

An overview of skin lesions adapted to Cutaneous Leishmaniasis in Persian Medicine

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Type of article: Review

Abstract

Background: Cutaneous Leishmaniasis (CL) which is prevalent in all continents and is classified by the WHO as one of the neglected tropical diseases, existed in the past also, and discovered ancient works confirm this issue. The lack of adaptation of diseases between Persian Medicine (PM) and Modern medicine, led to no usage of effective therapeutic experiences of prior physicians.

Objective: The purpose of this study is finding skin lesions adapted to CL in PM for usage of same disease treatment in the next clinical trials, and the use of approved therapies in CL.

Methods: In a narrative review, without time limitation, documentary study was conducted for different names and clinical aspects of CL in printed and electronic resources of modern medicine such as: Rook's Textbook of Dermatology, Harper's Textbook of Pediatric Dermatology, PubMed, and Embase. Then, found names were searched in printed and electronic resources of PM such as: Al-Qanun fi al-tibb, Al-Tasrif leman ajeza an-e-Taliff, JamiTib 1.5 published by Noorsoft.org. Then, skin lesions which were similar to CL with these aspects were searched: clinical manifestation and forms, chronicity, curability, mosquito bite, were studied in references of PM. Finally, matching, syllogism and logical inference were performed and conclusion was made.

Results: Forty-five names for CL were found in the searched resources. However, only Balkhieh, Kheyroonieh and Baghdadi button were names found in PM resources. Also, from 61 studied skin lesions in PM resources, only 6 cases had similarities to CL.

Conclusion: In spite of the existence of CL's similarity with Balkhieh, Kheyroonieh and the Baghdadi button, there are serious differentiations. Zat-ol-asl rashes and reddish solb rashes, kinds of stranger rashes, probably adapted with CL.

Keywords: Cutaneous Leishmaniasis, Balkhieh, Zat-ol-asl rashes, Reddish solb rashes, Stranger rashes

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Received: April 06, 2017, Accepted: June 09, 2017, Published: November 2017

iThenticate screening: June 07, 2017, English editing: October 07, 2017, Quality control: October 15, 2017

This article has been reviewed / commented by Three experts

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1. Introduction

Cutaneous Leishmaniasis (CL) is the most common clinical form of Leishmaniasis (1). The World Health Organization (WHO) classified the disease in the Neglected Tropical Disease Group. It has world distribution and in 2015 it was endemic in 88 countries. Moreover, cases have been reported from 4 other countries (2). Annual incidence of CL is estimated between 700,000-1,200,000 people by the WHO (3). Subclinical (4) or undiagnosed cases of CL make the overall burden of the disease less than the actual amount estimated (5). More than 80% of cases occur in developing countries, and the disease is usually transmitted through non-endemic areas through migrants or travelers (6). The disease agent, which is usually transmitted through sandfly bites, is a protozoan from Trypanosomatidae family (7). Now, 22 human pathogens have been identified (8). Rodents, dogs, foxes and wolves, and sometimes horses, are considered as a reservoir of the disease (9-11). Humans sometimes act as a potential reservoir (12). In most cases, CL heals without treatment (13); but the disease consequences such as deformity, scar, chronicity (14) and the spread of it, has led to CL treatment to enter into the healthcare program. The first line of treatment is pentavalent antimony, but its success rate is about 76.5%, toxicity (15), and drug resistance (16) and cost (17) have caused the need for safe, low-cost and cheap alternative therapies. In recent decades, complementary and traditional medicine has attracted the attention of the WHO, governments and the population (18). The Iranian government is also pursuing a strategy for the promotion and development of PM, and the public welcomes it (19). PM is known by its scientists such as Rhazes, Avicenna and Ismail Jorjani. It is the duty of medicine to maintain health in healthy people and to repel illness from the body and restore health (20). In the 150 years that PM has been neglected in Iran (21), medical science has been flourishing in the West. The revival of PM in the last decade necessitates the adaptation of many of the diseases listed in PM to the names of diseases in modern medicine. The history of CL (22) requires its treatments to be investigated in traditional medicine. Despite the explanation of skin disorders in the PM reference books, the term “salak” or CL does not exist. In this study, the clinical profile of CL was adapted to various types of skin lesions in PM reference books to use as traditional therapies in future research and to compare them with existing classical medicine treatments and, if they are preferable, to use them.

