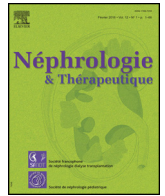




Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com



Article original

Two-year management after renal transplantation in 2013 in France: Input from the French national health system database

Philippe Tuppin^{a,*}, Antoine Bessou^a, Camille Legeai^b, Cécile Vigneau^c, Cécile Couchoud^b

^a Caisse nationale de l'assurance maladie des travailleurs salariés, direction de la stratégie des études et des statistiques, 26–50, avenue du Professeur-André-Lemierre, 75986 Paris cedex 20, France

^b Agence de la biomédecine, 1, avenue du Stade-de-France, 93212 Saint-Denis-la-Plaine cedex, France

^c Service de néphrologie, centre hospitalier universitaire de Rennes, 2, rue Henri-Le-Guilloux, 35033 Rennes cedex, France

ARTICLE INFO

Article history:

Received 28 August 2017

Accepted 19 November 2017

Keywords:

Follow-up

Healthcare use

Kidney transplantation

Observational study

Treatment

ABSTRACT

The objective of this study was to describe the management of patients undergoing renal transplantation in 2013 and over the following two years on the basis of healthcare consumption data. The National Health Insurance Information System was used to identify 1876 general scheme beneficiaries undergoing a first isolated renal transplantation (median age: 53 years; men 63%). Overall, 1.2% of patients died during the transplantation hospital stay (> 65 years 3.3%) and 87% of patients had a functional graft at 2 years. Thirty-three percent of patients were readmitted to hospital for 1 day or longer during the first month, 73% the first year and 55% the second year. At least 10% of patients were hospitalised for antirejection treatment during the first quarter after renal transplantation, 16% the first year and 9% the second year. The first year, 32% of patients were hospitalised for renal disease (12% the second year), 14% were hospitalised for cardiovascular disease (9% the second year), 13% for infectious disease (5% the second year) and 2% for a malignant tumour (2% the second year). Almost 80% of patients consulted their general practitioner each year (almost 50% consulted every quarter). During the second year, 83% of patients were taking antihypertensives, 45% lipid-lowering drugs, 26% antidiabetic drugs, 77% tacrolimus, 18% ciclosporin, 88% mycophenolic acid and 69% corticosteroids. This study highlights the important contribution of healthcare consumption data to a better understanding of the modalities of management of renal transplant recipients in France, allowing improvement of this management in line with guidelines.

© 2018 Société francophone de néphrologie, dialyse et transplantation. Published by Elsevier Masson SAS. All rights reserved.

1. Introduction

In France, the national *Réseau Épidémiologie et Information en Néphrologie*, or Nephrology epidemiology and information network registry (REIN) reported a global prevalence of patients requiring renal replacement therapy for end-stage renal disease (ESRD) of 1163 per million population (pmp) ($n = 76,187$) in 2013: 649 pmp were dialysed (56%) and 514 pmp had a functional renal graft (44%) [1]. The cost of management of these patients was estimated to be €3.8 billion in 2013, i.e. 3% of the total national health insurance expenditure, including €3.1 billion for dialysis and €0.7 billion for renal transplantation and follow-up of renal transplant recipients [2,3]. On 1st January 2013, 9889 patients were registered on a renal transplantation waiting list and

3074 patients had been received a renal transplant, from a living donor in 401 cases [4].

Although many studies and reports have been published concerning patient survival after renal transplantation, graft survival and associated factors in France and other countries, few studies have described the management of renal transplant recipients, apart from post-transplant readmissions, over a relatively long period [5–7]. Specific detailed guidelines have been published concerning the outpatient follow-up of renal transplant recipients [8–11]. In France, such guidelines were published in 2007 by the *Haute Autorité de santé* (French National Authority for Health), completed, in 2016, by a guide to the recommended procedures and services following renal transplantation [8,9]. Health insurance administrative databases, by providing data on reimbursed healthcare consumption (hospitals, drugs, procedures, visits...), could contribute to a better knowledge of the real life care pathway of renal transplant recipients.

* Corresponding author.

E-mail address: philippe.tuppin@cnamts.fr (P. Tuppin).

These databases could also provide valuable information for renal transplantation agencies, end-stage renal disease registries and population-based studies.

The objective of this study was to describe the management of general scheme beneficiaries undergoing first renal transplantation in 2013 and over the following two years on the basis of healthcare consumption data in France provided by the *Système National des données de santé* (SNDS, or National Health Insurance Information System).

