante renopancreático, una excelente alternativa terapéutica para el paciente diabético con enfermedad renal crónica avanzada

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Diabetic nephropathy is the main etiology of advanced chronic kidney disease (ACKD) in patients on renal replacement therapy, accounting for up to 26% of incident patients and 16%–17% of the prevalence of patients on hemodialysis.[1]

The Hospital Clínic in Barcelona conducted the first pancreas transplant in Spain in 1983. Since then, pancreas–kidney transplantation has been progressively consolidated as a treatment alternative for the insulin-dependent diabetic patient with ACKD. In their first decade, these patients had a significantly lower survival rate than non-diabetic renal transplant patients, with a mortality of up to 35% at 10 years post-transplant. However, over the past 20 years, we have seen a significant improvement in patient and pancreatic graft survival. In the Spanish multicenter study just published in *Nefrologia* the evolution of 241 pancreas transplant patients in Spain during the period 2008–2012 is described, and most patients received a simultaneous pancreas–kidney transplant.[2] The study found a probability of survival of the transplanted patient of 94% at 5 years and survival of the pancreatic and renal grafts of 83% and 91%, respectively. Longer-term follow-up is needed to confirm this improved survival relative to historical controls.

In line with other publications, these results highlight the excellence of this treatment option for patients with insulin-dependent diabetes mellitus and ACKD. Despite these good results, the indication for pancreas transplantation in Spain is low compared to other countries in our environment, which could be due to fewer indications than the real need (Fig. 1).[3]

Simultaneous anticipated pancreas–kidney transplantation is the best treatment option in the patient with ACKD and diabetes mellitus.[4] In Spain, transplantation is prioritized over other transplant alternatives, with the possibility of inclusion on the waiting list when the glomerular filtration rate is <20 ml/min, due to the high morbidity and mortality of this population on dialysis[5] and the higher progression of kidney disease.[6,7] However, in the study presented, it is striking that only 17% of patients are transplanted in a pre-dialysis situa-

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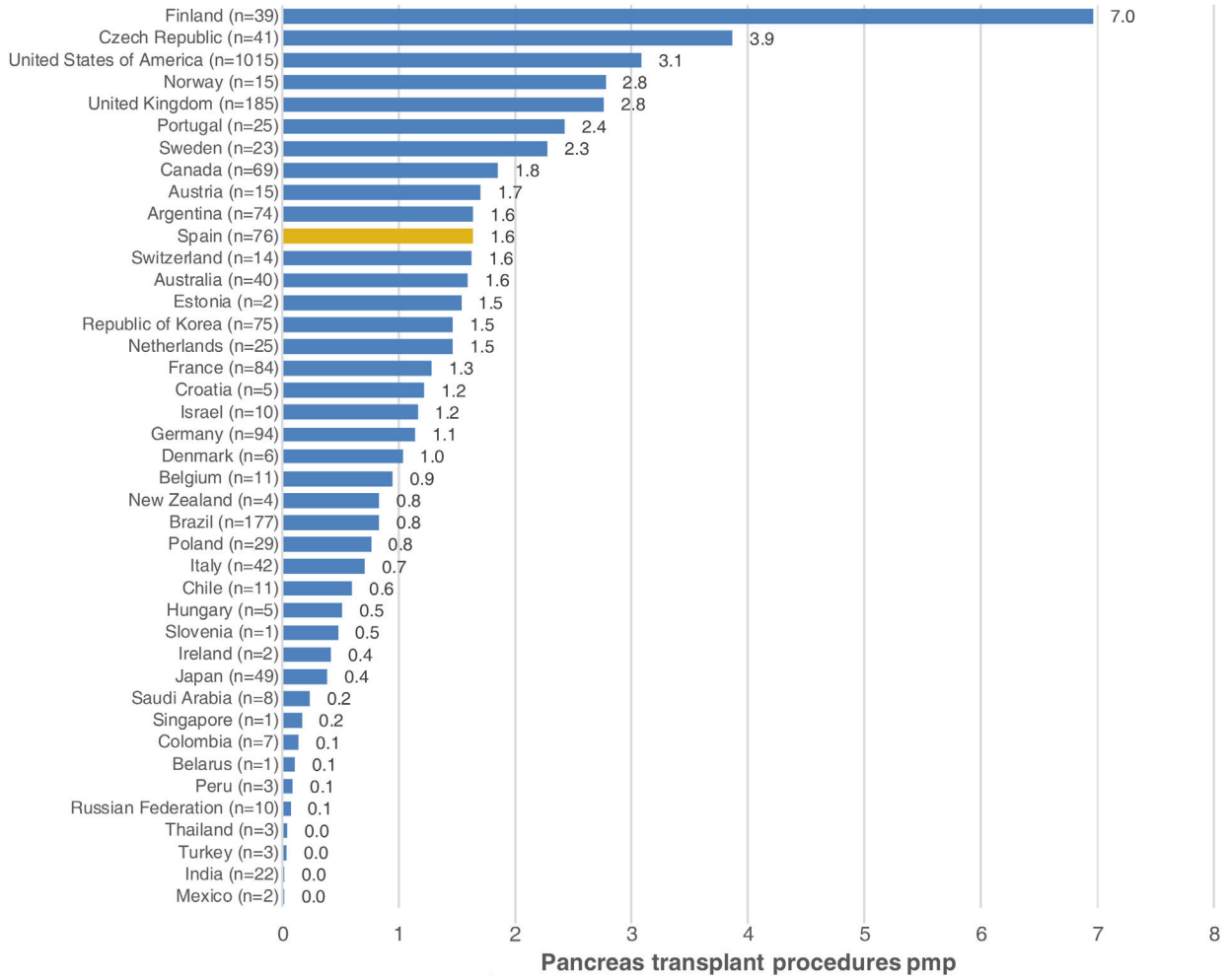

Fig. 1 – Pancreas transplantation per million people (pmp) in countries that provided data to the Global Observatory on Donation and Transplantation (GODT) in 2019. The absolute number of procedures in parenthesis. In 2019, 2323 pancreas transplants were performed in 41 of 82 countries that participated in this international data collection.
Source: http://www.transplant-observatory.org.[12]

tion. Early referral of these patients to the reference transplant center when the glomerular filtration rate is at 25–30 ml/min to assess the transplant indication early, and ideally schedule the intervention before the start of dialysis, is a highly recommended practice.[8]

In the coming years we may see a change in the demographics of pancreas transplant indications. An increase in the age at which these patients develop ACKD and an increase in the incidence of juvenile type 2 diabetes mellitus is anticipated, possibly leading to an increase in the incidence of ACKD due to diabetic nephropathy at progressively younger ages. Despite the risk of surgical complications, these patients will also have to be evaluated for a kidney–pancreas transplant. *Per se*, these conditions should not be considered formal contraindications without a thorough risk-benefit assessment by a center with experience in pancreas transplantation; recent publications have demonstrated the beneficial effects of this type of transplant in selected patients.[9,10]

To this day, pancreas transplantation remains the only therapeutic alternative that has been shown to reduce cardiovascular mortality, increase renal graft survival, maintain insulin independence, and improve quality of life in this patient population.[11] Pending results with the new alternatives of exogenous insulin administration such as an insulin pump or bionic pancreas and a universal access to these treatment options, the patient with insulin-dependent diabetes mellitus with advanced chronic kidney disease should have the opportunity to be evaluated early to receive a kidney–pancreas transplant.

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