

Effect of T-Consciousness Fields on Skin Allograft Survival in Rats

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** Ms. Laleh Amani was a dedicated, compassionate, and energetic researcher in the field of CosmoIntel research who has passed away. While expressing our gratitude and appreciation for her extensive efforts in this field, we pray for her peace.

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Abstract

Skin grafting is widely used in the repair of skin surgeries. Since a critical issue related to an allograft is its rejection, it is necessary to find a method that can prevent allograft rejection and increase allograft survival without side effects. According to Taheri, there are various T-Consciousness Fields (TCFs) with different functions. These fields are neither matter nor energy but it is possible to investigate their effects on objects with different controlled experiments. This study aimed to investigate the effects of two types of TCFs (1 and 2) on skin allografts in rats. Twenty rats were randomly divided into two groups the control and the group receiving tacrolimus. Then, the group receiving tacrolimus after surgery was divided into two groups, one group was affected by the TCFs (1 and 2) and another group was not affected by it. After two weeks, histologic and macroscopic observations were performed on all groups. The results showed that transplant in TCFs treated rats was successful and the new epidermis was formed, and sebaceous glands and high number of capillaries could be detected in the dermis layer. It seems that TCFs as a qualitative treatment can be an option to reduce the probability of graft rejection. Further research is needed to clarify the alleviative effects of TCFs on graft survival.

Keywords: Taheri Consciousness fields, Skin allograft, T-Consciousness

Introduction

In 1954, the first successful human organ transplantation occurred. Joseph Murray transplanted a kidney between two twins (Murray et al., 2001). Skin grafting is one of the most essential methods in dermatology and plastic surgery. In 1869, Reverdin performed the first skin grafting with his skin (Reverdin 1872), since then many pioneers have attempted to improve graft outcomes (Lawson 1968, Ollier 1968).

Skin grafting is used in various clinical conditions such as traumatic wounds, post-oncological resection defects, burn reconstruction, the release of scar contraction, vitiligo, urology, and restoration of hair (Valencia et al., 2000, Patino et al., 2019, Mutalik et al., 2000, Shimizu et al., 2012).

When a patient has lost more skin so that it's difficult to replace it with autoplasmic-free grafting, the surgeon may use pinch grafting or skin from a relative of the patient or voluntary (Gibson et al., 1943). Skin replacements are generally classified into three types autografts (cells or skin taken from another site of the body in the same person), allografts (cells or skin taken from another individual), and xenografts (cells or skin taken from one species to a different species)(Jones et al., 2007).

Allogenic skin has had a significant role in acute burns for over 100 years (Burd et al., 2005). Skin allografts induce a severe inflammatory immune response (Benichou et al., 2011). Several factors may cause the failure of skin grafts like hematoma, infection, mechanical shearing forces, insufficient recipient bed vascularity, technical error, etc. (Dockery et al., 2012). Transplantation tolerance has been defined as a non-responsiveness to antigens (Billingham et al., 1953). Similarly, the patients who maintained stable allograft function for at least one year were considered tolerant (Feng et al., 2012). Therefore, it seems very necessary to find and use a method that can prevent allograft

rejection and increase their survival without the side effects.

The nature of consciousness and its place in science has received much attention in the current century. Many philosophical and scientific theories have been proposed in this area. In the 1980s, Mohammad Ali Taheri introduced novel fields with a non-material/non-energetic nature named Taheri Consciousness Fields (TCFs). The major difference between the theory of TCFs and other theoretical concepts about consciousness is related to the practical application of the TCFs. These fields can be applied to all living and non-living creatures, including plants, animals, microorganisms, materials, etc. (Taheri 2013). This study aimed to investigate the effects of two types of TCFs (1 and 2) on skin allografts with histopathological analysis in rats.

Methods Application of TCFs

TCFs were applied to the samples according to the protocols regulated by COSMOintel research center (www.cosmointel.com) and the general consideration of this issue.

Grouping and keeping laboratory animals

Twenty rats were utilized in this study. In the first step, rats were divided into two groups, including the control and the group receiving tacrolimus (dose 2 mg/kg) as an immunosuppressive drug. Also, the group receiving tacrolimus after skin allografting surgery was divided into two groups including the TCFs treatment group and the non-treatment group. After two weeks, skin samples from the transplanted section were taken from laboratory animals for histopathological analysis.

