Study of Swadhishthana Chakra and Hypogastric Plexus in View of Reproductive Activity

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Abstract: Principles of Ayurveda favour the well-being of each individual to lead a healthy life physically, mentally and socially. It emphasizes the importance of preventive medicine along with curative procedures to give a holistic approach towards a healthy living. The Chakras play an important role to maintain the spiritual, mental, emotional and physical health of the body. The Chakras are energy centres within the human body that help to regulate all its processes, from organ function to the immune system and emotions. There are six primary chakras Muladhara Chakra, Swadhishthana Chakra, Manipura Chakra, Vishuddha Chakra, Anahata Chakra and Ajna Chakra which are located along a central vertical axis at the front of the body. The Chakras are considered loci of life energy or Prana, which is thought to flow among them along pathways called Nadas. The Chakra is used to mean several different things in Sanskrit sources, of which it can be denoted to different nerve plexuses within the body. Reproduction is the biological process by which new individual organisms “off-spring” are produced from their parents. Reproduction is a fundamentature of all known life. Hypogastric plexus gives out branches to the male and female reproductive organs, whereas Swadhishthana Chakra plays an important role in the act of procreation. This article will emphasize on the similarities between Swadhishthana Chakra and Hypogastric plexus and the role of both in reproduction.

Keywords: Swadhishthana Chakra, Hypogastric plexus, Reproduction

1. Introduction

Ayurveda means the science of life, Harmony of body, mind and soul is achieved by the traditional system of medicine Ayurveda. In Ayurveda, Sharir term is affiliated to the one which undergoes anabolism and catabolism at every moment. Ayurveda assumed that Sharir is composed of Panchamahabhuta and atma [1]. Panchamahabhuta i.e Aakash, Vayu, Agni, Aap and Pradhvivec are considered to be basic elements of body. Sharir which is Panchabhaudic is further divided as Ang-Pratyanga detail study[2]. One concept of Ang- Pratyanga is related to specific areas of body which are known as force centers and described in Patanjalyogdarshan Chakras. The word Chakra in Sanskrit is for “wheel”, “Ti”. The word is derived from kriyategatrai, one which has the action of movement[3]. The Chakras are said to be force centers or whorls of energy permeating from a point on the physical body, the layers of the subtle bodies in an ever increasing fan-shaped formation. Rotating vortices of subtle matter, they are considered the focal points for the reception and transmission of energies. Each is different in form, makeup, colour and frequency. There are said to be six major Chakras, 21-minor Chakras and over 700 mini Chakras on the body that relate to acupuncture and major reflex points. The structure of a Chakra differs from Chakra to Chakra. Its general shape resemble to an inverted ice-cream cone, with the narrow end attached to the physical body. The Chakras vitalize and harmonize the physical, etheric and emotional bodies. They facilitate the development of self-consciousness. The Chakras can become imbalanced in different ways by becoming congested, overstimulated or uncoordinated. From lowest to highest, there are six primary Chakras Muladhara Chakra, Swadhishthana Chakra, Manipura Chakra, Anahata Chakra, VishuddhaChakra and Ajna Chakra[4]. Each Chakra is the sum total of various physical, emotional, mental and spiritual elements. Each Chakra can be correlated to a neurological plexus. Swadhishthana Chakra can be correlated to the Hypogastric plexus. Swadhishthana Chakra is the Chakra of creativity. The meaning of the word Swadhishthanna “one’s own base”.Swadhishthana Chakra is the “dwelling place of self”. The Plexus in latin means ‘Bri’,which is a branching network of vessels or nerves. The vessels may be blood vessels or lymphatic vessels. There are different types of nervous plexus, venous plexus, cardiac plexus, coeliac plexus and choroid plexus.[5]

2. Discussion

The systems of the body participate in maintaining homeostasis, that is, the relative constancy of the internal environment despite external environment changes. There are ten major organ systems in the human body which can be stated as follows Integumentary system, Muscular system, Skeletal system, Lymphatic system, Digestive system, Endocrine system, Circulatory System, Respiratory system, Urinary System, Nervous System[6]. Each one plays a vital role in maintaining equilibrium within the body. All the systems work in tandem to maintain homeostasis. The proper functioning of the body requires all systems to work together and in proper condition. Many diseases can affect the various organs and organ systems of the body. The reproductive system helps in maintaining the homeostasis in male and female by regulating the vagina pH and the overall temperature of tests. Reproduction is important for the survival of all living things. Without the mechanism of reproduction, life would come to an end. For this purpose, functions of male and female reproductive organs should be maintained.