2. Methods

2.1. Database

The SNDS database comprehensively collects individual data on outpatient and healthcare institution prescriptions and procedures provided free of charge or reimbursed by French national health insurance [12], but does not provide any clinical data concerning the results of physician visits, prescriptions or examinations. It nevertheless includes information on the presence of long-term diseases (ALD) eligible for 100% reimbursement of healthcare expenditure, when requested by the patient's general practitioner and after approval by the health insurance medical consultant. Reimbursed drugs are identified by their anatomical therapeutic classification code (ATC) and their therapeutic group, while medical procedures performed on an outpatient basis or in a healthcare institution are identified by the *classification commune des actes médicaux* (CCAM, or common classification of medical procedures), laboratory procedures are identified by the *nomenclature des actes de biologie médicale* (NABM, clinical pathology test nomenclature) and paramedical or medical visits are identified by the *nomenclature générale des actes professionnels* (NAGP, General nomenclature of professional procedures). All this information is linked, via the *programme de médicalisation des systèmes d'information* (PMSI, medical information system programme), to data concerning public and private hospital stays, including public hospital outpatient visits. Drugs dispensed in hospital and certain procedures performed in hospital that are not individually reimbursed are not included. ALD and hospital diagnoses of the stay (principal diagnosis: PD; related diagnosis: RD; associated diagnosis: AD) are coded according to the International Classification of Diseases 10th revision (ICD 10).

2.2. Selection of the population of renal transplant recipients

Patients undergoing renal transplantation in 2013 were identified by the presence during a hospital stay of a specific renal transplantation procedure (CCAM) or a diagnosis of renal transplant. In order to select only those patients undergoing first renal transplantation, patients with a renal transplantation procedure between 2006 and 2012 were excluded, as well as those patients without renal transplantation during this period, but using immunosuppressives indicated for renal transplantation more than one month before the transplantation procedure. Non-hospital healthcare consumption can only be studied for individuals with a *numéro d'inscription au répertoire* (NIR, social security number) derived from the *Répertoire national d'identification des personnes physiques* (RNIPP, National repertory for the identification of individuals), based on registry office data, including legal immigrants. The NIR therefore allows registry office certification for the various social security bodies in order to obtain social security coverage and, consequently, reimbursement of healthcare expenditure. Combined transplant recipients were identified by means of specific procedure codes (CCAM), such as kidney-pancreas transplantation codes or the presence on the same day and for the same patient of a heart or liver transplantation

procedure. Living kidney donors cannot be linked to the recipient in the SNIRAM database. However, they can be identified on the basis of procedure dates and healthcare institutions.

The study population was limited to health insurance general scheme beneficiaries with a NIR, representing about 77% of the 66 million inhabitants of France, as vital status and ALD status are precisely and comprehensively available for this scheme. Patients with a combined transplant were excluded and patients who died during the transplantation hospital stay or for whom no immunosuppressives were reimbursed after discharge from hospital were excluded from the post-transplant follow-up study as they were considered as lost to follow-up for many reasons (return to the country...).

2.3. Data

Comorbidities and health conditions managed in 2013 during the year of transplantation were identified by a tool developed by the *Caisse nationale d'Assurance maladie des travailleurs salariés* (Cnam, National health insurance fund for salaried employees) of the general scheme using algorithms that classify beneficiaries into 56 non-exclusive groups of patients or 13 large categories. These algorithms were developed from SNIIRAM data using ICD 10 codes of long-term diseases (ALD), hospital diagnoses: PD, RD, AD of the PMSI MCO (medicine-obstetrics) and PD and AD of the PMSI-Psychiatry, drugs that are almost specific for certain diseases and sometimes certain procedures, allowances or diagnosis-related groups. The events related to this information (hospitalisation, reimbursements) may have occurred before or after renal transplantation, which may have been performed at any time during the year. These data were collected over a period of 1 to 5 years with respect to the year considered for hospital diagnoses and ALDs, which are attributed for renewable 5-year periods. A detailed description of the algorithms is available, and is updated annually [13,14]. The term "acute" refers to hospitalisation during the year with appropriate hospital codes and takes precedence over "chronic". Comorbidities are therefore not mutually exclusive. Only the categories or diseases of interest for the study population were described. For this analysis, the study population was reduced to a subgroup of 1830 individuals, as, by definition, only those individuals with at least one healthcare consumption in 2012 and 2013 were included in the identification procedure.

The following parameters during the hospitalisation for renal transplantation were investigated:

- number of wards to which the patient was admitted during the stay;
- presence of at least one intensive care unit admission;
- coded as a non-disease-specific intensive care unit;
- at least one renal replacement therapy procedure;
- the mode of discharge.

Procedures were analysed either for the overall renal transplantation hospital stay or for the post-transplantation period (expressed in terms of the time since the date of admission, excluding the day of the renal transplantation procedure).

Over the two-year follow-up period, loss of renal graft function was defined by death, a renal transplantectomy procedure or resumption of dialysis sessions for a period of three months or more after discharge from the renal transplantation hospital stay, in which case data were censored for dialysis. The date of loss of graft function was defined as the date of first dialysis or death. Almost all transplantectomies in the study population were performed after 90 days of dialysis. Thus, preemptive retransplantations were not censored. The study of the various types of healthcare consumption focused on the first month after discharge, then the second and third months and then every quarter until the

Download English Version:

<https://daneshyari.com/en/article/8774996>

Download Persian Version:

<https://daneshyari.com/article/8774996>

[Daneshyari.com](https://daneshyari.com)