

History of Leprosy as Depicted in the Carakasamhita

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Leprosy is one of the most dreaded and stigmatizing diseases. Although modern treatment methods have been introduced for leprosy, leprosy has not yet been eradicated even today. In Indian tradition, it is known as Kustha. The discussion and its traditional treatment dates back to ancient times. After the Vedas, Puranas, the *Carakasamhita* is a book that describes the causes, symptoms and treatment of leprosy in detail. The study and analysis of the issues mentioned in this book may have beneficial impact on the treatment of leprosy especially to manage complications of leprosy including nerve damage, trophic ulcers and disabilities.

Keywords: Leprosy, Kustha, Mahakustha, Carakasamhita, Far-reaching

Introduction

The word leprosy is known as kustha in India society, culture and literatures. Basically, the word kustha is a Sanskrit word, is derived from the root *kus* with suffix *kthan*. 'kusanati śarirasonitam vikurute iti kustham'(Sarasvati 1987:4), meaning that which vitiates the blood of the body is called kustha, i.e. leprosy. However, this word in *Atharvaveda* (Atharvaveda 1986) which dates to 1400 B.C. and other Vedic texts, where it has been mentioned as a plant *Costus speciosus* or *Arabieces* or *Saussurea Auriculata*. This plant grew especially on the mountains along with the soma creeper, the auspicious plant of the Vedic people on the high peaks of the Himalaya (Hillebrandt 1990:65). As a remedy it was used to cure headaches, eye diseases, bodily affliction and especially fever and consumption. It was also used to treatment of poison and named by Visvavesaja, i.e., the universal herb, for its all-healing power (Atharvaveda 1986: 19.39.9). Possibly, this plant was used to cure

leprosy and that disease was named after that plant. The *Maitrayanisamhita* does not mention kustha as disease or medicine but means a fraction which appears to denote one-twelfth (Maitrayanisamhita 1998).

However, in the *Atharvaveda* (Atharvaveda, 1986: 1.23.24) and the *Vajasaneyisamhita* (Vajasaneyisamhita 1940: 30.21) and other Vedic texts (Pancavimsabrahmana 1931: 14.3.17; Taittiriyanayaka 1871: 5.4.12) it is mentioned of a species of leprosy, called kilasa ('kil' means white, 'as' means to cast or throw away) resembling the so called white leprosy, probably a type of tuberculoid leprosy (Bloomfield 1973: 266), in which the skin becomes spotted without producing ulcers. References to the so called kustha disease and the leprosy are available in the later texts of Sanskrit as well as Pali literature. Vinayapitaka records 'kutta' (Sanskrit kustha) was one of the five diseases prevalent among the mass of the Magadha (Vinaya Texts 1949: 1.39.1-7. pp. 191-94). It is mentioned that one

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who suffered from kusta was not eligible to get admission into the order of monks or going aboard was also prohibited. Kusta finds mention in the *Santiparva* and the *Anusasanaparva* of the *Mahabharata* (Mahabharata 2009: XII.303.6; XIII.10.18; 23.13).

Regarding the authenticity of the references mentioned one may find differences between the clinical description of kusta given therein with that of leprosy of present time. The ancient Indian medical treatises like Carakasamhita, Susrutasamhita, Astangahridayasamhita etc. record different kinds of leprosy, causes and treatment. In the medical literature, the Carakasamhita is of earlier time than that of Suśrutasamhitā and Aṣṭāṅgahṛdayasamhitā (Winternitz 1962: 664-673). Actually, it was an adaptation of a tantra on medicine of Agnivesa, a disciple of Punarvasu Ātreya. According to the tradition Caraka was the personal physician of Kaniṣka, assisted him to prevent abortion. Hence, Caraka was contemporary of Kaniṣka whose date was 78 A.D. The present text of the Carakasamhita was completed in the eighth or ninth century A.D. by Dridhabala.

In this article, an attempt is made to analyze the description on leprosy found in the Carakasamhita. Descriptive method is used in it. The main objective of this paper is to identify the method of treatment of skin diseases observed at the time of Caraka.

