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CLINICAL RESEARCH

Chronic heart failure in heart transplant recipients: Presenting features and outcome



Insuffisance cardiaque chronique chez le greffé cardiaque : présentation initiale et devenir

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KEYWORDS

Heart transplantation;
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Summary

Background. – The ageing graft frequently shows coronary lesions and a restrictive physiology.
Aims. – To determine the presenting features and outcome of chronic heart failure in heart transplant recipients.

Methods. – In this cohort study, we compared 44 consecutive heart transplant recipients who developed chronic heart failure more than 1 year after heart transplantation with 44 control heart transplant recipients who did not develop heart failure.

Results. – We found that patients who developed heart failure had more frequently a history of hypertension or diabetes before transplantation. During the 12 months after transplantation, significantly more patients had moderate-to-severe acute rejections (\geq grade 2R) in the heart failure group than in the control group. At the time of heart failure diagnosis, systolic left

Abbreviations: CAV, Cardiac allograft vasculopathy; HF, Heart failure; HTR, Heart transplant recipient; ISHLT, International Society for Heart and lung transplantation; LV, Left ventricular; LVEF, Left ventricular ejection fraction.

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ventricular function was preserved in 50% of patients and coronary angiography was normal or near normal in 36% of patients. Half of the 44 patients in the heart failure group died within 2 years of heart failure diagnosis. Ascites and end-stage renal failure requiring dialysis were significantly more frequent during follow-up in the heart failure group than in the control group (respectively, 10/44 vs 0/44 [$P=0.001$] and 18/44 vs 5/44 [$P=0.003$]).

Conclusion. – In heart transplant recipients presenting with heart failure, systolic left ventricular function is frequently preserved and coronary angiography is frequently abnormal, but may be normal or near normal. During follow-up, the main features of these patients are a high mortality rate after heart failure diagnosis, a frequent need for renal dialysis and frequent ascites.

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MOTS CLÉS

Transplantation
cardiaque ;
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Rejet

Résumé

Contexte. – Le greffon cardiaque vieillissant présente souvent des lésions coronaires et une physiologie de type restrictif.

Objectif. – Le but de cette étude est décrire la présentation et le devenir de l'insuffisance cardiaque chez le greffé cardiaque.

Méthodes. – Dans cette étude de cohorte, nous avons comparé 44 transplantés cardiaques consécutifs ayant présenté une insuffisance cardiaque plus d'un an après la greffe à 44 greffés cardiaques témoins qui n'ont pas présenté d'insuffisance cardiaque.

Résultats. – Les patients du groupe insuffisance cardiaque avaient plus fréquemment des antécédents d'hypertension ou de diabète avant la transplantation. Durant les 12 mois ayant suivi la transplantation, les patients du groupe insuffisance cardiaque ont présenté significativement plus de rejets de gravité moyenne à sévère ($\geq 2R$) que les témoins. Au moment du diagnostic d'insuffisance cardiaque, la fonction systolique ventriculaire gauche était conservée chez 50 % des patients et la coronarographie était normale ou subnormale chez 36 % des patients. Dans les deux ans suivant le diagnostic d'insuffisance cardiaque, 50 % des patients sont morts. Ascites et insuffisance rénale terminale nécessitant la dialyse étaient significativement plus fréquentes pendant le suivi dans le groupe insuffisance cardiaque que chez les témoins (respectivement, 10/44 contre 0/44 [$p=0,001$] et 18/44 contre 5/44 [$p=0,003$]).

Conclusion. – Chez les greffés cardiaques présentant une insuffisance cardiaque, au moment du diagnostic, la fonction systolique ventriculaire gauche est souvent préservée et la coronarographie est souvent anormale mais peut être normale ou subnormale. Pendant le suivi, les principales caractéristiques de ces patients sont la survenue fréquente d'une ascite et d'un passage en dialyse rénale.

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Background

In the years after heart transplantation, the cardiac graft frequently deteriorates at an accelerated rate. The predominant features of the ageing graft at pathology are a diffuse thickening of the arterial intima, named cardiac allograft vasculopathy (CAV), and myocardial fibrosis [1,2]. Clinical manifestations are sudden death, ventricular and supraventricular arrhythmias, acute coronary syndromes and congestive heart failure (HF) [3]. The full spectrum of presenting features and the outcome of HF in these patients have not yet been fully described. The purpose of this study was to report the characteristics of HF in a cohort of heart transplant recipients (HTRs).

Methods

In this cohort study, we included all the HTRs diagnosed with chronic HF after transplantation (HF group) at our institution between May 1994 and May 2014, who survived more than 1 year after heart transplantation. We compared these patients with HTRs who did not develop HF and survived more than 1 year after heart transplantation (control group). As the risk of developing HF is time dependent and may depend on the immunosuppressive era, each control was matched with one patient from the HF group with a close transplantation date. Each control was the next patient on the chronological list of transplanted patients at our centre who did not develop HF during the study period. Of the 164

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