2. Material and Methods

This article is the result of a narrative review that has been done in two phases: A) Documentary study in PM and modern medicine, B) Matching, syllogism and logical inference, findings of PM and modern medicine

2.1. Documentary study in PM and modern medicine

The process was conducted by two groups of PM specialist and dermatologists in 2015-2016, and the findings were discussed. Due to the lack of laboratory and histological, microbiological, histopathological and pathophysiological information in traditional reference books, and the lack of complete recognition of modern medicine from humors and temperaments, these cases have not been investigated and applied, and research concentrated around clinical symptoms and transmission routes. Research topics included:

- 1) Extraction of clinical signs of CL in printed and electronic reference books (6, 23-29).
- 2) Extraction of synonyms and names of CL by searching the keywords: The Leishmaniasis history, Cutaneous Leishmaniasis historical, Cutaneous leishmaniasis in books and the PubMed, Embase and ISI databases. Published material related to the history of the disease was extracted without time limit.
- 3) Names extracted from modern medicine sources, in main books of PM (30-39), electronic comprehensive library of medicine Version 1.5 (Comprehensive Traditional and Islamic Medicine Library, provided the full text of 1,200 books and medical treatises works of Greek, Persian, Islamic, and Hindi scientists) were searched and common names found.
- 4) Search for mosquito, sand-fly and vermin insect bites in authentic books of PM.
- 5) Finding long-term skin lesions in authentic PM books.
- 6) Regarding the usual clinical manifestation of CL (dry and wet forms), possible equivalent terms in PM such as Bosoor, Ouram and Ghoroooh were studied. Because the American continent had not been discovered at the time of PM books writing, in this study, the new world and Mucocutaneous Leishmaniasis were not investigated.

2.2. Matching and syllogism and logical inference, findings of PM and modern medicine

At first, after data extraction, each group independently discussed and made conclusions. Then, they examined the results at a joint meeting and achieved a common point.

3. Results

3.1. CL in new scientific resources

CL is a chronic self-limit skin granulomatous disease. According to geographical area, two types of CL in the old world (Middle East, Eastern Mediterranean, North Africa and parts of Asia) and the New World (South America and Central America and some Texas areas) are defined (40). In old world CL, after infected sandfly bites and latency period, one or more lesions arise: the emergence of the red itchy vesicular papule in weeks to months after the bite (28). The papule is referred to as a prominent lesion of the skin with a defined area and a size less than 1 cm (25). This papule is slowly enlarged, causing a nodule and ultimately wounding (41). The nodule is prominent lesions with a defined area that is bigger than papules, often more than 2 cm in diameter, which involves the dermis and may affect the subdermis (25). Induration, skin turbidity and soft papule, which, after several weeks, change to nodule or plaque, and ulcer up to 5 cm in diameter or a bulge-like warts, are other common manifestations of CL. volcanic lesion may form. Dry CL (urban type due to *Leishmania tropica*) and wet CL (rural type due to *Leishmania major*) vary in number, color, shape, size, progression and recovery of the lesion. In most cases, after a few months of illness, spontaneous healing is observed with the presence of scarring. Uncovered areas (face, neck, hands and feet) are the most common affected places. In multiple lesions, they do not necessarily occur simultaneously. The formation sequencing of papules, nodules, wounds, crust and healing by scar formation is common in self-healing wounds (6, 24, 25). Lesions of CL usually have no pain until they have had secondary infection (42). In children, more than 60% of them have a lesion and scalp lesion is rare (26).