Establishment of skin allografting model and experimental design

Animals were anesthetized through an intramuscular injection with a combination of xylazine and ketamine and were placed in a

prone position on a standard surgical platform with the dorsum exposed. The hairs on the back of the rats were shaved using a razor blade and prepped with povidone-iodine solution. A full-thickness dorsal skin (2 cm diameter circle) was harvested from the donor rat, and then the skin allograft was transplanted on the back of the

recipient (Figure 1). After two weeks of storage, tissue samples were taken.



Figure 1. Procedures for skin allografting surgery

Histopathological analysis

Histopathological examination of the region of the graft was performed through the slides stained with hematoxylin and eosin. The samples were immobilized in a hydrochloric acid solution of formaldehyde. Then, they were decalcified in a solution of 17% EDTA, and for dehydration, they were utilized from graded alcohol series. Finally, paraffin was used to fixation of them. A series of cross-sections with a diameter of 5 μ m were prepared. Then, they were stained with hematoxylin and eosin (H&E) and were investigated under light microscopy. All experimentations were done based on the related rules and guidelines.

Results

Macroscopic examination

The macroscopic evaluation of allografted rats affected by TCFs displayed that these rats showed better adhesion of the graft and hair formation on the transplanted skin and around them (Figure 2).

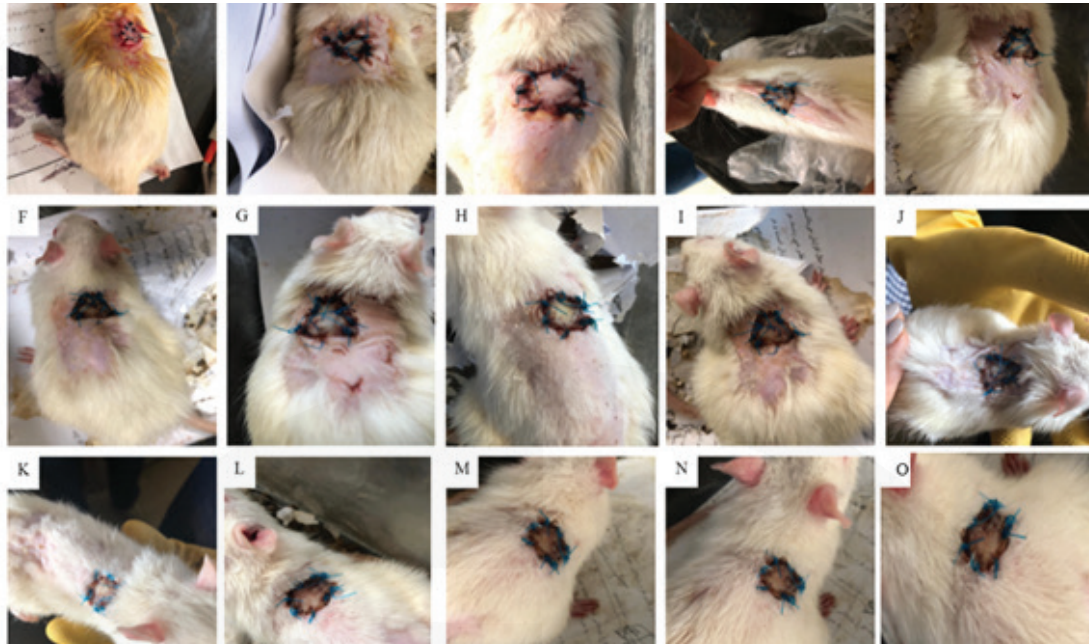


Figure 2. A to O Panels show the two-week trend after surgery in the T-Consciousness Fields treatment group.

The macroscopic observation of the non-treatment group showed the graft area was not fully attached to the skin of the mouse, the skin

graft was being rejected and no hair had grown on the grafted area (Figure 3).

