

Case Report

Living kidney transplantation: preoperative assessment in the donor and recipient

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ABSTRACT

Background: The study aimed to demonstrate the importance of the assessment of the psychological profile for the evaluation of the being ready to take on the operation.

Methods: It's evaluated another pair of brothers, using the following tests: SCL-90R, IRI, graphics test, Raven's Progressive Matrices and Rorschach test.

Results: In the donor there's a search of security in the past, tendency to coarctation and defensive attitude. He has a strong self but difficulties to act in the future, showing anxiety, stress and difficult to manage. The receiving's an immature self, exposing traits of obsessive-compulsive behaviour, negative mood and traits of anxiety.

He tends to excessive adherence to reality, blockage in affections, defensive attitude seeking security in the past. Compared to donor, he seems to have the capacity to manage the difficulty.

Conclusions: Living donor kidney transplantation didn't affect the lives of donors and improved many aspects of the lives of recipients. However, psychological and social aspects may be impaired by living donation. Therefore, it's important an appropriate multidisciplinary approach, knowing the psychological status of both patients.

Keywords: kidney transplantation; multi-disciplinary approach; psychological assessment; the degree of awareness, psycho-diagnosis

Introduction

Although they have different aspects, dialysis and kidney transplantation represent two opportunities to redefine a patient's emotional and interpersonal dynamics, in particular the family ones [1]. In fact, the dialysis represents an alteration of the patient's social and working habits for everyday life; instead, the kidney transplantation influences the patient's body image, because he have to accept his life with new organ [1]. The latter aspect is very complicated, for reason why it's difficult to accept a new part of itself. Speaking of with, there are subjects with a great rehabilitation after the transplant, and there are subjects following the rejection, due to not accepting; after they are developed emotional distress and affective disorders, such as

anxiety and depression, associated with a comprised quality of life [2].

In this context, the ethical aspect, that is the level of insight and self-determination, comes into play. This feature is relevant in the assessment of psycho – physical wellbeing, like it is an indispensable prerequisite for donation. In fact, while the recipient prevails a question related to self-awareness and acceptance of their condition, in the donor, however, there's the ability to express a free and valid consent. These aspects, nevertheless, can be altered by cognitive, emotional factors, personal traits and character, and by complex family – relational dynamics. These emotional and psychological states can also compromise the successful outcome of the transplant. Operating

on self – management, it's possible to empower patients by giving them more control of their care process and daily activities and thereby increasing their autonomy.

The experience of renal transplantation is complex not only for the receiving but also for the donor. That is to say the transplant has profound psychological existential, emotional, relational and social implications, bot for the receiving patient for the donor [3]. In fact, many studies and research have highlighted the psychological and social problems in the patients candidate for kidney transplant [3,4]. This aspect is just analysed with multidisciplinary approach with a couple of brothers, inserting other tools in the assessment of the psychological and personological profile.

Materials and methods

In this study, it is evaluated another pair of brothers, using the following tests to investigate the personality characteristics both patients and the type of relations between the brothers, because these features influence the operation both in pre-transplant phase and post. The tests are: the Symptom Checklist - 90 Revised (SCL – 90), Reactive Graphical Battery, Rorschach test and Raven's Progressive Matrices.

The Rorschach test is a psychological test in which subjects' perceptions of inkblots and then analysed using psychological interpretation, complex algorithms, or both [5]. The aim is to examine a person's personality and emotional functioning. It has been employed to detect underlying thought disorder, especially in cases where patients are reluctant to describe their thinking processes openly. This test is appropriate for subjects from age of five to adulthood. It is composed by ten official inkblots, each printed on separate with card, approximately 18 by 24 cm in size. Each of the blots has near perfect bilateral symmetry. Five inkblots are of black ink, two are of black and red ink and three are multi-coloured, on a white background. There are two phases:

- The free association phase, in which the subjects sees and responses to all of the inkblots, being on his impressions;
- The inquiry phase, in which the tester presents them again on at a time in a set sequence for the subject to study: the subject is asked to note where he sees what he originally saw and what makes it look like that.

Analysis of responses is recorded by the test administrator using a tabulation and scoring sheet and, if required, a separate location chart. The general goal is to provide such as motivations, response tendencies, cognitive operations, affectivity, and personal/interpersonal perceptions. In addition, it evaluates the subjects' needs, base reasons and conflicts.