3.2. Synonyms of cutaneous leishmaniasis

Databases and reference dermatology books were searched, the following names were synonymous with CL: Ulcus endemicum, Granuloma endemicum, Furunculosis orientalis (in Latin countries); Oriental Sore, Oriental Boil, Frontier Sore (in England); Clou de Biscara, Button d'Orient, Button de pays chauds, Button d'Aleppo (in France); Jahresbeule, Orientbeule (in Germany); Bottone d'Oriente (in Italy); Penjdeh-Bashi, Peshekkhurdeh, Iyl-Chyban, Yamen djaragat, doneh murgou, sart, pendeh, Merv, Ashkhabad, Kokand sore (in Russia); Cafsa Sore (in Tunisia); Yemen Sore (in Yemen); Baghdad Sore, Basra button (in Iraq); Salak, Isfahan or Bushire Sore, Kappeh or Kappeh Armani (in Iran); Saldaneh, Balkh or Kandahar Sore (in Afghanistan); Agra, Bombay, Lahore, Delhi, Cambay, Meerut or Panjab Sore (in India); Delphic Ulcer (in Greece); Cairo, Cantarin or Nile Sore (in United Arab Emirates); Al-Ukht (in Saudi Arabia); Aleppo button (in Syria); Al mugawwarah (in Egypt) Khayronieh (6, 22, 24, 26-29, 43-47).

3.3. The names of the CL in modern medicine and traditional medicine sources

The names of the CL in modern medicine were searched in authentic books of traditional medicine, and the results indicated that except for the names of the Balkhi ulcer, Ghorhe Balkhi or Balkhieh, Kheyroonieh and the Dokmeh-Baghdadi (boil, button, Habb-e-Baghdadi) had not been mentioned from any of the abovementioned names, and only Bahao-Dawlah Razi is mentioned as Habbe-Baghdadi, and it is referred to as Bhalkhieh. The same result was obtained in the search in PM reference books section of electronic comprehensive library of medicine version 1.5. It seems that in PM books, at the first time, the word of "Salak" was used by Mohammad Karim Khan Kermani in the book *Daghaegh-ol-alaj* (probably written in 1853). He writes: "Salak" is an ulcer, which at the beginning, is crust-like, and then it secretes nectarous liquid. It remains for one year and has a slow expansion and its scar remains after recovery. Often, it appears on the face, hands and feet (48).

3.4. Mosquito-borne or causative Skin lesions in PM

The search in authentic PM books with words; mosquitoes and vermin insects, showed that the only skin lesion similar to CL lesion, that had the mosquito-causative agent was Ghorhe Balkhieh. (20, 31, 37, 39). Summarizing the views of the 20 famous scholars of PM such as Avicenna, Rhazes, Jorjani, Akhavini Bukhari, Hali abbas, Zahravi, Ibn Hindu, Ibn Hobaysh Tbilisi, Bahao-Dawlah Razi on Balkhieh are as follows: Ghorhe Balkhieh is an ulcerative rash usually due to mosquito bite, ichorous, crusted, and may be accompanied by palpitation, faint, fever and adjacent healthy skin invasion (20, 31-34, 36-38, 49-54).

3.5. Long-term skin lesions in PM

Long-term skin lesions in PM include Jozam, Ghuba (ringworm), botm (rashes exclusive to the legs), Osr-al Endemal (delayed healed ulcer), kheyroonieh (tuberculous ulcer), Nasoor (fistula), scirrhous), Bosoor-e Gharibeh (stranger rash) (20, 31-33, 35, 37-39, 55, 56). Also, Bahao-Dawlah Razi states that if the Balkhieh does not treat, can prolong to a year (52).

