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The Complexity of Life Donor Renal Transplantation: The Role and Effectiveness of Multidisciplinary Approach in the Medical Route and Psychological Operation

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Abstract

An analysis of the scientific literature, it was found that renal transplantation has profound psychological, existential, emotional, relational and social implications, both for the receiving patient for the donor. Consequently, it is necessary to study and to assessment the mental aspects of both patients, based on a thorough analysis of the psychic and personological profile, adopting a multidisciplinary approach in order to avoid issues not properly evaluated and analyzed, they can affect the success of the transplant, and/or they can lead to psychological distress and mental suffering for the patient. At the same time, it assumes a role of fundamental importance the evaluation of the quantity and quality of the family and social support system, in which the patient is inserted. This allows to investigate both how the family environment plays a supporting role in material terms and emotional for the candidate, both to observe the patterns of communication between the various family members. This paper documents the importance of providing and program, for a better post-transplant rehabilitation and for the obvious risks of psychopathology, the development of interdisciplinary interventions, one of the social and health and basic psychotherapeutic tasks, without which the next adaptation after transplantation may be difficult and which significantly impacted the quality of life for all involved.

Keywords: Kidney transplantation; Psychological and social assessment; Psycho-diagnosis; Interdisciplinary approach

Introduction

The kidney transplant is a technique that can be performed by a living donor or not, in the first case it's called "living donor", in the second "deceased donor transplant". All healthy people aged 75-80 yrs may be possible living kidney donors. In order to make a donation, the candidate must be judge "healthy" after careful examination. In particular, must not be suffering from chronic lung disease, liver, heart, vascular or metabolic- such as diabetes- should not be hypertensive and kidney functions and urine examination should be normal. It must also be in possession of the psychological ability and have no disease such tumours or infections such as hepatitis B or C or AIDS virus.

Law provides that spontaneity is always ascertained donation to rule out any form of trade, strictly prohibited by Italian law. For this reason, the planned procedures are very strict and controlled by a Regional Commission, known as "third part", which has the task of confirm donors psychological suitability and exclude any form of coercion.

In Italy the donation as practiced by the living and the most used technique is that between consanguineous subjects, that is, between father and son or between brothers, or between uncle and nephew.

Difficulties that the donor may have after the operation, are not only related to surgical removal, but also the psychological aspect for live the rest of life with one kidney.

The clinical experience has recently highlighted the need to identify the psychological and social problems of the patient candidate for kidney transplant and the donor, in order to prevent or contain any post-transplant complications psychic. The transplant has profound psychological existential, emotional, relational and social implications, both for the receiving patient for the donor [1]. Consequently, it is necessary to study and to assessment the mental aspects of both patients, based on a thorough analysis of the psychic and personological profile, adopting a multidisciplinary approach in order to avoid issues not properly evaluated and analyzed, they can affect the success of the transplant, and / or they can lead to psychological distress and mental suffering for the patient [2].

This assessment is only not important in the pre-transplant phase but also in the post-operate phase, as they can prevail adjustment difficulties, psychopathological disorders, "compliance issues" and adherence to treatment. These complications prevail for the organ integration process in the image of the bodily self and the adaptation of the transplanted condition, and for the recovery of the role within the family and society.

It is necessary, therefore, an accurate assessment of the psychological and personological profile both for the recipient patient and for the donor patient. At the same time, it assumes a role of fundamental importance the evaluation of the quantity and quality of the family and social support system, in which the patient is inserted. This allows both to investigate how the family environment plays a supporting role in material terms and emotional for the candidate, both to observe the patterns of communication between the various family members [3].

The scientific researches underscore the importance of psychological interventions not only in the pre-transplant evaluation but in all phases of the process and the opportunity to secure the constant and continuous presence of a psychologist within the team.

This paper documents the importance of providing and determining, for a better post-transplant rehabilitation and for the obvious risks of psychopathology, the development of interdisciplinary interventions, one of the social and health and basic psychotherapeutic tasks, without which the next adaptation after transplantation may be difficult and which significantly impacted the quality of life for all involved. In fact, the "American Society of Transplant Surgeons" and the "Model Heidelberg Consultation" previously discussed the importance of a multidisciplinary approach [4]. Considering this statements, this study is based on the Minnesota Multhiphasic Pernsonality Inventory (MMPI-2), the Symptom Checklist-90 (SCL-90) and the Rorschach test for to identify and assess the main characteristic of the psychological and personological profile of both patients and to identify the main types of problems.

Materials and Methods

In this study, It is evaluated a pair of brothers (that we'll call "F brothers"), using the following tests, widely acknowledged to evaluate the personality characteristics in psycho diagnostics: the Minnesota Multiphasic Personality Inventory-Second Edition (MMPI-2), the Symptom Checklist 90 - R (SCL-90-R) and the Rorschach test.