Causes of Kusta

In the Carakasamhita, the deadly skin disease kusta is described systematically with its primary and secondary causes, symptoms and remedies. According to Caraka three humors of body of the living beings, Vata (wind), pitta (bile) and kapha (phlegm) have been disturbed and four bodily elements, namely tvak (skin), māṁsa (flesh), śoṇita (blood) and lasikā (lymph) have been polluted, cause leprosy (Carakasamhita 1998: VII.7.9). The author shows the causes of leprosy

that a sudden change in food habits during the changes of seasons, a sudden plunging into cold water when extremely tired or afraid or grieved, stifling nausea inside, eating hot and cold things without proper sequence, taking nutritious food when it is not needed and taking debilitating food when it is needed to take nutritious food, indulging in sexual acts after overeating oily and rich food, excessive sleeping during day time, excursion and fair, taking food during indigestion, insulting the Brahmins, teachers, sinful activities, etc., disturb all of humors of the body, weakening the skin, blood, flesh and lymph and cause leprosy. Thus, leprosy is not caused by a single humor.

Symptoms of Leprosy

Caraka states that when the symptoms of kusta are noticed in the skin, then treatment should be taken before the danger mark. Lack of touch sensation, excessive or no perspiration, complexion, appearance of sashes, itching, roughness or extreme smoothness of the skin, piercing pain, numbness, burning sensation, horripilation, exhaustion, excessive pain in wounds, delayed healing, etc. are the symptoms of kusta.

In the Carakasamhita, kusta is applied as a name of various skin disorders and these are divided into two groups- mahakusta, the proper leprosy and khudrakusta, the other skin disorders (Carakasamhita 1998: VII.7.9-10). The major or proper leprosy includes seven varieties and minor skin disorder includes eleven varieties. According to Caraka the eighteen varieties of kusthas are kapala, audumbara, mandala, risyajihva, pundarika, sidhma, kakanaka, ekakusta, carmakhya, kitibha, vipadika, alasaka, dadru, carmadala, pama, visphotaka, sataru and vicarcika: ata urdhamastadasanam kusthanam kapalodumbara-mandala-risyjihva-pundarika-sidhma-kakanak-aikakusta-carmakhya-kitibha-vipadikalasaka-dadru-carma-

dala-pama-visphotaka-satarur-vicarcikanam aksananyupadekşyama (Carakasamhita 1998: VII.7.13).

Kapala kustha (Carakasamhita 1998: VII.7.14) is characterized by loss of sensation to touch, by the appearance of black and radish piece of earthen jar, rough, coarse, exceedingly painful of fingers and sinking of nose.

Audumbarakustha (Carakasamhita 1998: VII.7.15) is associated with burning sensation, itching, pain and redness, brown skin hairs. It spreads quickly, infected with worms, whose colour is mainly like that of ripe figs. It occurs due to excess bile.

Mandalakustha (Carakasamhita 1998: VII.7.16) is hardly curable. It is characterized by white, red, stable, extensive, unctuous, with raised patches and joined each other.

Risyajihva (Carakasamhita 1998: VII.7.17) is characterized by rough skin with red margins, internally blackish, painful as if touched by an insect and simulates the tongue of Risyā, a type of antelope. It occurs due to the disturbances of wind and bile.

Pundarika (Carakasamhita 1998: VII.7.18) is characterized by whitish skin with red margins, highly arising with burning sensation and similar to the lotus petals.

Sidhmakustha (Carakasamhita 1998: VII.7.19) is characterized by the appearance of white patches mostly in the chest, coppery, thin and less painful, but highly arising, leaves out dust like powder on rubbing. It is similar to the flowers of bottle gourd.

Kakanakakustha (Carakasamhita 1998: VII.7.20) is characterized by the appearance of blackish in middle of the affected area like the seeds of gunja, the rosary pea, exceedingly painful and colorful as the mixture of all types of kustha. It does not suppurate. It is incurable.

Among the minor kusthas ekakustha (Carakasamhita 1998: VII.7.21) is that kind of skin disease which is extensive, affected skin has been formed as fish-scales. Carmakhyakustha (Carakasamhita 1998: VII.7.21) occurs when the skin goes thick like skin of elephant. Another rare skin disease in the name of kustha is vipadika (Carakasamhita 1998: VII.7.22) which is characterized by the tearing of hands and feet with excessive pain. When skin is affected with symptoms like itching with red pimple, redness all around the body, then it is hardly assumed that either it is alasaka (Carakasamhita 2011: VII.7.23) or dadru (Carakasamhita 1998: VII.7.23) type of kustha.

When it is red with itching, eruptions and pain, leaves off flakes, then it is diagnosed as pama (Carakasamhita 1998: VII.7.25). If the body skin turns white and reddish colour, then it is called visphota (Carakasamhita 1998: VI.7.25). Infected skin with symptoms like red or blackish with burning sensation and pain, are the symptoms of satarukustha (Carakasamhita 1998: VII.7.26). It is vicarcikakustha (Carakasamhita 1998: VII.7.26), which consists of pimples with etching and excessive discharge.

