INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD ISSN: 2455-0620 Volume - 6, Issue - 9, Sept – 2020
Monthly, Peer-Reviewed, Refereed, Indexed Journal with IC Value: 86.87 Impact Factor: 6.719
Received Date: 08/09/2020 Acceptance Date: 28/09/2020 Publication Date: 30/09/2020

Anatomical appraisal on the concept of *Daivakṛta Chidra* in Ayurveda

Samaranayake G.V.P.[1*], Wewalwala S.L.[2], Kaldera H.P.I.J.[3]
[1,2,3] Department of Ayurveda Basic Principles, Gampaha Wickramarachchi Ayurveda Institute, University of Kelaniya, Yakkala, Sri Lanka

Email - *prabashi185@gmail.com

Abstract: The process of ear piercing is known as *Karṇavedhana*. *Susruta saṁhitā* has very specially elaborated positive effects of *Karṇavedhana*. To avoid bleeding, pain and post procedure complications *Susruta* has explained specific site for ear piercing called as *Daivakṛta chidra*. According to the *Nibandha saṁgraha* commentary of *Dalhaṇa, Daivakṛta chidra* is the hole made by previous deeds or by nature for *Karṇavedhana. Susruta* recommended avoiding piercing execution at the site which is other than *Daivakṛta chidra*, because pain and bleeding occurs due to injury to specific *sirās* (blood vessels) present in the vicinity of *Daivakṛta chidra*. Injury to these specific *sirās (Kālikā*, *Marmarikā* and *Lohitikā)* shows variety of complications. For identifying *Daivakṛta chidra*, *Susruta* elaborated a test called as translucency test. By holding ear lobule in left hand, the sunlight is illuminated on ear and from other side the ear is examined. The maximum translucent point present on ear lobule is *Daivakṛta chidra*. According to modern literature review, ear lobule is composed of fibrous fatty tissue and blood vessels. It contains no cartilage, hence, easily pierced. Considering the reasoning of complications in scrutiny of modern science, there is no any reference regarding *Daivakṛta chidra* or *Karṇavedhana*. But the stages of inflammation can be correlated with complications caused by piercing ear lobule other than the site of *Daivakṛta chidra*. After the review of both Ayurveda and modern literature, it was concluded that, signs and symptoms mentioned are correlated with stages of inflammation and further complications associated with convulsions.

Key Words: *Daivakṛta chidra*, *Karṇavedhana*, ear piercing.

1. INTRODUCTION:

Karṇavedhana or the ear piercing is one of the important *sanskāra* (set of rituals or ceremonies conducted during the early childhood) that protects the child from untoward health hazards like *Graha* [1] and is a type of acupuncture.[2] Proper site for *Karṇavedhana* described by *Susruta* is called as *Daivakṛta chidra* and it is located on ear lobule.

In the particular chapter (*Karṇavyadhabandhavidhi adhyāya*) *ācārya Susruta* has further described the method of identification of *Daivakṛta chidra* with the help of sunlight, the precise location and positive effects of piercing *Daivakṛta chidra*. [3] Also he has explained the presence of *sirā,* specially *Kālikā*, *Marmarikā*, *Lohitikā* [4] in the vicinity of ear lobule and *upadrava* (complications) of ear piercing other than the site of *Daivakṛta chidra*.

Ayurveda Literature Review:

The meaning of the *Daiva* can be explained in two ways. First one is *Daivagata* [5] (belongs to previous deeds or fate) and other meaning is "belonging to or coming from god, divine".[6] *Chidra* is explained as a hole, slit, cleft or as an opening according to the Sir Monier Monier Williams dictionary.[7] The *Nibandhasaṁgraha* commentary of *Dalhaṇa* on *Susruta saṁhitā* describes *Daivakṛta chidra* as the hole made according to the previous deeds or fate. In the commentary it is described as "*prāktana janma karma kṛta*".