3.6. Bosoor, Ouram, Ghoroooh and Jerahat in PM

In PM sources; Bossoor (plural of Bosreh) are small rashes on the skin (55). Ouram (plural of varam) are abnormal bulging of the external or internal organs due to entrance and accumulation of matter, that is equivalent with edema or swelling (57, 58). Ghoroooh (plural of Ghorheh is infected tissue disruption and has two types: Ghorheh Vasakheh is a filthy or purulent ulcer; Ghorheh sadidieh is an Ichorous ulcer. Depending on the depth, the ulcer has three types: 1) Mokhabba: ulcer with pus infiltration in subcutaneous tissue. 2) Kohoof: extensive in muscular tissue. 3) Ghaareh: deep ulcer (31, 37). Tissue disruption (Tafarogh-e etesal) in PM consists of; Khadash, a fine and small disruption in the skin (53). Sa'haj which is larger than Khadash in tissue (59). Jerahat (singular of Jeraha't) is clean skin and tissue wound due to blunt or sharp trauma, and biting. In Avicenna's view point Ghorheh is resulted from split up of varam, jerahat and bosreh (31). Various types of Ouram and Bosoor are presented in Table 1.

Table 1. Various types of Ouram and Bosoor

Ref. no.	Various types of Ouram and Bosoor
32	Phlegmon (severe swollen, inflamed, painful, pulsatile, hot, and tender in the skin)
32, 60	Domal Abscess- (a large pineal shape, red and painful rash with fever)
31, 32	Homreh (Erysipelas and its types- red glossy yellowish skin inflammation, severe irritation, localized severe heat, fade from finger pressure, sometimes rapid extension, possibility of sudden blistering on the surface of the body, fever, thirst and restlessness)
39	Nar-e-Farsi or Jamreh (A lot of diluted liquid vesicles with itching and burning sensation)
35	Homreh-motanaffete (blister containing diluted liquid, similar to burn blisters that sometimes contain diluted blood)
52	Namleh (Herpes-like lesion, small rashes attached together, rounded, broad roots, sometimes wider apex than the root, locally widespread, itchy, slight swelling, warm, ant bite-like burning, bile-colored)
32	Insect bite bosreh
32, 35	Akeleh (corrosive skin ulcer- corrosion and putridity in the organ; dark, green or pavonine discoloration; high swelling; spreading to the adjacent tissue)
58	Javarsieh is scattered small ulcerative, white head, red base rashes and may be with severe burning sensation and ichorous
32	Edema due to Phlebotomy
32	Phlegm cold edema (a weak, white, cold and painless edema)
37	The Reeh (flatus) swelling, (in the first type, reeh enters into the tissue and is soft in touch; called "Tahabboj". In the second type (Nafkheh), the reeh is limited in organ distinct spaces or between two organs and is hard)
56, 61	Entefakh (subcutaneous Emphysema) Entefakh is gas gathering in an organ's space that leads to the organ's enlargement. Initially, it is small and then it expands. Finally, skin may be thinned
32, 35	Varam-e Solb (or indurated Swelling): hard consistency; persistent; slow decline. It has several types: 1) black, cold to the touch, high consistence, painless or numbness and incurable. 2) White, cold to the touch, fewer indurations than the first type, has a weak sensation, curable. 3) It is originally warm swelling, but cold and astringent from drugs used due to doctor's malpractice that convert it to this type of swelling
35	Ulcerative and non-ulcerative cancer (it is initially started with an almond size swelling and gradually grows larger and rigid, it becomes dark and round and colder than adjacent tissues. As the disease progresses, the red and green vessels' crab-like legs appear on the surface, which may be ulcerated)
31	Dobaileh (a type of swelling that is purulent)
52	Schirrhus is a solb varam that in some cases, is incurable and can be fatal
31, 37	Ghorheh Mokhabba is an ulcer that infiltrates pus in subcutaneous tissue
32	Zokam is an ulcer with persistent secretion
20	Ghanghoria: Gangrene is due to the closure of blood vessels' abnormal organ blood supply and organ turning to bruises and blackness
32	Algharas or Gharasat (a type of Jozam that occurs in the hands and feet and is accompanied with sever burning sensation and in progressive form, leads to organ deterioration)
35	Sal'aeh is a large swelling without adhesion to the underlying tissue, can be moved in different directions, may not fade by pressure or may fade but reappear, and is soft or rigid
35	Hard varam: Type of Sal'aeh with hard swelling caused by thick phlegm and soda (black bile) material
35	Swollen lymphatic nodes
34, 35	Souloul (wart), round, severe hard and small rashes. It has two types: 1) white and softer than type two. 2) dark and hard
35	Dakhes (paronychia)

