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Burn treatment and Iranian traditional medicine

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ABSTRACT

Burn is a well-known disorder in Iranian traditional medicine (ITM). In traditional medicine resources, burn is discussed as burn and Harqh. Burn is the main and acute disease which is caused abruptly by increasing heat by external causes. According to the intensity and exposure duration with heat sources, symptoms vary and it can cause abnormal temperaments, dialysis, swelling, causing wound and injury and even causes deformation and destruction of the damaged organ in extreme cases. Iranian physicians have divided burns into various types based on the cause and recommended treatment for each type, in traditional medicine resources, burn can be divided into 7 groups based on causing agents. The major symptoms of burn wounds include redness, blisters (smallpox) and pain. Burn wound healing has still remained a challenge to modern medicine. Offered treatments in traditional medicine, are including the topical treatment, specific dietary regimens and in some cases is phlebotomy.

Key words: Iranian traditional medicine (ITM), burn's symptoms and burn's treatment

INTRODUCTION

Burn is the fourth common cause of trauma in the world. In 2004 A.D. the global outbreak of severe burns requiring medical care was about 11 million people that ranked fourth among the injuries more than the total global outbreak of AIDS and tuberculosis (Peck, 2011).

The global outbreak of burn caused by fire and boiling water is three to ten percent (Peck, 2012). Generally, burns are classified into thermal, electrical and chemical. Chemical burns are less common but potentially more severe (Brunicardi, Billiar, Dunn, et al, 2010). A whole host of topical treatments are available to treat burn wounds. Among them silver sulfadiazine is most widely used in clinical cases. Silver sulfadiazine is the agent of causing neutropenia. Silver sulfadiazine destroys skin grafts and using it around all regions recently grafted is forbidden (Brunicardi, Billiar, Dunn, et al, 2010). Burn affects the patient's life in different aspects. The person is compelled to use narcotic sedatives in the acute phase of pain and intense burning and sometimes unbearable, and it affects the person's life and career (Ullrich, Askay and Patterson, 2009). High global outbreak and complications of burns, and on the other hand, modern treatments, mostly based on surgeries and multiple grafts, impose enormous costs on families and health care system in which it makes a need for finding cheaper and more effective therapies inevitable. In Iran's traditional medicine, special attention is given to burning and its treatments issue. And this issue is examined in another headline and topic independent of the other wounds. In traditional medicine resources and books based on the cause, the severity and the extent of involved organ and area, versatile and efficient therapies have been proposed. The purpose of this study is to provide traditional medicine perspective about burns and its

treatments, to contrive for carrying out future researches, in order to provide more effective therapies for this human dilemma (Wong and Ramli, 2014).

MATERIALS AND METHODS

This study is a retrospective review, and is done based on reviewing texts and authentic books of ITM in different centuries such as “The Canon of Medicine by Avicenna”, “Sharh al-Asbab va al-Alamat”, “Exir-e Azzam” “Zakhireye Khwarazmshahi”

In traditional medicine resources, burn is examined with two keywords “burn” and “Hrq”. By searching for these keywords in traditional medicine resources, the opinions of scholars have been collected about causes, symptoms and burn treatments, in order to reach efficient treatment ways for this global dilemma by examining them.

Skin in Iran’s traditional medicine

In traditional medicine resources, skin is introduced as neural physical cover that is similar to nerve in color, whiteness and softness. In traditional medicine, each organ has its own temperament and moderation (Aghili Khorasani Shirazi, 2006; Jurjani, 2003). The skin is the most moderate organ; that means all four qualities (heat, coldness, humidity and dryness) are equal in it (Aghili Khorasani Shirazi, 2006). Because warmness of blood vessels is in balance with the coldness of nerves in the skin (Razi, 2008). Body skin is thicker than the inner membranes, because it’s in touch with permanent heat, dryness, moisture and other external factors, and it has many sensors. There are many pores called Masam (pores). Thickness and pores are not equal in all parts of the body’s skin and some parts are hairy and some hairless. Skin is a cover for whole body as clothing and protects external organs and keep body from all external damages and creates perception and touch (Aghili Khorasani Shirazi, 2006). After mentioning the importance of skin, first, burn is briefly examined from the perspective of modern medicine, then we illustrate burn causes and symptoms from the perspective of traditional medicine and finally we exhaust burn treatments (Aghili Khorasani Shirazi, 2006; Razi, 2008).