The Symptom Checklist 90 – R (SCL-90-R) is a self-report psychometric instrument published by the clinical assessment division of the Pearson Assessment & Information group. It is designed to evaluate a broad range of psychological problems and symptoms of psychopathology [6]. It is also used for psychiatric and psychological treatments or for research purposes. The SCL-90-R test contains only 90 items and can be complete in just 12-15 minutes. It helps measure 9 primary symptom dimensions and is designed to provide an overview of patient's symptoms and their intensity at a specific point in time. The progress report graphically displays patient progress for up to 5 previous administrations. By providing an index of symptom severity, the assessment helps facilitate treatment decision and identify patients before problems become acute. The Global Severity Index can be used as a summary of the test. The Symptom Scales are: SOM – Somatization, O-C – Obsessive-Compulsive, I-S - Interpersonal Sensitivity, DEP – Depression, ANX – Anxiety, HOS – Hostility, PHOB - Phobic Anxiety, PAR - Paranoid Ideation, PSY – Psychoticism. The Global Indices are: Global Severity Index (GSI): Designed to measure overall psychological distress; Positive Symptom Distress Index (PSDI): Designed to measure the intensity of symptoms; Positive Symptom Total (PST): Reports number of self-reported symptoms.

The graphic tests consist in execution by subject of drawing and subsequently interpreted from a project point of view. They are based on the faiths and notions that subject drawing, projecting emotions, feelings, desires and fears. In this study, it has used the human figure on Machover's test, the tree test or Koch's test, the family test and the test of man in the rain or Fay's test [7-10]. For the evaluation and interpretation, it considers the content and graphics issues like the position in the place, the trait, the dimension, the stretch, any erasures or corrections. These elements are very important for interpretation to rough out the subjects' personality and other substantial factors, like the type of the relationship with the family, the level of reaction



Figure 1. SPM's scores in donor subject



Figure 2. SPM's scores in receiving subject

to stressors, the perception of the male and female and the perception of himself in the world.

In this case, the Raven's Progressive Matrices was used to assess the degree of awareness of both brothers during the operation. J. C. Raven originally develops the Ravens' Progressive Matrices or RPM in 1936. It is usually a 60 items test used in measuring abstract reasoning and regarded as a nonverbal estimate of fluid intelligence [11]. It is made of 60 multiple choice questions, listed in order of difficulty. This format is designed to measure the test taker's reasoning ability, the educative ("meaning – making") component of Spearman's g (g is often referred to as general intelligence). In each test item, the subject is asked to identify the missing element that completes a pattern. The Matrices are available in three different forms for participants of different ability:

- Standard Progressive Matrices: the booklet comprises five sets (A to E) of 12 items each (e.g. A1 through A12), with items within a set becoming increasingly difficult, requiring ever greater cognitive capacity to encode and analyse information. All items are presented in black ink on a white background;
- Coloured Progressive Matrices: designed for children aged 5 though 11 years-of-age, the elderly, and mentally and physically impaired individuals. This test contains sets A and B from standard matrices, with a further set of 12 items inserted between the two. Most items are presented on a coloured background to make the test visually stimulating for participants. However, the very last few items in set B are presented as black-on-white. In this way, if a subject exceeds the tester's expectations, transition to sets C, D, and E of the Standard Matrices is lased;
- Advanced Progressive Matrices: the advanced form of the matrices contains 48 items, presented as one set of 12 (set I), and another of 36 (set II). Items are again presented in black ink on a white background and become increasingly difficult as progress in made through each set. These items are appropriate for adults and adolescents of above-average intelligence.

In addition, there is a revised version of the SPM, the Standard Progressive Matrices Plus, based on the "parallel" version but it had more difficulties items in order to restore the discrimination that the original SPM had among more able adolescents and young adults when it was first published.

Case report

The practice is that there is a thorough evaluation of the psychological profiles before the transplant both the donor and the recipient, in order to verify whether those involved are ready to face this situation. In this case, the pair of brothers are respectively 40 years old; precisely, the subject donor, called "A.", is 40 and his brother, called "R", that is the receiving subject is 42. They graduated from junior high. The brother's family is very cohesive and collaborative; in fact, both "A"

and "R." claim to have an affective positive relationship with his family, in particular, with father, seeing as how there is a privileged rapport with him characterized also by assertiveness and determination.

Results

To evaluate the Rorschach test (Rizzo/Klopfer method), starting from analysis of cognitive in the donor A., the productivity appears qualitatively and quantitatively inadequate, with opposing and slow down thought, caution showing himself, insecurity and poor adherence to reality. Emotionally, the patient seems aware about emotional and dependence needs, characterized by immature and intense elements, instead by mature and emotive factors. There are, in addition, amount of depressive anxiety, due to a loss of life, poorly structurally and aware (FM 4; kF 1; Fc 1; cF 1; C'F 1 + 2add; CF 3 + 1add). Consequently, the patient's affective life is energetic and immature, reactive and unmanaged; it is oriented in "pure extrasensory sense". He has ambivalent personality, tending to insource, intellectualize and tending to continuous comparison with himself, sometimes extensive and tending to lift out. Consequently, there are particular difficulties in social relationships, cause for a rigid self-structure.