62	Gluteal ulcer, cold-burn injuries, winter children's foot swelling, foot-tissue compression
62	Botm (rashes exclusive to the legs)
31	Rakhav swelling is soft and non-heat edema
35	Jozam (organ deformity with or without ulcer, deterioration of tissue in advanced stages, numbness in involved organ, hoarseness, mutilation of nose, circular orbit)
35, 37	Touse (a broad deep ulcerated rash on the face, sometimes in the anus and vagina, benign or malignant and painful)
31, 63	Sa'fe (Favus) and its varieties (scattered rash with mild itching, ulcerative rash, crust and reddish). If it has ichor discharge, it is called shirinaj or moist favus. At first, sometimes they are similar to dry ringworm, which exacerbate in the winter but decreases rapidly. Often appears on the face, head and sometimes other parts. Dry Favus is whiter and with white desquamation. Ichor secretion can be seen in wet Favus for a while. Pores are visible in both varieties
31, 35	Hasaf (Miliaria rubra): very small rashes, sharp and widespread. It often occurs in hot areas and people who are sweating, and are washed off, when exposed to cold climates. (Sometimes, it only appears in the form of roughness in the skin)
31	Banat-ol-leil, (Small, itchy and rough rashes that occur in the cold and at night)
33	Jarab (Scabies- small rashes and redness which then becomes swollen, itchy. Common places: hands, between fingers, elbows, and coccyx)
37	Quba (ringworm- rough itchy skin rash, sometimes colored in black or red, often with thick and red sides)
31, 32, 37	Erghe-Madini (Filaria Medinensis) severe itching and tingling in the organ before rash, rash, entefakh then blister rash, blister perforation, permanently white, or red to black exudation
35	Small rashes (small top, sharp margin or wide according to whether the pathogen material is hot or cold)
55	Anoresma (the violet eggplant swelling under the skin caused by traumatized artery)
35	Jodari (Smallpox- large, whitish red rash, scattered over the body, rapidly wounded and infected, persistent fever, temporal and facial edema, nasal itching, face or afflicted region inflammation and redness, headache, hoarseness, back pain)
35	Homigha (a type of Jodari with dispersible large and white rashes, the patient is alert, breathing stability and no fever)
35	Hasbeh (Measles, red and scattered, similar to Setaria viridis seed, a similarity to flea bites, granular view, woundless, puss-less, crusted, burning fever, grief and restlessness and unreasonable anxiety) and nose pruritus
33	Khanazir (Scrofula- swollen lymph nodes of the neck area)
56	Bosoor-e Gharibeh (stranger rash: has several types: 1- a shiny white small rash, slightly painful, with a rigid root that is called the Zat-ol-asl, which is of two kinds: one; that is deformed and becomes a great abscess whose treatment is easy and the other which will, on its own, remain hard and excrete pus for a short time and this hardness cannot be resolved or destroyed easily, but initially secreted, 2- red rigid, painless, migrant rash)
31, 37	Didani (Vermicular ulcers: caused by a small blackhead worm in ulcer outlet, itching, serosanguineous and ichorous secretion, corrosive)
32, 35	Ghoroooh-e Moteakeleh (Corrosive ulcers: 1- No purulent ulcer 2- purulent ulcers 3- Radi'eh (purulent, tissue discoloration to the darkness, greenish or pavonine, high swelling, spread to adjacent tissue)
31, 38	Ghoroooh-e Asir-ol-endemal (delayed healed ulcers) probably with obvious hardness, invasive or noninvasive. There are a number of diseases in this group: Balkhieh, fistula, corrosive, septic, Kharoniyah
38	Nasoor (Fistula- chronic, permanent secretion, incurable, low pain, narrow outlet, wide depth)
36-38	Ghoroooh-e Sa'eieh (corrosive substance secretion to adjacent tissue, invasive, fever, possibly palpitation)
37	Kheyroonieh is high filthy and very delayed healed ulcer
31, 32	Ghoroooh-e Khabiseh include: 1-Taoon: hot red, irritative inflammation rash in wrinkled area (such as groin and behind the ears), black or green or dark margins of lesion and associated with faint, palpitation and vomiting, 2- Gharasat (a type of Jozam that occurs in the hands and feet and is accompanied with severe burning sensation, and in progressive form leads to hand and foot Amputation)
37	Ghorheh-e Molema (occurs more in the head, restlessness and insomnia due to severe pain, slow healing)
37	Horagh (large rash, purulent, extensive, spontaneous opening, black and gray crust, low pain and commonly in face)
20, 31, 34, 36-39, 49-54	Balkhieh