After the observation of the symptoms of the eighteen types of kusthas described in the Carakasamhita, it is assumed that the term kustha, which is used specially for leprosy in present time, was used by the tradition to indicate skin diseases in general including leprosy. However, the first seven types of kusthas, i.e., the severe varieties of leprosy refer to leprosy of present time and others are common skin diseases. Derangement of the three humors can create diseases in skin and other parts of the body. In the ancient Indian medicine, vata (air), pitta (bile) and kapha (phlegm) are regarded as three humors refer to the different function of the body. In the sense of nerve force, the term

vayu is used for its sensory and motor functions. All metabolic processes in organs are indicated by the term pitta and that portion of lymph-chyle which fills all the intercellular spaces of the body is called kapha. Among them vayu, the nerve force is considered to be the main cause of leprosy. Roughness, wasting, pain, contracture, hardness, coarseness, blackish and reddish colour of skin are the primary symptoms of leprosy caused by vayu. But the main symptom is sensory. Heat, redness, whiteness, coldness, itching discharge, suppuration, ulceration, fleshy smell, moisture, falling of organs, heaviness, unconsciousness etc. are the symptoms of leprosy caused by the derangement of other two types of humors. Caraka has informed that the leprosy which is pre-dominant in vayu and kapha or any single humor is considered as curable: *vatakaphaprabalam yadyekadosolvanam natat kricchram* (Carakasamhita 1998: VII.7.38). Further, the symptoms like hyperesthesia, paresthesia, anesthesia and deformity of fingers of major types of kusthas would correspond to the present neuro-anesthetic type, the kusthas with anesthetic patches to the present neuro-muscular type and the kusthas with suppuration, ulceration and falling of fingers, to the lepromatous type.

Leprosy is a transmittable skin disease of very low infectivity. Caraka considers that one should reject the person if he is having all symptoms of leprosy (Carakasamhita 1998: VII.7.37). While Susruta has mentioned that leprosy can be transmitted from the diseased person to healthy person by the touch or breath of the patient, by sharing bed, by eating and drinking out of the same container, or by the using of clothes, garlands etc. (Susrutasamhita 1990: VI.13) used by the patient. In fact, all these modes of transmission described by Caraka and Susruta are also maintained as common methods of transmission by the modern leprosy workers to prevent it. Though

leprosy is considered as hereditary disease in the tradition, it is not considered important by modern physicians. Their statement is that two factors cause the leprosy- infection by bacterium - *Mycobacterium leprae* bacteria and close content with the patient, but not spread by casual contact like shaking the hands, hugging or sitting next to the patient.

Treatment

Treatment of leprosy has been prescribed by ancient Indian physicians and recorded in various treatises on medicines. Caraka considers that if the leprosy which is said to be cured but ignored, the ulcers become infested with worms which eat up the immune system of the body. He prescribes medicines in the form of paste, powder or oil to destroy the disorder of kustha. These are used for external or internal. The first of all the methods of treatments is vomiting. The patient who is affected by leprosy in his upper part should be vomited by administering herbs like Indrajiva (Bitter Almond), Madanaphal (Emetic Nut), Madhuka (Indian Butter Tree), Patola (Pointed Gourd) leaves mixed with lemon juice (Carakasamhita 1998: VII.7.43). To destroy the worms snuff prepared with rock salt, Danti (Wild Croton), Marica (Black Pepper), Phanijjaka (Marjoram), Pippali (Long Pepper) and Vidanga (*Embelia Ribes*). Evacuative smoke is also used to alleviate the worms located in the head (Carakasamhita 1998: VII.7.44-49).

The affected areas which are stable, hard and scratchy should be instigated by means of thick stone slab and tubes and thereafter scrubbed with a brush. It is also prescribed to surgery to remove the bad bloods. Such diseased areas are fomented with the bundle of meat of marshy and aquatic animals slightly heated and then used sharp instruments or horns or thorns to remove the bloods. Sometimes leeches are also applied for vacation of impure blood. After the removal of the impure blood the medicaments should be

applied externally (Carakasamhita 1998: VII.7.51-53).

