

P1312 **EFFECT OF KIDNEY TRANSPLANTATION RATE ON THE ARTERIOVENOUS FISTULA RATE IN PREVALENT HEMODIALYSIS PATIENTS: ANALYSIS OF DATA FROM THE CATALAN RENAL REGISTRY (1997-2017)**

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Background: Kidney transplantation (KT) is considered to be the best option of renal replacement therapy (RRT) for most end-stage renal disease (ESRD) patients (pts). Furthermore, arteriovenous fistula (AVF) is considered to be the best vascular access (VA) for most hemodialysis (HD) pts.

Aims: To analyze the effect of KT rate on the AVF rate in prevalent HD pts. In addition, the likelihood of receiving a kidney graft (KG) over time according to the first VA used to start HD program was also evaluated

Method: Data from the Catalan Registry of ESRD pts treated with either KT or HD were examined for a 20-year period

Results: The functioning KG rate increased progressively from 40.5% (n=2211) in 1997 to 57.0% (n=6149) in 2017 and, conversely, the AVF rate in prevalent HD patients decreased progressively from 86.0% (n=2609) to 63.2% (n=2546) during the same period (for both comparisons, $p < 0.001$).

The characteristics of all prevalent HD pts dialyzed in 1997 (n=3104) vs 2017 (n=4205) were different regarding age 62.6 ± 15.3 vs 70.3 ± 14.2 yr, diabetic nephropathy (DN) 13.2% vs 21.8% and cardiovascular disease (CD) 67.6% vs 75.8% (for all comparisons, $p < 0.001$). On December 31, 2017 (maximum KT rate), the characteristics of KG recipients were different compared with prevalent HD pts dialyzed through either an AVF or a tunneled catheter (n=1145): age 57.4 ± 14.5 vs 69.9 ± 13.8 vs 72.0 ± 14.6 yr, DN 9.5% vs 21.7% vs 22.5%, CD 38.6% vs 74.3% vs 83.7% (for all comparisons, $p < 0.001$).

By analyzing the likelihood of prevalent pts performing HD through an AVF, we saw it was lower in pts with DN (OR: 0.86; 95% CI: 0.79-0.94, $p=0.001$) and it decreased progressively as they got older (reference >74 yr): <44 yr (OR: 1.55, 95% CI: 1.41-1.70, $p < 0.001$), 45-64 yr (OR: 1.47, 95% CI: 1.38-1.56, $p < 0.001$) and 65-74 yr (OR: 1.22, 95% CI: 1.17-1.28, $p < 0.001$). This probability was higher in males (OR: 1.84, 95% CI: 1.73-1.95, $p < 0.001$), pts with polycystic kidney disease (OR: 1.54, 95% CI: 1.35-1.77, $p < 0.001$) and pts without CD (OR: 1.32; 95% CI: 1.27-1.38, $p < 0.001$) and it increased according to the time on RRT (reference < 1 month): >12 m (OR: 2.39, 95% CI: 2.17-2.64, $p < 0.001$). In addition, this likelihood decreased progressively as the percentage of patients with a functioning KG increased (reference $>55\%$): 40-45% (OR: 3.26, 95% CI: 3.05-3.48, $p < 0.001$), 45-50% (OR: 1.82, 95% CI: 1.73-1.92, $p < 0.001$) and 50-55% (OR: 1.27, 95% CI: 1.21-1.33, $p < 0.001$).

The rate of prevalent HD pts waitlisted for KT and dialyzed through AVF decreased progressively from 94.5% (639/676, 1997) to 77.9% (491/630, 2017). In parallel, but always remaining at a lower level, the rate of prevalent HD patients not waitlisted for KT and dialyzed through AVF also decreased progressively from 83.6% (1970/2357) to 60.5% (2055/3399) during the same period (for all comparisons, $p < 0.001$).

Considering the prevalent HD pts during the period 2014-2017 (n=4029), significant differences were observed between HD pts waitlisted (n=630, 15.6%) and not-waitlisted (n=3399, 84.4%) for KT regarding age (58.2 ± 12.9 vs 72.8 ± 13.1 yr), DN (16.2% vs 23.0%), CD (59.5% vs 80.5%) and distribution of AVF (77.9% vs 60.5%) or tunneled catheter (16.5% vs 30.6%) (for all comparisons, $p < 0.001$).

During the period 2012-2014, incident pts starting HD through an AVF (n=1026) had a significant higher likelihood of receiving a KG over time (HR: 1.68, 95% CI: 1.41-2.00, $p < 0.001$) in comparison to pts who initiated HD through a catheter (n=1408).

Conclusion: 1) The fall of prevalent HD pts with AVF over time could be associated with a progressive worsening of their clinical profiles along with the increasing rate of KG recipients. 2) In addition to some demographic and clinical characteristics of prevalent HD pts, the annual KT rate was also a determining factor in their AVF rate. 3) Starting HD program through an AVF was independently associated with a greater likelihood of receiving a KG over time as compared to starting HD through a catheter.