The Minnesota Multiphasic Personality Inventory - Second Edition (MMPI-2) [5] is a wide-ranging test created to identify the principal structural attitudes of personality and emotional disorders. It is a self-made personality questionnaire made of 567 items, with "True/False" answers, about different areas of the "functioning" of the person. The first edition is developed by S. Hathway and JC McKinley (1942). They wanted to create a useful and intuitive test that would help psychiatrists identify psychopathological conditions. Subsequently the test was revised in 1989 and then in 2001, with the second edition. In its complete form the questionnaire is correlated to: 7 Validity Scales, 10 Basic clinical scales, 15 Content Scales, and 15 Supplementary Scales. It is well know that the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) is a self-report test. This implies that the validity of every single obtained profile depends only on the willingness of the individual to be sincere. In fact the peoples can have several reasons to lie especially when they are tested about personality and above all when the test is presented as a mean to evaluate them.

The Rorschach test [6] is a projective test in which subjects' perceptions of inkblots are recorded and then analyzed using psychological interpretation and precise technical procedures; the aim is to examine the personality characteristics 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. The Rorschach test is appropriate for subjects from the age of five to adulthood. There are ten official inkblots, each printed on a separate white 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 multicolored, on a white background. After the test subject has seen and responded to all of the inkblots (free association phase), the tester then presents them again one 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 (inquiry phase). The subject is usually asked to hold the cards and may rotate them. Whether the cards are rotated, and other related factors such as whether permission to rotate them is asked, may expose personality traits and normally contributes to the assessment. As the subject is examining the inkblots, the psychologist writes down everything the subject says or does, no matter how trivial. Analysis of responses is recorded by the test administrator using tabulation and scoring sheet and, if required, a separate location chart. The general goal of the test is to provide data about cognition and personality variables such as motivations, response tendencies, cognitive operations, affectivity, and personal/interpersonal perceptions. The underlying assumption is that an individual will class external stimuli based on person-specific perceptual sets, and including needs, base reasons, conflicts, and that this clustering process is representative of the process used in real-life situations.

The Symptom Checklist-90-R (SCL-90-R) [7] is a relatively brief self-report psychometric instrument (questionnaire) 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. It is also used in measuring the progress and outcome of psychiatric and psychological treatments or for research purposes. This test is normed on individuals 13 yrs and older. It consists of 90 items and takes 12-15 minutes to administer, yielding nine scores along primary symptom dimensions and three scores among global distress indices. The primary symptom dimensions that are assessed are somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, and a category of "additional items" which helps clinicians assess other aspect of the clients symptoms (e.g. item 19, "poor appetite"). The three indices are global wellness index, hardiness, and symptom free. A high number of studies have been conducted demonstrating the reliability, validity, and utility of the instrument. It is one of the most widely used measures of psychological distress in clinical practice and research.

The 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.

The subject donor, called "A", attended until the 7th grade, and he regrets not having received his high school diploma. At 19 he opened a blacksmith, and at age 24 he married and had two children, one 20 and the other 15; his wife has a good relationship. He wants both children to study, and in particular, he points out that the second child is very clever.

A. claims that prevails a cool relationship with their old family; for example, he speaks about the lack of interest by parents (whose father is 72 yrs old and the mother 70) on the incident of the 20-year-old son, which occurred a few years ago. For this reason, A. tends to avoid every kind of relationship with the parents also for the multiple fate discussions concerning the physical condition of the brother S. (the recipient patient), that as a result of a series of medical findings, it was discovered something wrong with my kidney. In fact, given the familial status, S. gets only agree with his brother A., as the latter is the only family member who has shown interest and support for its current condition, especially after the medical examination he had with the doctor in other country, which led him, at the same time, to think about the kidney transplant solution. Compared to the family relationships of the family of origin, A. claims that prevails a calm and peaceful relationship with the sister in law of the family and that of his brother S., although the latter has a particular character. Finally, A. claim to be rationally aware of what he is doing and he is ready for the operation.

S. is a reactive person; he attended school until the 5th grade, and later did the night school. He is working since 8 yrs old, helping his father in his work. He previously served in the military and currently he has a machine shop. For S., the work is very important, so much as to consider his life.

S. has two children, a male of 16 yrs old and a female of 10 yrs. The son is attending high school with mechatronic address and he underlines that it is the first class; instead, the daughter has her mother's personality. S. also speaks about problems with his old family, pointing out the economic interests.

S. said that his problem manifested itself five years ago, after an accident. He realized he had high blood pressure and for this reason he underwent a medical examination, which highlighted a problem up to the kidney. Later, he went to other country for radiography and found to have a polycystic kidney since birth and have hepatitis C. Despite this, S. emphasizes that all examinations made previously had never encountered any kind of problem.

