CLINICAL EPIDEMIOLOGY OF RESISTANT HYPERTENSION IN RENAL TRANSPLANT PATIENTS

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INTRODUCTION

Adequate treatment of high blood pressure (BP) is considered as an absolute priority by current KDIGO renal transplantation guidelines. However, only scattered information exists on treatment-resistant hypertension (RH) in these pts and the prevalence of RH in this population has never been assessed according to rigorous criteria nor face to face compared with that in well matched CKD populations.

METHODS

We investigated the problem in an unselected series of 219 renal transplant pts (67% male; mean age 47±12 years; 11% diabetics; eGFR 55, I.R. 40-67 mil/min) with a follow up intensity strictly adhering to recommendations by the Am Soc of Transplantation (JASN 11: S1–S86, 2000) and in a parallel series of 46 pts with CKD stage 2-5 (CKD-A) matched to transplant pts for age, and diabetes status. Both transplant pts and CKD-A pts systematically underwent ABPM studies. In these groups we applied the stringent diagnostic criterion for RH by NICE (Mean daytime BP>135/85 mmHg despite treatment with 3 drugs). Furthermore, as a second comparator group (CKD-B) we used an unselected series of 717 CKD stage 2-5 pts where the diagnosis of RH was established according to the JNC VII criterion (office BP>140/90 while on 3 drugs).

RESULTS

The vast majority (94%) of renal transplant pts were on calcineurin inhibitors. The prevalence of RH in renal transplant pts by NICE criteria was substantially less in renal transplant pts (just 5 patient/219, i.e. 2.3%) than in the CKD-A group (8.7%, p=0.03) [Fig.1-A]. Coherently with this finding, comparison of the transplant pts group with the CKD-B group by the conventional JNC VII criterion (Transplant Pts 1.1% vs CKD-B 11.9%, p<0.001) confirmed a substantially lower prevalence of RH in transplant pts [Fig.1-B]. Further analyses in a sub-group (n=165) of CKD-B pts matched to renal transplant pts also for the GFR (transplant patients: median 55, I.R. 40-67; CKD-B: median 53, I.R. 49-57; p=0.67) again showed a substantially lower prevalence of RH in renal transplant pts (1.1% vs 7.9% in CKD-B pts p=0.002). Remarkably, the prevalence of RH across these groups was strictly parallel to the number of visits (9 visits/year in transplant pts vs 1- 2 visits/year in the two CKD groups). The low prevalence of RH in transplant patients went along with a lower frequency of uncontrolled hypertension (NICE criterion: 29% in transplant pts vs 41% in CKD-A pts [Fig.2-A]; JNCVII criterion: 17% vs 38 %[Fig.2-B]).