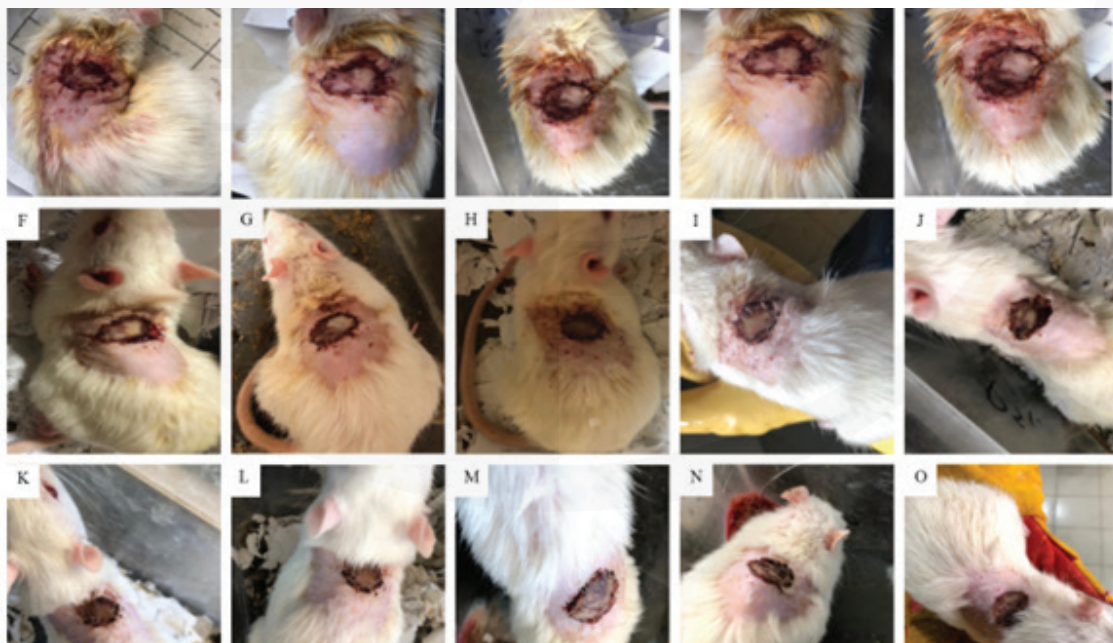


Figure 3. A to O Panels show the two-week trend after surgery in the control (without T-Consciousness Fields treatment) group.

Microscopic examination

After two weeks of surgery, samples were taken from the grafted areas and transferred to the histology laboratory for H&E staining (Figure 4-6).

In the TCFs treatment group, the collagen fibers were thicker and denser than in the nontreatment group. The granulation tissue was characterized by numerous capillaries, mild fibroplasia, and inflammatory cells, re-epithelialization, and sebaceous glands. In the TCFs treatment group, the grafted areas showed better retention of

connective tissue on the surface, with higher rates of re-epithelialization. However, beneath the transplanted skin, new skin formed, and the transplanted skin was gradually removed over a longer period of time.

