Kächele H, Grulke N (2006) Psychoanalytic aspects of bone marrow transplantation. In: (Hrsg) Beyond mind-body dualism: Psychoanalysis and the human body. Amsterdam, Elsevier: International Congress Series, S 95-100

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Psychoanalytic Aspects of Bone Marrow Transplantation

Abstract

Bone marrow transplantation is an extremely demanding intervention for the curative treatment of oncological conditions. Some patients that after having survived the high risk intervention and from a somatic point of view could be regarded as cured from an otherwise fatal disease - cancer of the blood system - did not show adaequate psycho-social rehabilitation. This paper presents clinical issues and reviews findings on the role of defensive processes in the process of psychosocial rehabilitation.

Some general features with BMT:

Patients facing a life threatening illness like leukaemia and an aggressive medical treatment like bone marrow transplantation (BMT) have to work through a lot of different moments: They are suddenly confronted with a very threatening situation that turns their lives upside down. Often there is not much time between first symptoms, diagnosis and treatment, so that there is not much time to adjust to the new situation. They have hardly realized what their diagnosis was and they are already confronted with very aggressive treatments like chemotherapy, invasive diagnostic or therapeutic operations, that often cause pain, nausea, vomiting, loss of hair, infections etc. For quite a long time, it is not clear, whether the therapy will be successful or not.
Patients after a first phase of chemotherapy, finally undergoing BMT as a more radical, however supposedly curative approach, suffer from numerous side effects like weeks of germ-free isolation, physical inactivity, the period of waiting for the “take” of the new bone marrow, and a possible graft-versus-host disease. Those side effects put success at risk; the mortality rate in BMT is still up to 36%. Survival after one year depends on several factors like age, general health, stage of disease etc. and is reported to be about 50% for allogeneic BMT when the donor

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is unrelated and 70-80% with a related donor. Yet for most patients, BMT is the very last hope for survival.
No doubt that a situation like this challenges mind and body to the utmost. Our own clinical and research activity for many years has been focused how psychoanalytic thinking may contribute to a better understanding of the subjective and objective phenomena that occur in this arena.
The most likely candidate for a psychoanalytic perspective is the concept of defense. Everybody in psycho-oncology is using the concept of coping, which does make sense. Real life crises do ask for mechanisms of coping. But what about defense, what about unconscious mechanisms of fighting drives derivatives. Does it makes sense to speak about a role of defenses in severe somatic pathology?
According to our conceptualisation, defence is a major tool to regulate the relation between the self and the object (1). As soon as a person suffers from internal conflicts caused by an external stressor, the ego is supposed to manage the internal struggles by means of defence. Disease and therapy are external stressors, which can easily reactivate past unconscious conflicts or even provoke new dangerous and painful emotions, which by themselves initiate defensive manoeuvres. Thus, a new balance has to be found between intra-psychic object-related needs and wishes on one hand and external demands of the disease and it's treatment consequences on the other hand. The use of defence mechanism changes the patient's thoughts, feelings and actions, can lead to a distorted perception of reality and to a cutting out of conflicting self-aspects; consequently social relationships might be altered. All this can possibly result in a less optimal adaptation to the therapeutic situation or even weaken the tolerance for unbearable situations. But of course, we should not forget that those defence operations can also be protective to the organism, as they enable us to master a situation of overwhelming threat and anxiety e.g. in a life-threatening situation.
What we have to keep in mind that patients in oncology most likely do not come as neurotic or borderline inviduals, but as rather psychological healthy people. This is demonstrated by empirical findings.(2) .

An intruiging issue has been with us all the time: is it possible to identify suitable or less suitable patterns of defense in the acute situation of entering the bone marrow transplantation. Our first study relying on retrospective accounts could not answer this question in a sound way (3).
A new prospective sample consisted of patients diagnosed with leukaemia and scheduled for allogeneic BMT at the University Hospital of Ulm. Patients were recruited from May 1990 to February 1994. Participants and non-participants didn't seem to differ concerning socio-

demographic and medical variables. 58 patients were interviewed. The semi-structured interviews were audio-taped shortly after the patient had signed the informed consent form. The interview was supposed to cover all relevant aspects of the disease and BMT with questions like: “When did the disease begin?” “What did you feel when you got your diagnosis?”, “Which changes did you realize concerning your physical fitness”, “Has your relationship to your family or friends changed?” “Which hopes or fears are you confronted with, facing BMT, isolation period, patient-donor-relationship?” and others. In the course of the interview, all episodes of BMT should have been addressed by the interviewer, but it depended on the patient to what extent he talked about the episodes, so that the length of interviews varied. Patients were interviewed in their own rooms at the BMT unit (4).