Identification of *Daivakṛta chidra*:

To identify *Daivakṛta chidra*, *Susruta* has elaborated a test which is called as translucency test. It can be seen with the help of sunlight, because this point is very thin and also devoid of vascular structures. So after piercing this point, pain and bleeding is also not visible.[8]

The illuminated sunlight through the ear lobule should be examined from other side by holding the ear lobule by left hand. The maximum translucent point present through the ear lobule is *Daivakṛta chidra*.[1]

Method of ear piercing explained by *Susruta*:

According to *Susruta saṁhitā*, in *Karṇavedhana sanskāra*, right and left ear lobules should be pierced in case of male and female children respectively. *Susruta* has advised to hold the appropriate side of lobe with left hand and hold the piercing needle with right hand. Piercing should be done by locating the proper point of piercing which is slightly cheek-ward of the center of the ear lobe, where there is maximum translucency in the source of light.

The piercing should be done slowly with straight stroke. Absence of complications viz. severe pain, bleeding, rising local temperature, swelling and redness (acute inflammatory reactions) etc. is the indicator of proper execution of the procedure at the *Daivakṛta chidra*. Above complications will be manifested due to trauma on special *sirā*s called *Kālikā, Marmarikā, Lohitikā* if the procedure is carried out at the incorrect point. This procedure was explained by *Vāgbhata* [8] and *Kāśyapa* [9] also in same way.

Complications due to trauma on special *sirā*s (blood vessels):

Ācārya Susruta elaborates that ear piercing at the *Daivakṛta chidra* will not produce complications. But according to him ear piercing at a point other than *Daivakṛta chidra* will lead to manifest complications. There are three special *sirā*s (blood vessels) situated around the area of *Daivakṛta chidra* namely *Kālikā, Marmarikā and Lohitikā*.

When the vessel *Kālikā* [10] is affected it will results in *jvara* (hyperthermia; but hyperthermia is not completely correlate with *jvara*), *dāha* (burning sensation), śvayathu (swelling) [11] and *vedanā* (pain). In addition to *vedanā* and *jvara, Granthi* (swelling and hardening of the vessels) [12] is formed when *Marmarikā* is affected.[10] All of the above complications are related with the cardinal signs of inflammation according to the modern pathology.

Sign and symptoms manifested due to trauma on *Lohitikā* are different from above two incidences. According to the chapter, *Manyāstambha* (stiffness or rigidity of the neck [13]), *Apatānaka* (spasmodic contraction of the body [14]), *Śirograha* (seizure [15]), *Karṇaśūla* (ear-ache) are the signs and symptoms manifested due to trauma on *Lohitikā*. *Manyāstambha* is described as *pūrvarūpa* (premonitory sign) of *Apatānaka* [16]. These are beyond the manifestations of basic inflammatory process. Stiffness of the neck, spasmodic contractions and seizure are the signs and symptoms of convulsive disorders.

Modern Literature Review:

Anatomy of External Ear:

The external ear can be divided functionally and structurally into two parts; the auricle (or pinna), and the external acoustic meatus – which ends at the tympanic membrane.

The auricle is a paired structure found on either side of the head. It functions to capture and direct sound waves towards the external acoustic meatus. It is a mostly cartilaginous structure, with the lobule being the only part not supported by cartilage. The cartilaginous part of the auricle forms an outer curvature, known as the helix. A second innermost curvature runs in parallel with the helix – the antihelix. The antihelix divides into two cura; the infero-anterior crus, and the supero-posterior crus. [17]

In the middle of the auricle is a hollow depression, called the concha. It continues into the skull as the external acoustic meatus. The concha acts to direct sound into the external acoustic meatus. Immediately anterior to the beginning of the external acoustic meatus is an elevation of cartilaginous tissue – the tragus. Opposite the tragus is the antitragus.