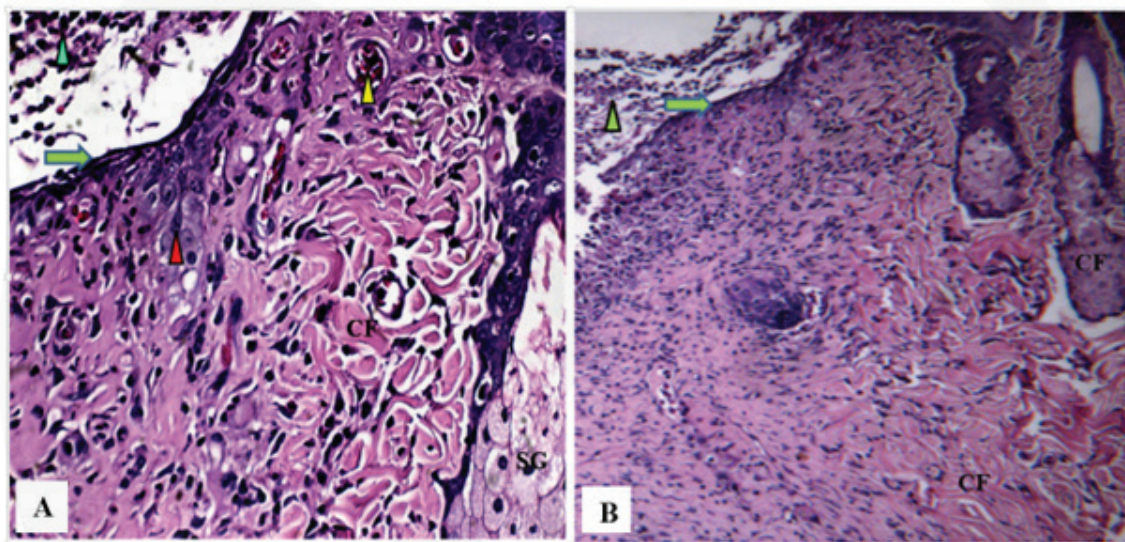


Figure 4. Histological features of grafted areas in the TCFs treatment group. A) The collagen fibers (CF) were thicker arranged and denser. Granulation tissue indicated by a high number of capillaries (yellow arrowhead), mild fibroplasia or mild infiltration of fibroblasts (red arrowhead) and inflammatory cells (green arrowhead), re-epithelization (arrow), and sebaceous gland (SG) was observed in this group ($\times 200$). B) The collagen fibers (CF) were thicker arranged and denser. The inflammatory cells (green arrowhead), re-epithelization (arrow), and sebaceous gland (SG) were observed ($\times 100$).

In the non-treatment group, the transplanted areas showed granular tissue and stages of new epidermis formation (re-epithelialization) under the scab, with no trace of the transplanted tissue. Also, grafted inflammatory cells were abundant and edema was visible. Destruction of the dermis, disorganization of the dermis, and the infiltration of a large number of inflammatory

cells were observed. The epidermis was less thick and healthy due to degeneration.

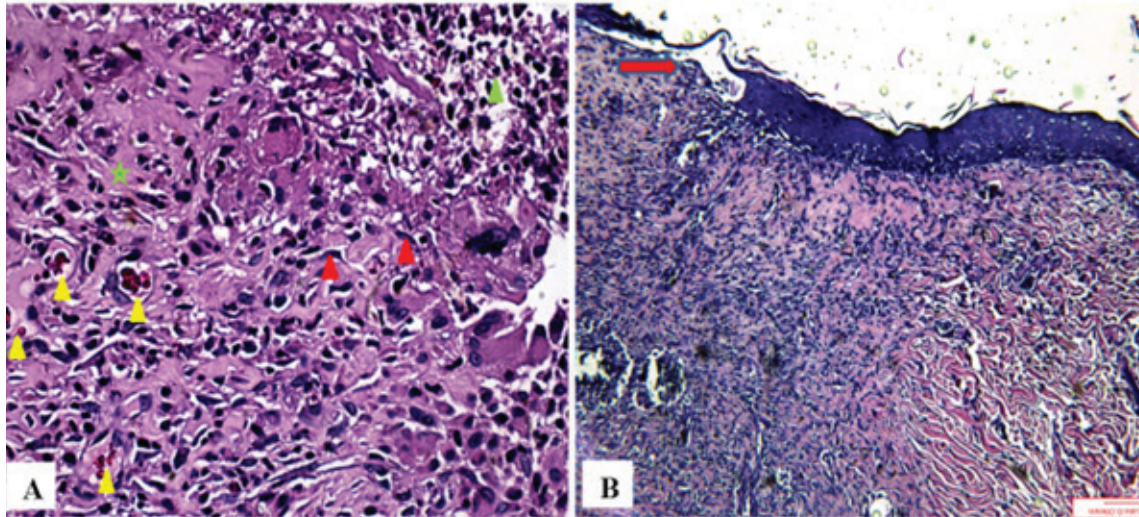


Figure 5. Histological features of grafted areas in the non-treatment group. A) The collagen fibers (star) were thin and weakly arranged. Granulation tissue is indicated by the high number of capillaries (yellow arrowhead), fibroplasia, or severe infiltration of fibroblasts (red arrowhead) and inflammatory cells (green arrowhead) ($\times 200$). B) The partial re-epithelization (arrow) was observed in this group ($\times 100$).

In the control group, a scab was seen on the wound that was healing, and under the scab, the formation of a re-epidermis, which was

thickening, and under which the granulation tissue was being completed (Figure 6).