If the affected spots are anesthetic alkali of Palasa (Flame of the forest or Bastard peak) etc. should be applied. Some anti-poison drug also be taken in case of the spots are stony hard, rough, stable and old. The drugs used for the treatment of leprosy can be even paste or ointment, powder or edible liquid mixture. It is prescribed that Daruharidra (Indian Barberry) or Rasanjana (a concentrated extract prepared with roots and stem bark of Daruharidra) taken with cow's urine, or Haritki (Chebulic Myrobalan) mixed with Trikatu (combination of powder of three spices- Ginger, Black Pepper and Long Pepper), jaggery and Tila (Sesame) oil, or the powder of root of Patola (Pointed Gourd) and Indravaruni (Colocynth or Bitter apple), pulp of Triphala (powder of three fruits- Indian Gooseberry, Chebulic Myrobalan and Terminalia Bellirica), Trayamana (Indian Gentian) and Katurohini (Picrorhiza or Hellebore) mixed with water, and the mixture of Musta (Nut Grass), Trikatu, triphala, powder of the barks of Manjistha (Indian Madder), Devadaru (Cedrus Deodara), Saptaparni (Dita Tree) and Neem with butter and honey should be taken by a patient (Carakasamhita 1998: VII.7.54-57). The uses of sulfur, copper pyrite, diamond etc. are also used for the treatment (Carakasamhita 1998: VII.7.71-72). The mixtures of Elaa (Cardamom), Kustha (Costus), Daruharidra (Indian Barberry), Satapuspa (Indian Dill), Citraka (Lead War), Vidanga (Embelia Ripe), Haritaki (Myrobalan), Neem, Vacha (Sweet Flag), Trivrit (Indian Jalap), Arka (Madar Tree), Sunthi (Ginger) etc. with either alkali of Palasa tree or cow's urine should be used as paste for all types of kustha (Carakasamhita 1998: VII.7.84). Again the alleviating pastes of flowers like Lodhra (Symplicos Bark), Dhataki (Fire Flame Bush), Cotton Plant, seeds of Cakramarda (Ringworm Plant), Kutaja (Ester Tree), Karanja (Indian Beech), leaves of Jati (jasmine), Aragvadha (Indian

Laburnum), Kakamachi (Black Nightshade), barks of Daruharidra, Neem, Sirisa (Siris Tree), alkalis of Banana Plant, Palasa, roots of Karavira (Indian Oleander), Patola (Pointed Gourd), should be used as remedy for leprosy (Carakasamhita 1998: VII.7.84-96). Caraka identifies four types of oils of different herbs, such as- svetakaraviradya, svetakaravira-pallavadya, tikteksakkaditaila and kanakaksiritaila. These oils tear off the all types of skin diseases along with worms by massage (Carakasamhita 1998: VII.7.105-116).

Apart from these oils prescribed by Caraka, Susruta highly mentions Tuvarka oil as a potent remedy of leprosy (Susrutasamhita 1990: VI.13.10). Several writers of ancient Indian medicines have identified Tuvarka oil with Chaulmoogra oil which has been sold in the market. It was once considered that the Chaulmoogra oil had been extracted from the seeds of Gynocardia-odorata. However, it was also known that the original source of that oil was Taraktogenos-kurzii. But after a minute study of *Susrutasamhita* it is found that the Tuvarka oil mentioned by Susruta cannot be identified with Gynocardia-odorata or Taraktogenoskurzii, but is *Hydronocarpus wightiana*. In the description of Susruta, Tuvarka plant's habitation was south-western parts of India. So, Hydronocarpus Wightiana is fit for the Tuvarka plant not for the Gynocardia-odorata, which grows on hills in the north-eastern parts of India.

Regarding the dietary it is mentioned that patient should use light cereal, and bitter vegetables, Neem, butter mixed with Bhallataka (Marking Nut), old cereals, meat of wild animals, green gram, etc:

laghuni cānnāni hitāni vidyāt kuṣṭheṣu śākāni ca tiktakāni /

bhallātakaiḥ satriphalaiḥ sanimbairyuktāni cānnāni ghṛtāni caiva //

purāṇadhānyānyatha jāṅgalāni māmsāni mudgaśca paṭolayuktāḥ /

śastā na gurvamlapayodadhīni nānūpamatsyā na guḍastilāśca //

(Carakasamhita 1998: VII.7.82-83).

Conclusions and way forward

From the above descriptions it is concluded that since ancient times the knowledge about diagnosis and treatment of various skin diseases including leprosy was available in India. The Vedas, the Puranas, the Epics and the literatures on medicines, all contain information and description of leprosy. Among them the Carakasamhita contains such authentic and complete description on leprosy. The symptoms, causes and other related things of skin disorders described in the Carakasamhita are still considered relevant in the case of leprosy in traditional medicine. It is hoped that benefits can be derived from a systematic comparative study of forms of kustha which match with leprosy disease caused by *M.leprae*, and methods to treat that as described in Carakasamhita as well as modern medicine. Such knowledge may be relevant to manage complications of leprosy including nerve damage, ulcers and disabilities.

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