



Psychological Well-Being in Patients After Preemptive Kidney Transplantation

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ABSTRACT

Background. Preemptive kidney transplantation (PKT) is associated with improved patient and graft survival as compared with transplantation in previously dialyzed patients. Complications related to dialysis are avoided in preemptively transplanted patients. Psychological functioning of those patients is still under investigation. The aim of the study was to evaluate the acceptance of illness, satisfaction of life, and anxiety in patients preemptively transplanted (PET) and transplanted after dialysis (PTD).

Methods. The present study compares 23 pairs of PET and PTD patients after kidney transplantation from the same donor. Each patient completed a set of psychological questionnaires: Acceptance of Illness Scale, Satisfaction With Life Scale, and State-Trait Anxiety Inventory. Pairs were examined in the same moment, from 7 days to 5 years after transplantation. The PET and PTD groups did not differ significantly in respect to sex, underlying renal diseases, incidence of acute rejection, surgical complications, and graft function. More PTD patients had delayed graft function ($P < .05$).

Results. The statistical analysis revealed a significant lower acceptance of illness as well as satisfaction with life in PET recipients ($P < .05$). The groups differed significantly in the trait of anxiety but not in the state of anxiety.

Conclusions. Although the medical benefits of PKT are widely known, numerous psychological problems may occur in patients who do not have difficulties of dialysis and who after transplantation are faced with unexpected discomfort, which influences psychological well-being. Further effort should focus on providing psychological support during qualification to the transplantation and in follow-up after surgery.

KIDNEY transplantation is the treatment of choice for end-stage renal disease (ESRD). Preemptive kidney transplantation (PKT) is associated with improved patient and graft survival as compared with transplantation done in previously dialyzed patients. Preemptively transplanted (PET) patients avoid numerous complications related to dialysis. A successful kidney transplantation offers enhanced quality and duration of life and is more effective (medically and economically) than long-term dialysis therapy. PKT is defined as transplantation performed before initiation of maintenance dialysis and is reported to be associated with superior outcomes of graft and patient survival compared with kidney transplantation performed after initiation of dialysis [1–5]; it may reduce morbidity and mortality rates,

the need for vascular access, and the cost of dialysis. However, only a small part of ESRD patients receive PKT around the world. In the US Renal Data System, 2.6% of patients with ESRD underwent transplantation as a first method of renal replacement therapy (RRT) [6]. The frequency of PET as a primary method of RRT among European countries shown in the ERA-EDTA Registry Report is 15.2% in Norway, 15.5% in the Netherlands,

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10.4% in the United Kingdom, 0.9% in Finland, and 0.3% in Greece [7]. Most PETs are from living donors: in Greece, 100%; in Finland, 33%; in the Netherlands, 62%; in Norway, 55%; and in the United Kingdom, 54% [7]. In Poland, the frequency of PET as a primary method is 0.8% [8], and PET constituted 6.4% of all kidney transplantations; in the last published data from 2010 [9], 19% of PETs in Poland were from living donors [9]. Patients should have progressive deterioration in renal function and a creatinine clearance <15 mL/min/1.73 m² to be eligible for PET [10]. Patients who received PET were more likely to be employed both before and after transplantation [11]. Patients who are not yet on dialysis may be better able to study or work full-time [12]. PKT is performed to improve or normalize medical parameters and to enhance the quality of life (QOL) of the patients, which is obvious from the medical point of view, but can be seen in a different way from the psychological perspective. QOL describes the subjective assessment of the impact of the disease and its treatment on the physical, psychological, and social aspects of functioning and general well-being. The measures assess the satisfaction with life and individual happiness as well as objective evaluation of physical and psychological functioning. Various publications have shown the psychological benefits of transplantation in patients after dialysis [13–17], but there is a lack of publications considering the subject of QOL among PKT patients.

The aim of the following study was to evaluate the acceptance of illness, satisfaction with life, and anxiety in patients who had PET and were transplanted after variable duration of dialysis (PTD).