3. Literature on Swadhishthana Chakra[7]
usually ascend to the left of the superior Hypogastric plexus fibres, it may also contain parasympathetic fibres which common iliac plexuses. In addition to sympathetic plexus supplies branches to the ureteric, testicular, ovarian occur in it. The plexus is formed by branches from the aortic vertebral body and sacral promontory and between the hypogastric nerve. This supply influences the inherent lower part from the inferior hypogastric plexus and motility of the ureter.

The ureteric plexus receives in its intermediate part from the superior hypogastric plexus and hypogastric nerve and in its lower part from the inferior hypogastric plexus and hypogastric nerve. This supply influences the inherent motility of the ureter.

The testicular plexus accompanies the gonadal artery to the testis. Its upper part receives branches from the renal and aortic plexuses. Distally it is reinforced from the superior hypogastric and inferior hypogastric plexuses. It’s rami pass to the epididymis and ductus deferens.

The ovarian plexus accompanies the ovarian artery to the ovary and uterine tube. The upper part is formed by branches from the renal and aortic plexuses; it’s lower part is reinforced from the superior and inferior hypogastric plexuses. The nerves in the testicular and ovarian plexuses contain efferent and afferent sympathetic fibres; the efferent are vasomotor and derived from the tenth and eleventh thoracic spinal segments; the parasympathetic fibres, from the inferior hypogastric plexuses are probably vasodilator.

The middle rectal plexus formed by fibres from the upper part of the inferior hypogastric plexus to the rectum passing directly or along the middle rectal artery, connects above retroperitoneal nerves, to supply the left part of the transverse colon, left colic flexure, descending and sigmoid colon.

The inferior hypogastric plexus is in the extraperitoneal connective tissue. In males it is lateral to: the rectum, seminal vesicle, prostate and the posterior part of the urinary bladder; in females each plexus is lateral to: the rectum, uterine cervix, vaginal fornix and the posterior part of the urinary bladder, extending into the broad uterine ligament. Lateral to it are the internal iliac vessels and their branches and tributaries, the levatorani, coccygeus and obturator internus. Posterior are the sacral and coccygeal plexuses and above are the superior vesical and obliterated umbilical arteries. The plexuses contain numerous small ganglia. Each is formed by a hypogastric nerve, conveying most of the sympathetic fibres of the plexus, the remaining few arriving via branches from the ganglia. Parasympathetic fibres are derived from pelvic splanchnic nerves. Preganglionic efferent sympathetic fibres originate in the lower three thoracic and upper two lumbar spinal segments, some relaying in ganglia of the lumbar and sacral parts of the sympathetic trunk, others synapsing in the lower part of the aortic plexus and in the superior and inferior hypogastric plexuses. Preganglionic parasympathetic fibres originate in the second to fourth sacral spinal segments, reach the plexus in the pelvic splanchnic nerves and synapse in it or walls of Viscera supplied by its branches. Numerous branches are distributed to the pelvic and some abdominal viscera, either directly or along their arteries. Parasympathetic fibres ascend in the Hypogastric plexuses or as separate filaments to reach the inferior mesenteric plexus by way of the aortic plexus. By this route the descending and parts of the sigmoid colon receive parasympathetic innervation.

4. Literature on Hypogastric Plexus[8]

Hypogastric plexus is divided into the superior Hypogastric plexus and Inferior Hypogastric plexus. The superior hypogastric plexus is anterior to the aortic bifurcation, the left common iliac vein, median sacral vessels, fifth lumbar vertebal body and sacral promontory and between the common iliac arteries. Often termed the presacral nerve, it is seldom a single nerve and is prelumbar rather than presacral. It lies in extraperitoneal connective tissue; the parietal peritoneum can easily be stripped off its anterior aspect. It varies in breadth and condensation of its constituent nerves and is often a little to one side of the midline; the attachment of the sigmoid colon, containing superior rectal vessels, is to the left of the lower part of the plexus. Scattered neurons occur in it. The plexus is formed by branches from the aortic plexus and third and fourth lumbar splanchnic nerves. It divides into right and left hypogastric nerves which descend to the two Inferior Hypogastric plexuses. The superior plexus supplies branches to the ureteric, testicular, ovarian and common iliac arteries. In addition to sympathetic fibres, it may also contain parasympathetic fibres which ascend from the inferior Hypogastric plexus; but these fibres usually ascend to the left of the superior Hypogastric plexus and across the sigmoid branches of left colic vessels. These parasympathetic fibres are distributed partly along the inferior mesenteric arterial branches and also as independent

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Literary meaning of Swadhishthana is one's own base. The location of Chakra is said to be "Saushumana Madhya GhrittamDhwajam" i.e. it is located on the spinal cord of the vertebral column just above the pubic bone and below the navel and encompasses the genital region. The colour of the Chakra is white. Associated element of the Chakra is water. Sensory organ is Tongue and Gyanendriya is Taste. The bearer of the Chakra is Crocodile. Presiding God is said to be Brahma. Granthishthana is said to be Varuna. Symbol of the Chakra is said to be a crescent moon with 6 divisions of Dalas. Swadhishthana Chakra is associated with Prana, Samana and ApanVayu. ApanVayu has an influence over the pelvic region. Swadhishthana Chakra is associated with the genital organs of male and female especially testes and ovaries. Swadhishthana Chakra is the Chakra of creativity. This Chakra corresponds to the Hypogastric plexus.