So, S. conscious of his condition, he decided to have surgery; to do this, he asked if there was compatibility with brother A. Finally, he states that having many other problems, tend to forget their physical condition.

Results

Starting from the analysis of recipient's personality profile, by SCL-90 test, the areas worthy of attention are the following: Somatization=0.9; Anxiety=0.8; Sleep Disorders=2.3.

About the area of somatization, this reflects the patient discomfort resulting from the perceptions of one's body. In fact, he mildly feels back pains (item 27=2), muscle aches (item 42=2) and frequent tingling in the body (item 52=3). This area's some symptoms are significantly correlated with anxiety. About that, he moderately feels nervous (item 2=2), over tightened (item 57=2) and strong sense of restlessness (item 78=2). This condition leads him to have sleep difficulties; in fact, the patient has difficulties of falling asleep (item 44=1, item 64=3) and restless sleep (item 66=3).

Considering the results of MMPI-2, the clinical scales that score higher than others are: Paranoia (Pa)=71; Psychasthenia (Pt)=67; Schizophrenia (Sc)=72; Hypomania (Ma)=79.

The presence of these values takes over a person with strong hostility, resentment and aggressiveness towards the others, with tendency to blame about his problems (Pa=71). Therefore, the subject has general distrust towards the others, with sensation being victim of people's interests and not understood. In fact, there are persecutory ideas (Pa1=41%) and tendency to isolation (Sc1=33%). Moreover, there are feelings of insecurity and inadequacy, characterized by anxiety and depression (Pt=67). It detects a certain dysfunctionality on the thought processes, and daily adaption on reality (Sc=72). This condition leads him to be hyperactive with over estimation of one's limitations and capabilities, showing a considerable intolerance of frustration (Ma=79). In the meantime, there is a relevant value about Hypochondria scale (Hs=64); it signifies the tendency to somatization (Hs), with physical dysfunctions (D3=54%) and preoccupations about physical conditions (HEA=67). This condition leads him to have general anxiety feelings and sleep disorders (ANX=72), probable episodes of panic attacks (FRS=84) and tendency to acting out (ANG=67, ASP=68). Moreover, the patient shows excessive devotion to work (TPA=73), with some difficulties about it (WRK=74) and conflicts with old family for lack of understanding and support (FAM=68).

To evaluate to Rorschach test (Rizzo/Klopfer method), starting from analysis of cognitive, the patient detects slowed thought processes, followed by excessive attention to their actions and reactions but also insecurity and indecision. "S." has mode of thought of slightly insufficient theoretical and abstract type (W%=14.3%), showing strong interest in the facts (D%=85.7%), with significant cognitive stereotype (A%=85.7%) and relevant dispersion and disorganization ideational (F %=14.2%) and insufficient cognitive control (FK+F+Fc/R%=14.2%). From an emotional point of view, he has labile affectivity (FC: (CF+C) = 0:0), with a certain detachment from the emotional relationships (H %=14.3%). In particular, there is the Impulsive Index (RII+III/RVIII +IX+X=2) and the Self-control Index (M+FC:CF+C=1:0), that is indicative a tendency to acting out.

About the analysis of donor's personality profile, the SCL-90's results don't report areas worthy of special attention. In fact, none of nine dimensions analysed approach or exceed the value 1: Somatization=0.3; obsession-compulsion=0; interpersonal sensibility=0.3; depression=0; anxiety=0; hostility=0.5; phobic anxiety=0; paranoid ideation=0.5; psychoticism=0; sleep disorders=0.3. The only areas which are close to the value 1 are: hostility and paranoid ideation. About hostility, the patient has uncontrollable outbursts (item 24=1) and engaging in frequent discussions (item 74=2). About the paranoid ideation dimension, the person claims to have little trust in others (item 18=1), and the impression that others can take advantage of him and his actions (item 83=2).

Considering the results of MMPI-2, the Validity Scale's values (L=65; F=55; K=47) show a tendency, by the patient, to maintain a profile characterized by good fit although he admits some problems. However, by the Clinical Scale profile, there is no significant elevation, except for Hypochondria scale (Hs=60), which falls within cut-off. This condition could indicate a tendency to somatization (Hs), with physical dysfunctions (D3=45%), somatic concerns (Hy4=41%), in particular, concerns about his physical condition (HEA=60). Moreover, he is generally stable, realistic and well-balanced (D=48, Hy=47, Si=47), a reliable, responsible and adaptable to different situation individual (Pd=43; Pt=42), showing a good rationality and flexibility but, concurrently, a certain recklessness and tendency to acting out (Mf=33), trying to manage (Sc=38), against the tendency to have few self-efficacy (Ma=40).