Ear lobule is composed of tough areolar and adipose connective tissue lacking the firmness and elasticity of the rest of the auricle. Since ear lobe does not contain cartilage. It is build of epithelium and connective tissue. Auricle supplied by posterior auricular artery, anterior auricular branch of superficial temporal artery and occipital artery. Sensory innervations are, Greater auricular nerve, lesser occipital nerve, auriculo-temporal nerve and auricular branch of vagus nerve.[18]

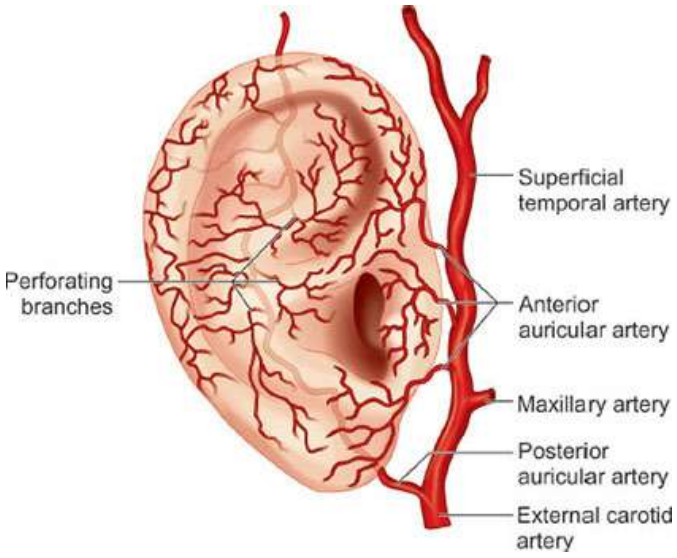

Figure 1 : Blood supply of the external ear [19]

Pathology of inflammation:

The body's response to injury is called inflammation. Physical traumas such as sprain, strain, or bruise are most common, whereas injuries can also occur from bacterial or viral infections, heat, or any sort of chemical injury. Trauma causes direct damage to cells in the immediate area of injury, causing bleeding. A stream of events is initiated due to bleeding that results in the inflammatory process, which promotes healing of the injured tissue. There are four cardinal signs of inflammation can be identified. Redness (Latin rubor), heat (calor), swelling (tumor), and pain (dolor). Addition to that, there are three stages of inflammation can be recognized. Vascular phenomenon, cellular response and repair.[20]

Discussion:

According to modern anatomy the auricle is supplied by three vessels viz. posterior auricular artery, anterior auricular branch of superficial temporal artery and occipital artery. *Acārya Susruta* also has mentioned that there are three special vessels as described above.

According to modern pathology, there are four cardinal signs of inflammation viz. redness (in Latin - rubor), heat (in Latin - calor), swelling (in Latin - tumor) and pain (in Latin - dolor). These are directly compared with manifestations described by *Susruta*. Hyperthermia associated with *jvara* is compared with calor while *dāha* and vedanā can be compared with dolor. *Śvayathu* is directly compared with the swelling manifested in the inflammatory process. *Granthi* (swelling and hardening of the vessels) is the next level vascular phenomenon seen in the inflammatory process.

Manyāstambha (stiffness or rigidity of the neck), *Apatānaka* (spasmodic contraction of the body), *Śirograha* (seizure) are the premonitory signs, signs and symptoms of convulsive disorders. These are manifested due to trauma on *Lohitikā* (Third vessel mentioned by *Susruta*) and beyond the stage of basic inflammation. These complications may be manifested by the incorrect ear piercing due to some kind of anatomical connection of ear lobule blood vessels with higher centers.

Daivakṛta chidra is point which is very thin, and devoid of *sirā* (blood vessels). Due to that reason proper piercing at *Daivakṛta chidra* will not produce bleeding and it is painless too. If piercing executed at site other than *Daivakṛta chidra* can get complications or *upadrava*. Considering the *lakshana* (signs and symptoms) mentioned under *upadrava* in scrutiny of modern science literature can be correlated with the stages of inflammation and further complications related to spasmodic convulsions. Signs and symptoms of basic inflammatory response are seen in relation with *Kālikā*, *Marmika* and further complications related to convulsions are associated with *Lohitikā sirā*. *Susruta* might have explained post piercing inflammatory response and further complications by means of *upadrava* caused by injury to above *sirās*.