4. Discussion

Regardless of the fact that a number of contemporary scholars and sources believe that CL is compatible with Balkhieh or Balkhi ulcers (22, 29, 44-46), in this study, taking into account the main points in the epidemiology and clinical manifestations of dry and wet CL, we use a comparative method for matching. The key indicators of the analogy in this study are: 1) Skin lesions that appear through a mosquito bite, 2) Primary skin lesions which are papules, then become nodules, wounded, crusted, and may be discharging or dry, 3) It lasts more than a year, 4) The lesion is usually improved without treatment, but the scar tissue remains. The search for PM authentic books about mosquito (Farsi and Arabic) words showed that the Balkhieh is only mosquito-causative skin lesion. However, these sources did not mention that it is a self-limited disease, but it refers to fever, palpitation, and faint that does not exist in CL (36, 39, 52, 61). These symptoms and multiple skin lesions may exist in Iranian patients with Kala-Azar (64). Pathogen in most PM experts' view is warm matter that is matched with rural CL. But the clinical aspect of urban CL does not correlate with the quality of warm matter. It is emphasized that fever, palpitation, and faint is not seen in CL. In CL, clinical manifestations, papules and nodules appear after incubation period. Papules and nodules are consistent with bosoor and varam. In general, substance influx in tissue makes a varam (32). Papule is made by epidermis thickness increasing, cellularity increasing and cellular deposition in the dermis. This may be compatible with substance influx in PM. In PM, it has been observed that mosquito bites had no role in ouram. Based on the mentioned clinical definitions and features, Ouram (with the exception of solb and cold varam) can be distinguished from CL. However, the first type of solb varam is incurable and ulceration was not mentioned. The second type of solb varam can be considered as cold varam that it is curable, but its whiteness, coldness, no hint about ulceration and crust formation means that there may be a poor match with CL. With regard to the definitions and clinical manifestations, bosoor were not compatible with CL (with the exception of zat-ol-asl, third type of bosoor-e Gharibeh [stranger rash] and Sa'feh). Javarsieh may seem to be similar to CL, but the objective and subjective sign and symptoms put it aside. Tabari, in the "Hippocratic Treatments" says a kind of stranger's rash is zat-ol-asl that is small, white and glossy, with little pain and has consistency in basic resemblance to the glands. This type is the worst kind of rash. The zat-ol-asl has two ends: one becomes deformed and becomes large and domal, which is easy to treat, and the hardness of the other remains intact and excretes pus for a short time, and this hardness cannot easily be resolved and does not disappear, but at first is secretive and remain for a long time. The third type of stranger's rash is a solb, a small, painless rash which appears in a position and then fades, but it reappears elsewhere and remains long lasting as explained in modern medicine (56). Thus, dry CL may be equal to zat-ol-asl rash. But usually, CL lesion does not have a white color although it has a shiny top. Stranger bosoor that has a domal (abscess) form and is easily curable, may be compatible with wet CL. Zat-ol-Asl rash that remains hard long-term, but has pus drainage for a short time, can be thought of as a dry CL. The third type of stranger's Bosoor with its hardness, painless and red rash may adapt to the clinical aspect of the dry CL. The lack of concurrence of lesions, and