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Figure 1: Location of Swadhishthana Chakra
with the superior rectal plexus and extends below to the
internal anal sphincter.

The vesical plexus from the anterior part of the inferior
hypogastric plexus, comprises many filaments which pass
along vesical arteries to the bladder. Branches supply the
seminal vesicles and deferent ducts. The prostatic plexus,
continued from the lower part of the inferior hypogastric
plexus, is composed of large nerves entering the base and
sides of the prostate and contains neurons.

One of the plexus related to the region of Swadhishthana
Chakras the hypogastric plexus which gives out branches to
the male and female reproductive organs, when damage to
the plexus occurs especially inferior hypogastric plexus in
male causes urinary retention, erectile impotence,
ejaculatory dysfunction, reduced intestinal motility which
leads to constipation and reduced functioning of the internal
anal canal. In female damage to this plexus causes difficulty
in micturition, defecation, sexual dysfunction and inhibition
of uterine contraction.

The anatomical positions are given in both acupoint and
anatomical terms and represent the point on the physical
body that is usually the center of the influence of the
Chakra. Although an exact point is given for each Chakra.
There is an area of influence around each major Chakra
point. From textual references we can state some similarities
between Swadhishthana Chakra and hypogastric plexus,
the location of both Swadhishtananachakra and hypogastric
plexus is said to be in the pelvic region. The Swadhishthana
Chakra has 6 Dalas which can be compared to the 6 branches
of the hypogastricplexus on the basis of the numeration and
structure of the Chakra. The 6 branches of the hypogastric
plexus are ureteric plexus, testicular plexus, ovarian plexus,
middle rectal plexus, vesical plexus and prostatic plexus.

Malfunctioning of both can cause manifestations of the
male and female genital organs.

Malfunctioning of the Swadhishthana Chakra can cause
disturbances in relationships, represses emotions, emotional
instability and issues related to fertility. To avoid these
conditions various Asanas have been described in the yog
texts. Regular practice of Bhujangasana, Shalabhasana,
Dhanurasana, Mrigasana, Chakrasana, Surya namaskara,
Setu asana According to the HathayogPradipika two
mudras Vajroli mudra and Amroli Mudra are specially
assigned to the Swadhishthana Chakra for its activation.

Related to the location of basic elements (vata-pitta-kapha)
of body, area of swadhishtananachakra is the main site of
apanavayu. Whatever may be the organs present there, are
completely under the influence of apan-vayukarma
Shukranishkramana (semen ejaculation, transport etc),
aartawanshikramana (menstruation, ovum transport etc) and
fetal expulsion are the functions of reproductive organs at
region of swadhishtana chakra governed by apanavayu.

5. Swadhishthana Chakra, Hypogastric Plexus
and Reproduction

The reproductive system is a collection of internal and
external organs in both males and females that work together
for procreating. It has a vital role in survival of the species.
The male reproductive system consists of two major parts
testsis and the penis. The female reproductive system is
divided into external and internal genitalia. The internal
organs which are important for reproduction are ovaries,
fallopian tubes, uterus and vagina. Infertility is the leading
issue in today’s generation. Infertility occurs when there is a
pathological cause in the male and female reproductive
organs, when damage to the plexus occurs especially inferior
hypogastric plexus in male causes urinary retention, erectile
impotence, ejaculatory dysfunction, reduced intestinal
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6. Conclusion

Each major Chakra governs specific part of the body which
in turns associated with an autonomic nerve plexus, an
dermicone gland, an organ and a meridian. The link between
the external Chakra and the internal organ is the Nadis, the
invisible web of energy that penetrates and permeates the
physical frame. Swadhishthana Chakra, hypogastric plexus
and Apanavayu have an influence on the organs in the pelvic
region. These are different entities which play an important
role in reproduction. Swadhishthana Chakra may be
correlated to the hypogastric plexus on the basis of its
location, its numeration and its traumatic effect. The 6
Dalas may be correlated to the branches of the hypogastric
plexus. The function of the Swadhishthana Chakra is said to
be in procreation i.e reproduction. Similarly hypogastric
plexus has a major role in reproduction. Trauma to the hypogastric plexus may be a reason for infertility in male and female. So it is important to keep *Swadhishthana Chakra* activated by practising the *Asanas and Pranayam* to maintain and protect the reproductive system and its function.

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