Reference:

1. Yadavji Trimaji Acharya and Narayan Ramacharya, 5th Edition, Sustruta Samhita, Chaukhambha Orientalis, 1992. su.su.16/3.
2. Arun Raj, Shailaja U, Prasanna N. Rao, The childhood sanskara (Rites of Passage) and its scientific appreciation, Ayurpharms Int J Ayur Alli Sci., 2013; 2(12): 372-383.
3. Yadavji Trimaji Acharya and Narayan Ramacharya, 5th Edition, Susruta Samhita, Chaukhambha Orientalis, 1992. su.su.16/4.
4. Yadavji Trimaji Acharya and Narayan Ramacharya, 5th Edition, Susruta Samhita, Chaukhambha Orientalis, 1992. su.su.16/5.
5. Sritaranath tarkvachaspati bhattacharya, Vachaspatyam vol. 5th, Chaukhambha Sanskrit series graphics Varanasi – 1, 1990, pg 3756.
6. Sri Moneir Williams, Sanskrit English Dictionary, Motilala Banarasidas publishers' pvt. Ltd – Delhi, corrected edition 2002, pg 497.
7. Sri Moneir Williams, Sanskrit English Dictionary, Motilala Banarasidas publishers' pvt. Ltd – Delhi, corrected edition 2002, pg 406.
8. Vd. Jadavji Trikamaji Acharya & Pt. Nandakishor Sharma Bhaishagavharya, Bhanumati commentary on Susruta Samhita, Sri Swami Lakshmi Ram trust, 1939, su.su. 16/3.
9. Dr. Brahmanand tripathi, Ashtang Hridayam of Srimad Vagbhata Uttarsthan, Chaukhambha Subharathi Prakashan, reprint on 2012, 1/28-33.
10. Yadavji Trimaji Acharya and Narayan Ramacharya, 5th Edition, Susruta Samhita, Chaukhambha Orientalis, 1992. su.su.16/5.
11. Sri Moneir Williams, Sanskrit English Dictionary, Motilala Banarasidas publishers' pvt. Ltd – Delhi, corrected edition 2002, pg 1106.
12. Sri Moneir Williams, Sanskrit English Dictionary, Motilala Banarasidas publishers' pvt. Ltd – Delhi, corrected edition 2002, pg 371.
13. Yadavji Trimaji Acharya and Narayan Ramacharya, 5th Edition, Susruta Samhita, Chaukhambha Orientalis, 1992. su.ni.1/67.
14. Yadavji Trimaji Acharya and Narayan Ramacharya, 5th Edition, Susruta Samhita, Chaukhambha Orientalis, 1992. su.ni.1/28.
15. Sri Moneir Williams, Sanskrit English Dictionary, Motilala Banarasidas publishers' pvt. Ltd – Delhi, corrected edition 2002, pg 1072.
16. Yadavji Trimaji Acharya and Narayan Ramacharya, 5th Edition, Susruta Samhita, Chaukhambha Orientalis, 1992. su.ni.1/67 – (Commentary of *Dalhaṇa*)
17. Pro. Premavati Tiwari, Kashyapa Samhita, Chaukhambha vishwa bharathi prakashan, Varanasi 1996, Ka.su.21/5.
18. Peter Williams & Roger warwick, Gray's Anatomy, 37th Edition, Chuchil Livingstone Elsevier, 1989, Chapter 07, pp 1219.
19. https://www.google.com/search?q=blopod+supply+of+external+ear&tbm=isch&ved=2ahUKEwiZ_YfRwu_rAhUyUHwKHTbZD_cQ2-cCegQIABAA&oq=blopod+supply+of+external+ear&gs_lcp=CgNpbWcQAzoGCAAQBxAeUKpQWPpZYN9_aABwAHgBgAHSAogBzQiSAQcyLjQuMC4xmAEAoAEBqgELZ3dzLXdpei1pbWfAAQE&sclient=img&ei=jfxiX9mCDrKg8QO2sr-4Dw&bih=657&biw=1349&safe=off&hl=en#imgrc=ANZzPmDl8GviZM&imgdii=DVQHIJ8nQhbWRM
20. N.C. Dey, a Text Book of Pathology, 14th Edition, New Central Book Agency, Chapter 5th, pp 51.