METHODS

The following psychological questionnaires were applied:

- The Acceptance of Illness Scale (AIS) is applied to measure the degree of acceptance of illness and to evaluate adjustment to chronic illness. The AIS was originally developed by Felton et al in 1984 [18]; it was used by the authors as part of the patients' examination. The questionnaire was adapted to Polish conditions by Juczyński [19]. The AIS consists of 8 statements that describe negative consequences of undesirable health. The participants are asked to express their feelings on a 5-point scale (1 denotes "strongly agree" and 5 denotes "strongly disagree"). The items were created to describe negative consequences of illness, such as limitations, dependence on others, or lowered self-esteem. The total score is calculated as a sum of scores for each item (range score, 8–40). Higher scores indicate higher acceptance and better adjustment to illness.
- The Satisfaction With Life Scale (SWLS) is a short, 5-item instrument with a 7-point response scale and can be used for both healthy and ill individuals; it was originally constructed by Diner et al [20] in 1985. Polish adaptation was made by Juczyński [19]. The possible range of scores is 5 to 35, with a score of 20 (sten "standard 10" score, 5) representing a neutral point on the scale. Scores between 5 and 9 (sten score, 1) indicate that the respondent is extremely dissatisfied with life, whereas scores between 31 and 35 (sten score, 10) indicate that the respondent is extremely satisfied.

- The State-Trait Anxiety Inventory (STAI) is applied to measure via self-report the presence and severity of current symptoms of anxiety and a generalized propensity to be anxious. There are 2 subscales within this measure. First, the State Anxiety Scale (S-Anxiety) evaluates the current state of anxiety, asking how respondents feel "right now," using items that measure subjective feelings of apprehension, tension, nervousness, worry, and activation/arousal of the autonomic nervous system. The Trait Anxiety Scale (T-Anxiety) evaluates relatively stable aspects of "anxiety proneness" including general states of calmness, confidence, and security. The STAI has 40 items, 20 items allocated to each of the S-Anxiety and T-Anxiety subscales. The STAI was introduced by Spielberger [21] in 1970 and adapted to a Polish version by Wrzesiński and Sosnowski [22] in 1987.

Study Groups

The present study compares 22 pairs of PET and PTD patients receiving a renal graft from the same donor. Each patient completed a set of psychological questionnaires: AIS, SWLS, and STAI. Patients from 1 pair were examined at the same moment (from 7 days up to 5 years after transplantation).

The PET and PTD groups did not differ significantly regarding sex, underlying renal diseases, incidence of acute rejection, surgical complications, and graft function. More PTD patients had delayed graft function (Fisher test, $P < .05$) defined as the need for any or more than 1 dialysis session in the week after kidney transplantation. The mean age of patients in the PTD group was slightly higher (Table 1).

Statistics

Categorical data were expressed in values and percentages. Continuous data were expressed as means and minimum/maximum. Categorical data were compared by means of the Fisher exact test, whereas continuous data were compared by means of the Student *t* test. The limit of significance was set at .05.

RESULTS

The statistical analysis revealed significantly lower acceptance of illness as well as satisfaction with life in PET recipients (Student *t* test, $P < .05$). In the PET group, AIS mean score was 27.7 (range, 14–36) and in the PTD group, 31.7 (range, 14–40). The SWLS mean score was 22 (range, 7–35) in the PET group and 28 (range, 7–35) in the PTD group.

According to the standardized SWLS sten scale, we received in the PET group the percentage of low score (sten, 1–4), 21.8%; average score (sten, 5–6), 39.1%; and high score (sten, 7–10), 39.1%, and in the PTD group, respectively, 8.7%, 13%, and 78.3%. High score (sten, 7–10) was significantly more frequent in the PTD group (Fisher test, $P < .05$).

The groups did not differ significantly in STAI (state of anxiety) scores: 50 versus 53.4. The trait of anxiety score was higher in the PTD group's STAI (trait of anxiety): 44.6 versus 51.8 (Student *t* test, $P < .05$) (Table 2). The frequency of high trait of anxiety scores (defined as ≥ 41) was higher in the PTD group (57% vs 83%; Fisher test, $P < .05$).

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