Results

On an average the 58 patients were 36 years old, ranging from 16 to 55 years, male (67%), married (66%) with an educational degree lower than high school (55%). The patients were diagnosed chronic myeloid leukaemia (CML, 43%), acute myeloid leukaemia (AML 41%), and acute lymphoblastic leukaemia (ALL; 16%), 71% of all being in the first chronic phase or in first complete remission. 78% of the patients had an HLA (human leukocyte antigen) identical sibling donor.
Mainly used defence mechanisms were intellectualization (96.6%), minimization (86.2%), rationalization (81.0%) and isolation (75.9%). Dissociation was not used at all and splitting and autistic fantasies were only used by two persons (3.4%). Most patients used 8 of the 21 defence mechanisms, with a range of 3 – 14. A widely used measure of psychopathology, the SCL-90-R, that generates a General Symptomatic Index (GSI), indicated overall psychic stress was about 0.50 on average, which is slightly higher than for “normal healthy persons” (0.33), but substantially lower than for persons undergoing inpatient psychotherapy (1.29) compared with German norm populations. This slightly elevated score for GSI might be due to the demanding and life-threatening situation, patients are confronted with.
In order to find out, whether there are subgroups of patients with a more or less “similar” defence structure, we performed a number of statistical analyses (mainly cluster analyses) to identify typologies.

Discussion

While a lot of earlier studies in psycho-oncology came up with denial as a single defence mechanism as the most important or outstanding one, we found, that intellectualization, rationalization and minimization were the defence mechanisms with the highest scores and were used most frequently. What could be the reason for that?
The decision to undergo a BMT forces the patient to high cognitive involvement. CML-diagnosed patients often don't feel sick or not even affected. But they ought to decide for an aggressive and demanding treatment with an insecure ending and no guarantee for success. Useful defence mechanisms before BMT are supposedly intellectualisation, rationalization, and minimization, whereas denial mostly serves to play down aversive memories. Thus our former findings could be the result of a retrospective approach.

Our explorative statistics let to a first type that we labelled as "immature defence" catching defensive manoevers of acting out, turning against self, hypochondriasis and splitting whereas the higher level defences, especially all three obsessional level defences are not present.

A second type is dominated by reaction formation and passive aggression. It also includes denying threat and replacing negative feelings and thoughts with positive ones. Patients in this type show no resignation, and they seem to be quite confident, friendly, and compliant, but inside they are full of doubts. For this type we choose the label "neurotic defence" . Although the majority of patients shows no outstanding (pathological or negative) structure of defensive mechanisms, which fits to clinical experience, that most patients undergoing BMT are quite "normal", it is the more interesting to have a closer look at two prototypical, outstanding cases.

Two prototypical cases

Both cases were married women, diagnosed Chronic Myeloic Leukaemia (CML) about two years before BMT. Mrs Al is 45 years old and mother of two children, 14 and 20 years old. She has given up working as a correspondent. Mrs Ba is 29 years old, doesn't have children, and was working full time in a white collar job until entering the hospital for BMT.

Type 1: Mrs Al
Compared to the average, her overall defence score is below average. She shows high devaluation, denial, and splitting. Her Global Symptom Index-score is 1.25, which is quite high corresponding to the score of psychotherapy inpatients with neurotic disorders (1.29). She was

transplanted during the first chronic phase. Her physician assessed her chance getting cured as good, however, her psychic resistance as not as good; similar ratings were given by the nursing staff.