Burn in Modern Medicine

From the perspective of modern medicine, burn patients should be considered as trauma patients initially. Generally, burns are classified into thermal, electrical and chemical (Brunicardi, Billiar, Dunn et al, 1010; Gharanfoli and Abbasi, 2005). The intensity of burn depends on the size, depth of the burn and the burned part of body. Usually burn wounds are classified as superficial (first-degree), partial thickness (second-degree), full thickness (third-degree) and fourth-degree burn in which affects underlying soft tissues. Clinically first-degree burns are extremely painful but don’t blister. Second-degree burns of dermal compromised and they are hardly painful with secretion and blister. Third-degree burns are intense, painless and without scaling and whitening. Following injury of burning, three areas of damaged tissues are caused. Congealing area has the severest burning and typically is located in the center of the wound. As the name implies, the affected tissue is congealed and sometimes clearly necrotic and it will need cutting and grafting. Stasis area is in the border, containing a regional and ischemia vasoconstriction response resulting from it. Suitable resuscitation and wound care may prevent deeper wounds. Infections or undesirable blood pumping may lead to increasing the depth of burn. Many of partial thickness burns that are superficial, will improve with good caring. While the majority of partial-thickness burns that are deep, need cutting and skin grafting. The last area of a burn, is called congested zone that will improve with minimal scar or no scar. So if the span of wound healing can be reduced to less than three weeks, it is possible to prevent complications and the burn scars (Brunicardi, Billiar, Dunn et al, 1010).

Now we exhaust traditional medicine perspective and examine the view of traditional medicine scholars about reasons, causes and burn symptoms.

Burn in Iranian traditional medicine (ITM) perspective

Burn causes

- 1) From contact with heat sources with potential heat such as sunshine, fire, hot water, hot oil etc. ...
- 2) Through potential warm material that generate heat in contact with the human body such as lime and caustic chemicals
- 3) Through lightning and electric current (electrocution)

In other words, actual or potential causes and factors that lead to generating and increasing the heat, can create warmth and drying in body and cause diseases.

The results of strong and intense heat can be: Ahraq (burn), Tajfif (drying) and Tzvyb (melting), (Arzani, 2008).

For causing the disease, there must be three conditions:

Firstly, the extent of agent (heat and frigidity) should be high that means for burning, intense heat is needed. Second, long exposure time. In burns, the longer time of exposure with the heat source is directly proportional to the severity of burns. Third, the body must have the ability to accept it. As we argued at the beginning, skin over the whole body is different in thickness and delicacy, and it is more sensitive in some areas. And in areas where the skin is thinner, burn is faster and more severe. In other words, every person has a temperament that consists of the balance of humors and organs. Also every organ whether singular or compound, has a temperament suited the organ, and the most moderate body organ is skin. Whenever the temperament of a person or his organs changes from average to more or less in one or two qualities, if there's no change in normal activities, it's called Taqir AIMzaj (unstable temperament) and if this change affects the normal activities, it's called Su' Mzaj (abnormal temperament), if the cause is inappropriate quality of humors it's called Madi or else it's called Sazj. According to the statistical classification of diseases and scholars from the perspective of traditional medicine and scholars, burn is a main and acute disease, that abruptly caused with overcoming the heat by external causes, and the signs change based on the extent, intensity of heat and duration of exposure with heating source. If the intensity of heat is low or the duration of exposure is short, hot abnormal temperament happens and symptoms are developed as redness and pain in burned skin without blistering. With increase in intensity and duration of exposure, hot abnormal temperament occurs with dialysis, swelling and blistering. In fact, the increase in temperature causes hotness in swelling. Avicenna believes that warm swelling of blood or bile or any material that have warm substance or the heat is caused by infection. In which, first, a volume of phlegm is made then the volume is increased and expanded and increasing in the volume is finally stopped; then it is prepared to be excreted and degenerate, wiped or purulent discharge is assimilated and become rigid.

Burn symptoms

Redness: Due to external causes such as fire or hot water, the skin and surrounding tissues that are connected to it, are heated and blood is absorbed into the burned organ and, that makes it look red.

Blisters or smallpox: the smallpox is due to internal or external causes that blood plasma is separated from blood and comes out of the opening of arteries and skin is separated from meat and becomes swollen in terms of the amount of plasma.

Burning pain: pain is usually burning and it leads to warm phlegm in the organ.

One of the unbearable and important symptom for victims is the pain of burning. In traditional medicine resources, pain is mentioned as "alm" or "vaj" ". From the perspective of Jurjani, pain is the awareness of the organ of any abnormal state in it, and the causes of the pain are of two types: first, change in temperament of the organ abruptly which is called different abnormal temperament, and the second one is dialysis. In Canon of Medicine, Avicenna declares that there are two causes for pains: first, changing temperament (hot, cold or dry abnormal temperament), second: dialysis.

Arthritis: one of the causes of arthritis is that whenever the pain is starting in a damaged organ, a substance comes to the wounded and painful organ and due to pain and weakness, the substance stays in the organ and causes inflammation and swelling.

So generally, in traditional medicine, based on the severity of symptoms, burns can be divided into three types:

A) With no blisters: that are caused by hot abnormal temperament, immediately and abruptly affects skin as an organ which is a part of nervous system, skin and its components like blood is heated and abnormal temperament becomes hot. Its symptoms are redness and burning pain that is equal to first-degree burn.