To evaluate to Rorschach test (Rizzo/Klopfer method), starting from analysis of cognitive, the patient has thought with low productivity, at the same time dynamic (R=10, T/R=30.18 sec.); in fact, he has elastic and fluid thought (F%=45.4%), and a good control intelligence (FK+F +Fc/R=45.4%). "A." takes over a monotonous and predictable personality (F=45.4%, FK+Fc<75%), strong detachment from emotional relationships (H=0), inappropriate affectivity [FC: (CF +C)=0:0.5]; in fact, there is emotional reactivity (Affectivity Index=36.6%) and tendency to impulsivity and difficulty managing the instincts (Impulsivity Index=0.6; Self-control Index=0:2).

Discussions

From the analysis of literature and the case considered, it is evident that the renal transplantation not only constitutes a surgical intervention, but a complex process, in which physiological and psychological stress pose substantial demands on adaptive processes of

the patient and his family, and at every stage, from the first evaluation surgery, until the next rehabilitation. At the same time, the presence of psychic and psychosocial problems can disturb the adaption of the patient and influence the therapeutic outcome. The prospect of transplant is experienced with great ambivalence: from side, while it can arouse feelings of hope, to side, it arouses feelings of deep despair and terror, and these moments are often dealt initially with disbelief and attempts to deny the severity of situation. It is impossible for participants to describe in words the positive feelings of donating a kidney [8].

In the kidney transplantation, it is important not only the condition of recipient but also of donor. About that, he is attentive to the recipient's health and kidney function. He feels a need to shield the recipient and others from the troubles that he experienced [8]. It is important for donors to receive information about the recipient's condition and the graft function. Above all, they consider it important to protect the recipient from their own experiences of inconvenience [8].

The living organ donation involves interference with a healthy organism [9]. From a psychoanalytical view, the phenomenon has been already described as a combination of dissimulation and denial [10]. Denial, in this case, indicates an unconscious intrapsychical defence mechanism directed against an apperception of the ambivalences, anxieties and risks associated with the transplantation [11]. This mechanism enables donors and recipients to go on with the transplantation despite the existing risks and anxieties attached to it [12,13]. In contrast, dissimulation constitutes a more conscious interpersonal behaviour; it is acting a negative transference on the interviewer and interview setting [9].

For these reasons, it is necessary a psychological-psychiatric investigation on both patient's personalities and motivations; it is also important to evaluate the nature of their relationship, in particular when it comes to family, with the aim to identify the presence of outside coercions, in particular, the presence of physiological and psychological consensus to give and to receive. In fact, it was shown that relatives could feel vulnerable and there was a mutual need to support each other [8]. In this way, it implements a psychic organization assessment of patients, which allows to check the ability to tolerate, to psychological and emotional level, a complex and binding experience like the transplantation; in the absence of it, the patients' psychological conditions may be aggravated to such an extent as to require the suspension itself.

The study of donor and recipient's physical fitness strongly intersects with their psychological assessment, so as to define the path whose main aim is not to carry out the transplant, but to identify the possible factors of risk and failure and to predict the possible negative clinical, psychological and relational consequences in short and long term. This factors determinate the decision-making of transplant. To detect these conditions, it's important a careful psychological assessment on both patients, highlighting the possible risks and personal and psychosocial resources that have both subjects, outlining and analysing the relationship between donor and recipient, and more in general, the quality of family relationships.

Conclusions

Analysis of tests' results administrated, it appeared that "S." has a tendency to somatization their health problems. This condition leads him to have general anxiety feelings and sleep disorders and tendency to acting out, which is acting impulsively. Moreover, he tends to be hyperactive with overestimation of his limits and capabilities, showing a considerable intolerance to frustration. At the same time, S. reveals feelings of insecurity and inadequacy, followed by a low confidence and his abilities about the change request. It showed that the patient has difficulty and conflicts with some important elements of old family, for lack of understanding and support. In fact, it is prevailing the inclination sealing and detachment from emotional relationships. This condition leads him, consequently, to assume a negative attitude towards the treatment, due to the lack of adequate family support and the idea of not being able to make significant life changes.

About "A.", although he tries to show a imagine of himself positive, revealing himself trustworthy, responsible and adaptable in different circumstances, there are signs of insecurity and inadequacy in dealing with the situation, leading him to act irrationally. In summary, "A." reveals himself generally stable, realistic and well balanced, showing a certain rationality and flexibility, but at the same time, a certain recklessness and action orientation, which tries to contain in some way, against the tendency to have few self-efficacy. In fact, from side, the results prove a inclination to somatization by the patient, highlighting preoccupations about his health condition, to side, the tends to appear adjustment difficulties and tendency to impulsivity, which is also prevalent in relationships, because "A." proves a strong detachment from emotional relationships, revealing a closed and reduced personality. This condition can denote, from side, a prevalence to overthink, following detachment to reality, to side, a presence of emotional reactivity.

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