self-healing of some lesions are also described in classical medicine. The failure of this matching is the lack of crusting in Zat-ol-asl and the third type of stranger's rash. Sa'feh is a reddish lesion that causes the ulcer. At the beginning, it has mild itching and is scattered, then ulcerated and crusted, and may be ichorous, which is called Shirinaj or wet Sa'feh. At the beginning it may be in the form of dry Quba, whose color is whiter and the white scales are dispersed and mostly will exacerbate in the winter. The harmful substances that should be repelled from the body may be putrid after skin repletion and induce corrosion (31). Sa'feh ulcers have occurred on the scalp and face and occasionally in other hair locations of the body (36). Dry and wet Sa'feh has tiny pores (63). The failures of this matching are: 1) area of the disease: CL seldom occurs in the scalp but in Sa'feh, is common, 2) The stages of papule-to-nodule change are not observed in Sa'feh. Papules have secretion and change to ulcer and lesion secretion damages adjacent healthy tissues, 3). The characteristics of dry Sa'feh do not match with dry and wet CL. The type of ulceration is a synonym of Ghorheh in PM (31, 37, 53). Balkhieh, delayed healed ulcers and Horagh have similarity with CL. The only similarity of delayed healed ulcers is the delay in improving lesions. CL induration is not necessary in delayed healed ulcers and occasionally, they invade the adjacent healthy tissue. In Horagh, the sequence of the ulceration is not consistent with CL. Initially, CL is not purulent and then after induration, nodule formation and ulceration excrete ichor and with continued discharge, the ulcer develops superficially. The depth of the wound in Jerahat is so deep that it affects the subcutaneous tissue (39). This feature is not possible in the CL lesion due to the size of the sand-fly's proboscis. Therefore, Jerahat is not consistent with the CL. In PM, long-term cutaneous lesions include Jozam, Quba, Botm, delayed healed ulcers kheyroonieh, fistula, schirrhous, variety of stranger rashes and untreated Balkhia. According to the definitions of Jozam, ringworm, Botm, delayed healed ulcer, kheyroonieh, Fistula, schirrhous in PM, none of the clinical features of the CL is consistent. The Balkhieh and its adaptation with CL have been rejected. Two types of stranger rashes that are similar to the CL have been discussed.

5. Conclusions

Findings of the study showed that there is a great deal of differentiation between the Balkhieh and the CL. Baghdadadi's habbeh is the same as Balkhieh. It is not similar to CL. Kheyroonyeh is not consistent with CL. But Zat-ol-asl rash according to its dual outcome, may be consistent with CL. The first type which creates domal shapes and is easily curable, is a description of the wet CL. The second type remains hard and has discharge in short time and its hardness remains for a long time, to be descriptive of a dry CL. The third type of stranger bosoor, which is painless, red and hard is also consistent with dry CL. The practical importance of these findings is the use of the experiences of prior medicine scientists in treating this disease. It is recommended that the treatments listed for these lesions in PM to be studied. And clinical trials must be conducted for evaluating their efficacy in order to be used in the treatment of CL.

Acknowledgments:

The study was funded by Mashhad University of Medical Sciences (Mashhad, Iran).

Conflict of Interest:

There is no conflict of interest to be declared.

Authors' contributions:

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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