

Optimizing hypertension management in renal transplantation: a call to action^{*}

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EDITORIAL

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Optimizing hypertension management in renal transplantation: a call to action*

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INTRODUCTION

Cardiovascular events represent a major cause of death in renal transplant patients [1,2]. Renal transplant recipients also constitute a population at very high risk for progressive graft loss and renal events. Although immunological risk factors play an important role in renal survival, it is less recognized that hypertension is probably the major nonimmunological risk factor for graft loss [2]. Accurate diagnosis of hypertension and adequate control of blood pressure (BP) is considered as a fundamental goal in the management of renal transplant patients to lower their cardiovascular and renal risk. However, diagnosis, treatment and monitoring of hypertension remain suboptimal in most renal transplant patients [3]. This editorial is a call for action aiming at improving hypertension control in the transplant population.

BLOOD PRESSURE CONTROL AND THE RISK OF GRAFT LOSS AND CARDIOVASCULAR DEATH

Most renal transplant recipients exhibit high BP (Fig. 1). However, the prevalence of true hypertension is not clearly known and seems to vary widely with duration of transplantation, renal function and probably many other parameters. In a recent study, in hypertensive renal transplant recipients in France, 89.5% patients were hypertensive patients; among them, only 45.5% had controlled hypertension (using office BP measurements and the 130/80 mmHg Kidney Disease Improving Global Outcomes (KDIGO) cutoff value); resistant hypertension (high BP values despite three or more antihypertensive medications) was present in 17.5% of patients [4]. It can be argued that the use of 130/80-mmHg cutoff may overestimate the prevalence of uncontrolled hypertension; however, *unattended* BP measurements were used in this study, and therefore, the prevalence of uncontrolled hypertension was probably *underestimated*. In another study, resistant hypertension was reported in 23.5% of cases [5]. Whether comparable findings are observed in other centers is presently unknown. Of note,

hypertension and uncontrolled hypertension seem more frequent in renal transplantation than in heart, liver or lung transplantation from centers in Switzerland (Fig. 1).

Amplified BP monitoring (ABPM) is not commonly used in the transplantation field. However, ABPM is especially useful in this population. Recent data indicate that the prevalence of nocturnal hypertension exceeds the prevalence of hypertension using office BP or daytime ABPM, and is associated with markers of vascular damage [6]. A study from Spain has found that the prevalence of white-coat hypertension (WCH) is 23%, whereas the prevalence of masked hypertension is 20% among 868 hypertensive renal transplant recipients, when using the cutoff value of 130/80 mmHg average 24-h ABPM [5]. In another study, the respective figures for WCH and masked hypertension were 3 and 56%, respectively [7].

Many factors have been identified as potential causes for the development of hypertension in renal transplant patients. This includes chronic allograft nephropathy, the use of calcineurin inhibitors and steroids, the recurrence of glomerulonephritis and diseased native kidneys [1]. Secondary causes of hypertension may also exist in this population.

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