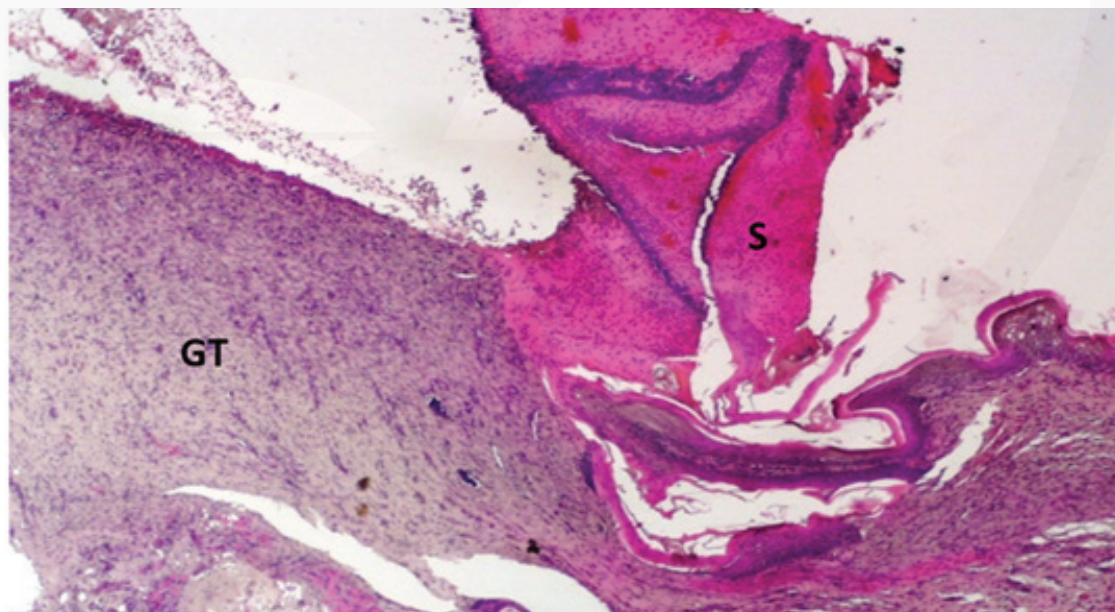


Figure 6. Histological feature of the control group. The scab is seen on a wound that is healing and below the scab (S) is the formation of a re-epidermis that is thickening and below that is the granulation tissue (GT) that is being completed. The image shows this area at $\times 40$ magnification.

Discussion

Many researchers attempted to prolong skin allograft by suppressing the immune system, especially in patients with extensive burns (Rezaei et al., 2017). However, the side effects of immunosuppressive drugs can be severe, leading to a shorter life expectancy for transplant patients (Claeys et al., 2019). Therefore, there is a need for the development of a method that can increase skin allograft survival without side effects. It is proved that total and/or partial skin grafts cause modifications in the integumentary system, such as a decrease in blood flow, skin contractures, ischemic conditions, and formation of complete or partial necrosis after grafting (Cheng et al., 2017, Wang et al., 2016). Rejection of skin allografts is the response of the recipient's immune system resulting in the alloantigen recognition and cellular destruction. The short-term survival time of graft limits the clinical application of xenogeneic or allogeneic skin grafts (Dixit et al., 2017, Erdag et al., 2004). Our results showed that TCFs had stimulatory effects on better tissue adhesion located at the skin graft site which led to better skin graft performance.

As was mentioned in the introduction section, TCFs as non-material and non-energetic fields apply to all living (and non-living) entities/systems. Although we cannot measure TCFs

quantitatively it is possible to investigate their effects indirectly through various experiments. Recently, various experiments have been conducted using a wide range of subjects, including animal and plant models, as well as cells and microorganisms (Taheri et al., 2022f, Taheri et al., 2022c, Taheri et al., 2022e, Taheri et al., 2022h, Taheri et al., 2022d, Taheri et al., 2022i, Taheri et al., 2022a, Taheri et al., 2022b, Torabi et al., 2020, Taheri et al., 2022g).

The results showed significant changes in behavior and measured traits in TCFs-treated samples compared to non-treated controls. However, understanding the exact mechanisms of TCFs treatment requires further investigation. According to Taheri, when a sample is exposed to these fields, information transmitted via TCFs can lead to observable changes. This unique feature has encouraged researchers to evaluate the effects of TCFs. The current experiment provides evidence of the alleviative effects of TCFs on skin allografts in a rat model.

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