Analysing the graphic tests, in the subject there is a regression or search of security in the past, taking refuge in a ideal world (spatial location at the top left). The line is broken and flickering, although strongly marked, this is an indication of the presence of anxiety and stress strains. In addition, the presence of stylised small men highlights the tendency to coarctation and firm defensive attitude. It prevails a strong dependence by his family (close components). In the Koch's test, the presence of rigid blunt indicates a strong self but also difficulties to act in the future. The same for Fay's test; the lack of a umbrella but a dotted raincoat and he goes to refuge, it indicates the presence of a strong stress and difficulty to manage.

About SCL-90-R's scores, A. reports a general level of discomfort of intensity that deviates from the average values of the reference standard and it's placed in the moderate to high range (GSI=59), highlighting a strong general comfort. A. expresses feelings of emotional distance from others, feelings of loneliness, a humour characterized by a deflection of mood, an intense discomfort associated with manifestations of aggression and hostility directed at things or people and bodily dysfunctions relative to various organs and apparatuses, reducing his status.

Analysing finally the SPM's results, the subject has obtained a value that is placed in the high range, as shown in the graph below. This means that the subject is aware of the situation in question, that's operation and its complexity, showing a certain discomfort, as said before (Table 1 about here). About the receiving subject R., from analyse of SCL-90 R's results, he would show a thought characterized by suspicion, fear of loss of autonomy, followed by hostility and reference ideas, traits of obsessive-compulsive behaviour, negative mood and traits of anxiety. To evaluate the Rorschach test (Rizzo/Klopfer method),

starting from analysis of cognitive, it is oriented to theoretical and abstract thinking (W% 47) and oriented in the ideal world. This is confirmed by the idealization of their capabilities, not supported by real intellectual resources (W:M=8:2) and loosening of the reality exam (Actuality Index 4). The emotional area shows an immature self (M/FM=2/8), fragile (4F including 3F minus), reticent and coarse (time colored tables 27 > time black tables 10), denying affectionate and dependence needs (absence of Fc). There are conflicts and problems in parental relationships.

From the global analysis of the graphics mode, it turns out that the subject puts the paper in a vertical position, this seems to indicate the presence of a privileged relationship with the paternal figure but also assertiveness and determination. The drawings are located at the bottom of the sheet, this is indicative of a subject that tends to excessive adherence to reality as well as the average size of the characters. At the Koch's test, the presence of a trunk with bottlenecks and swelling indicates a blockage in the affections, probably due to an early trauma, while the inclination to the left indicates a subject who takes a defensive attitude seeking security in the past. Analysing the Fay's test, it seems the capacity in the receiving subject to manage the difficulty.

Analysing the SCL-90-R test, the subject hasn't significant symptomatological dimensions. The three indices taken into consideration, namely the Global Severity Index (GSI = 49.5), the Positive Symptom Total (PST = 55.5) and the Positive Symmetric Distress Index (PSDI = 39) are placed in the indicative average level range general of discomfort of intensity that does not differ from the average values of the reference standard. Examining the eight subscales, they also don't reveal any clinically significant symptomatology and equally the three indexes taken into consideration, i.e. the Global Severity Index (GSI), the Positive Symptom Total (PST) and the Positive Symptom Distress Index (PSDI) show intensity, depth and number of symptoms that do not deviate from the average values of the reference standard.

About the SPM's scores, they situate in medium range (45). It indicates the awareness and acceptance about the condition and the treatment, no showing discomfort. In fact, as SCL-90-R's results, there are not signs of distress compared to donor A (Table 2 about here).

Discussions

As can be seen from the results outlined above, there is a strong difficulty for patients in coping with the operation. In particular, this difficulty is found in the donor, who apparently shows promptness and determination in tackling the delicate transplant in question, but in reality, he shows a strong discomfort and anguish [12]. It may seem a contradiction but, this psychic condition is due precisely to the awareness of the situation in question. In fact, the donor subject, as reported by the tests in question, presents an intense discomfort associated

with manifestations of aggression and hostility directed to people or things and bodily dysfunctions relative to various organs and apparatuses. At the same time, A. lives feelings of emotional distance from others, feelings of loneliness, a mood state characterized by the deflection negative. This condition does not seem to prevail in the receiving subject, even if there is a prevalence of anxiety and negative mood concerning the situation in question.

Conclusions

The test's data confirmed further the complexities and challenges that characterized the kidney transplantation. The patients implicated must take on various aspects fact in issue that are completely not aware or even they reject it; in this way, it's very complicated from both subjects to take on operation wholly pleasing his physical, psychological and social needs [13,14]. For these reasons, it's very important to delaine a survey procedure with the aim to investigate these aspects not only about the receiving but also in particular the donor [15,16].

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Disclosure statement

No potential conflict of interest was reported by the authors.

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