From the recorded interview we learn how shocked she was when her diagnosis was confirmed as “leukaemia”; to her it was like being condemned to death. As her brother was not a possible donor, an unrelated donor had to be found. She said: No one can help her with the decision in favour of BMT, this is something she had to decide on her own. She hates nothing more than being told what to do. To make sure, that she has chosen “the best from what doctors and others had to offer” she also looked for help apart from conventional medicine. Thus, she followed the advice of a non-medical practitioner who suggested a special form of diet. "My quality of life improved 100 percent", she reports. He told her about her horoscope and met her secret expectations. If she would manage the next 5 or 6 years, all will be fine. For a long time, she says, she could not decide to undergo BMT. She believed that the time of her death was predetermined. Thus, she could not go wrong in deciding in favour of BMT. A female friend recommended to her to see a female psychologist. At first, she was sceptical, but she thought that "in the worst case I have wasted my time". Retrospectively, she considered theses psychotherapeutic contacts as very helpful, as she could talk about topics that she could not discuss with her husband or anybody else. All in all, "I had a lot of luck in my life".

Listening to the interview, one gets the impression of a somewhat childlike person, who constructs her own reality. Maybe, Type 1 reflects a kind of regression from maturity to earlier stages of development, and in this sense to immature behaviour.

Type 2: Mrs Ba

Mrs Ba scored very high on repression, reaction formation, denial, and isolation and her overall defensive score is above the average.
She describes herself as above average symptom-free on all SCL-scales. Her Global Symptom Index-score = 0.10 is markedly lower than for “normal healthy women” (0.39). The reports of the nursing stuff and the treating physician agreed about her psychic normality. However, her chances to be cured were only average, in spite of having an HLA-identical related donor and in spite of being transplanted in her first chronic phase.

On the audiotape Mrs Ba is heard laughing when talking about her diagnosis. She said that the shock diminished when the doctor proposed BMT. From that moment on, she was full of hope and it was clear to her that she would undergo BMT. Medication was tolerated well by her. She had no need to talk with somebody about her disease, but acted as though nothing had happened. She was absolutely sure that the doctors would do their best and she was in good hands. So, she did not think a lot about it. "There will always be a risk, and you have to face it." Concerning time in isolation, she expected no problems. Since she likes to be alone, she anticipated that she would have something to read and handicrafts to work with. So, she told her husband that he should not stay with her for the days of radiation and chemotherapy. "At the moment I can't imagine that it would get worse, I am not very sensible to pain. I don't fear isolation", she says. "It will be a success, I've come here, and I think I will leave cured."

The patient talks clearly and distinctly, without any resignation in her voice. She is reserved and shows nearly no affect during the interview. The negative aspects of the disease and procedure are blocked away. A calculated optimism is shown, but optimistic feelings were missed by the listener.

Mrs Ba died 38 days after BMT. Mrs Al is still alive.

Coda

This paper focuses on the aspect of defense - a concept that has stood the test of time: "It must be stated that defense mechanisms are generally considered to be among the most verifiable psychoanalytic concepts" (5). There are, however, many more intriguing issues that from to time have caught our attention. What about issues of body image to which Mrs Br referred rather jokingly invoking that by receiving the bone marrow of her sister she might as well take over the rejected aspects of her sister´s character. We had often heated discussion how to get hold of this assumed impact to which Castelnuovo (5) also had referred to when speaking about heart and kidney transplanation.

The topic of the transplant as a new object to which one has to relate to which is discussed in the context of solid organs is not so much an issue in the domain of bmt as bone marrow is quite impalpable. It is not a discrete object, it is more like a liquid substance that is injected by needles and is distributed through the whole organism. We speculated for a while that exchanging the

material basis of the immune system, might impact on the psychological identity. However we could not get hold of convincing material from our interviews.
To identify these unconscious body schemata, we would need intensive psychoanalytic observation of the patients on the couch. But none of them came for psychoanalytic treatment afterwards which may be due to external reasons that patients transplanted in Ulm come from all over Germany. Having seen more than hundred patients, we were surprised how seldom the decision for or against BMT was a real issue. Again in our naive sentiments, to be faced with the chances of dying quite rapidly if the graft would not work, we had not adaequately appreciated that most patients had been through of one phase of radical chemotherapy. It seems that this experience alters the basics from which one judges the attractiveness of being alive. In our clinical material what we found is that people went through a most critical time, some died and others returned to their lives but were never the same again.

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