B) With blisters: actually it's a swelling and complex disease that is a result of physical abnormal temperament and dialysis. At this time, plasma is separated from blood and is trapped in the arteries under the skin and creates blister. In which can be considered as second-degree burn.

C) Wounds that are difficult to heal: when abnormal temperament changes the nature of the organ and it balances out and demolishes. This stage is observed in severe and deep burns that leaves scar and deforms the organ.

Actually the purpose of burn treatment is reducing the third type. Now we briefly and generally exhaust burn treatment in Iran's traditional medicine.

General principles of treatment

According to the view of traditional medicine scholars, in the treatment of disease, stamina, strength, patient's temperament and the nature of affected organ should be considered. According to traditional medicine resources treating burns is different based on burning cause, severity and extent of the affected area. And the basis of treatment is cooling and drying the burned organ. (Nasiri and Hosseinimehr, et al, 2013)

Treatment generally consists of three parts as follows:

- A) Topical treatments
- B) Nutritional therapy
- C) Phlebotomy or bloodletting

Topical treatments:

According to the view of scholars, treating burns is for two purposes:

First- cooling the spot, eliminating the harm of heat and preventing blisters. Therefore, cooling drugs and without burning is needed, such as: cold water, rose water, malva, coriander, egg, sandalwood and betel. (Lawrence, Way, Gerard, Doherty, 2003).

Second- if burning is severest and blisters are caused, the burning should be reformed. And for treating and reforming burns, drugs that are not too drying, without burning and moderate heating and cooling is required; Althaea and Malva. In this case, Lime cream is the best drug. Meanwhile, in traditional medicine, opening blisters is recommended. If both treatments need be, firstly we treat cooling, then we do the next. If the signs of heating are dominant, cooling the inner part is required, otherwise, topical medications may suffice. (Burns, Breathnach, Cox, 2010)

Nutritional therapy

Generally, if burning is dominant, in massive burns, cool juices and decent foods are necessary for alleviating and mitigating the heat.

On the other hand, if burning is severe and organs blister, foods with lower quality should be eaten (Fat-free food prescribed for patients) so that other material don't shed on the burned site. The patient should avoid eating foods that warms his temperament. The less the food of the patient, the faster the wounds heal. So if the patient's temperament doesn't change and his urine and pulse be moderated, there is no problem in eating meat because it has the same substances as burned organ. (Afsharypour and Mosaddegh, et al, 2013) Galen noted, whenever a person's nerves, muscles and tendons are injured, eating red meat of leg and muscle is necessary. It is due to that Hippocrates said the delay in healing an injury goes back to decrease eating the foods with a nature close to the organ, because if the food doesn't suit the organ, it doesn't apply the nature of the organ. If there is a lot of smallpox (Blisters) with severe pain and burning, every morning, drink a mix of Sekanjabin, rose water or pomegranate juice with white sugar, and eat foods with sour ingredients like verjuice and pomegranate and barberry (Vujanovic and Vujanovic, 2013).

DISCUSSION

Burn is one of the most common problems of humanity throughout history that its complications can affect person's life in terms of physical, psychological, social and occupational, so treating burns and its complications have always been noticed by scientists and researchers. Burn and its causes and symptoms in ITM has been considered by scholars. Based on the severity of heat and the exposure time, burn can be started with a hot abnormal temperament, If the heat and exposure time increase, it leads to dialysis, hot swelling and infection. And eventually ruin the affected organ and deform the burned organ.

In fact, the factors, that cause warmth and dryness, can lead to burning and create a range of diseases, hot abnormal temperament, dry abnormal temperament, infection, dialysis, swelling and inflammation and ultimately ruining the organ. 7 types of burn are expressed in traditional medicine, however, due to the modern growth and development, laser burns and nuclear radiation burns should be added too. Burns symptoms are burning pain and blisters

(smallpox). The first and most common organ involved in burning is skin and based on intensity and duration of heat, burning symptoms are different and variable. The most minor form of burn is redness, pain, and without blisters and in the most intense form, it leads to dialysis and abnormal shape and even ruining the organ.

The offered treatments include topical treatments, nutritional and in specific cases include phlebotomy and bloodletting. The modern treatments of burns are mostly based on surgery and grafting. On the other hand, supplying water and body's electrolytes are highly regarded. According to severity of the burn and patient, nutritional therapy in traditional medicine is different and there is more emphasis on lessening food and eating meatless meals. But modern medical nutrition is based on supplying fluids, electrolytes and calories of the victim. Offered treatments in traditional medicine that apparently contrast with today's treatments in some cases, need conducting trials and further studies to prove the effectiveness of these recommended treatment.

CONCLUSION

On one hand focusing on causes of diseases mentioned in Iran's traditional sources, on the other hand it requires doing research and intensive studies for yielding information and with an in-depth and insightful look, it can facilitate solving current human problems in the field of burn treatment.

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