Fig.1

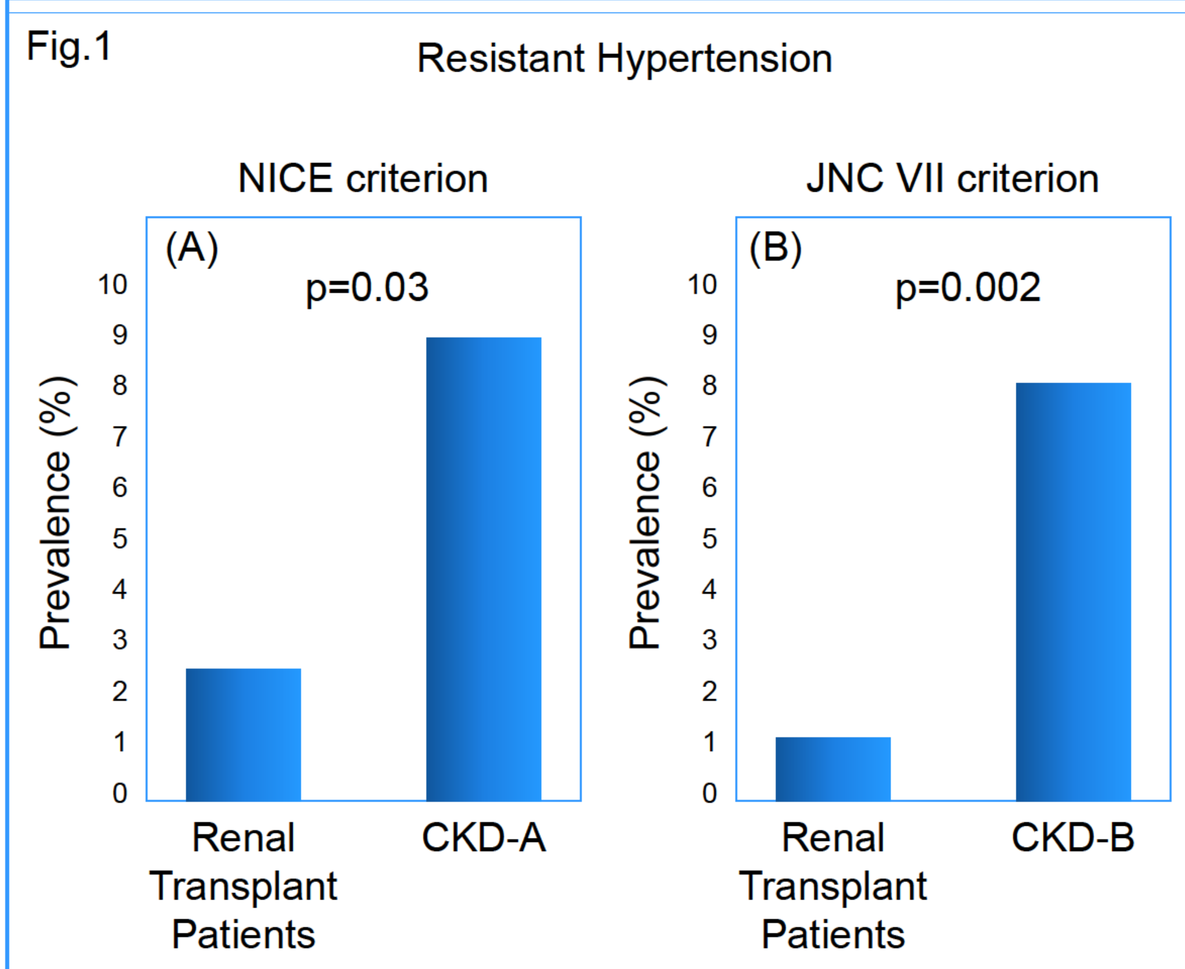
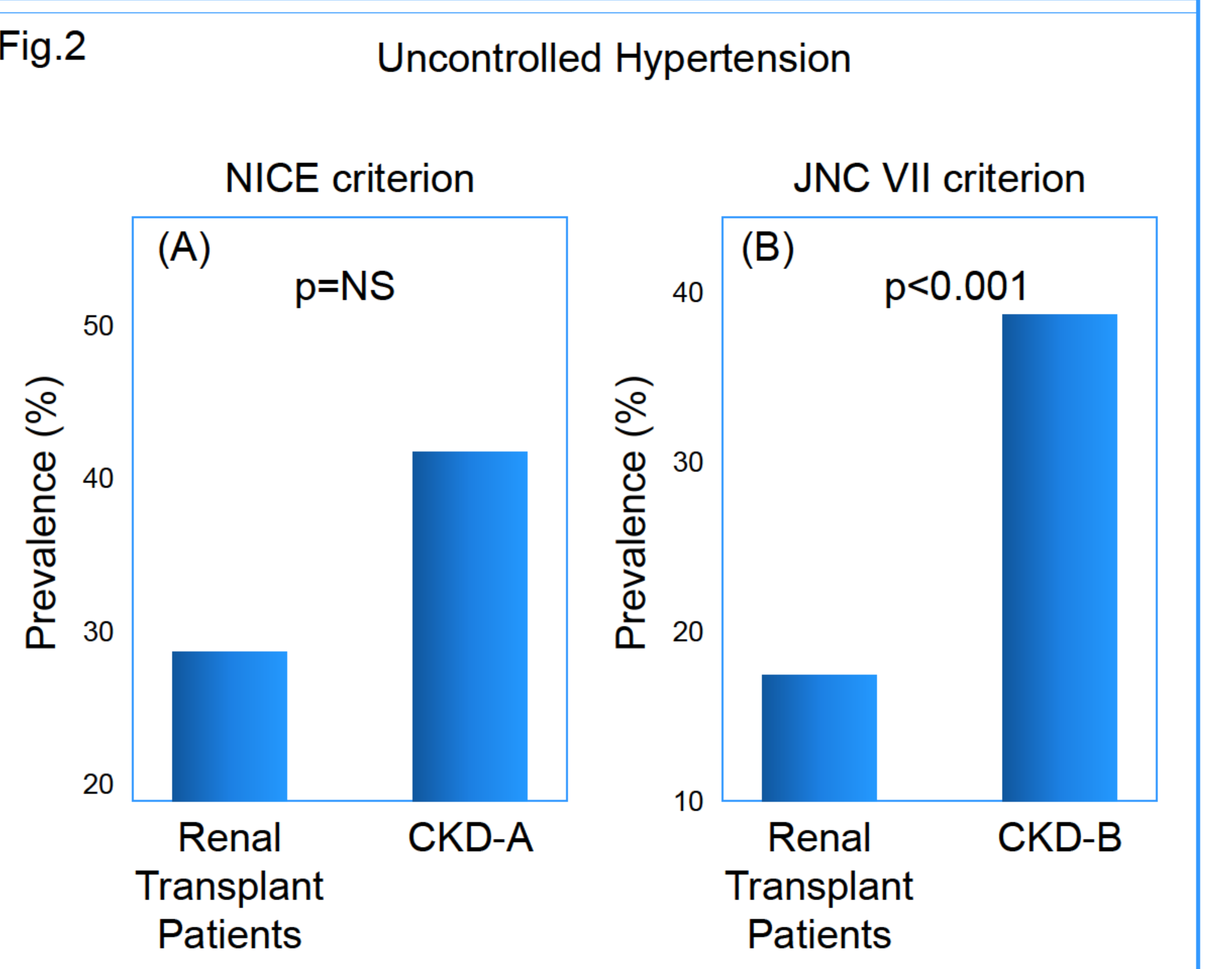


Fig.2



CONCLUSIONS

Notwithstanding the use of pro-hypertensive drugs like calcineurin inhibitors, the prevalence of RH - as defined on the basis of stringent ABPM based criteria (NICE) as well as on standard (JNC VII) criteria - is remarkably lower in renal transplant pts than in well matched CKD pts. Such a low prevalence goes along with the intense follow-up (number of visits) after renal transplantation adhering to Am Soc Transplantations recommendations. These findings show that effective hypertension control can be achieved in a substantial number of renal transplant pts and underscore the relevance of intensified follow up on BP control in this population.

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