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Importance of Shukravaha Srotas in Vajikarana

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ABSTRACT

Beeja, Beejabhaga & Beejabhagaavayava are the fundamental factors responsible for the genesis of human being. Ayurvedic Acharyas explained the genetic concept to a greater extent and which simulate with the contemporary concept of genetics mentioned in modern science. Vandhya, Putipraja, Varta and Trina putrika are the diseases manifest due to defect in genes(Beeja, Beejabhaga & Beejabhagaavayava). Phenotypic sex determination begins with genetic sex and which determines phenotypic sex. The nature of gonad present determines the differentiation/regression of the internal ducts (ie, müllerian and wolffian ducts) and ultimately determines the phenotypic sex. Gender identity is determined by the phenotypic appearance of the individual and it is also determined by the brain's prenatal and postnatal development as influenced by the environment. Any defect in Beeja, Beejabhaga & Beejabhagaavayava causes genetic abnormalities. A diet, behaviours, psychological factors, injuries and iatrogenic factor causes abnormalities in Shukra. Vandhya, klaibya, putipraja, varta, shanda, dwireta etc. are the diseases develop due to shukradushti. It may be due to Chromosomal problems, hormone imbalance, illness in the mother, disorders of the immune system, abnormalities in the uterus, and environmental and lifestyle factors such as smoking, alcohol and drug use, and exposure to high levels of radiation are often among the reasons.

Keywords- Beeja, Beejabhaga, Beejabhagaavayava, Vandhya, HUMAN GENOME PROJECT

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INTRODUCTION

Life seems to have originated on earth million years ago and its continuation is possible by the unique activity of reproduction for which the gametes are held liable. Beeja, Beejabhaga & Beejabhagaavayava are the fundamental factors responsible for reproduction according to Ayurveda. It seems that our acharyas understood the genetic concept to a greater extent and which simulates with the contemporary concept of genetics mentioned in modern science. Vandhya, Putipraja, Varta and Trina putrika are the diseases manifest due to defect in genes (Beeja, Beejabhaga & Beejabhagaavayava)[4, 5] .Phenotypic sex determination begins with genetic sex and it follows a logical cascade namely chromosomal sex determines gonadal sex, which determines phenotypic sex. The nature of gonad present determines the differentiation/regression of the internal ducts (ie, müllerian and wolffian ducts) and ultimately determines the phenotypic sex. Gender identity is determined by the phenotypic appearance of the individual and it is also determined by the brain's prenatal and postnatal development as influenced by the environment[11].

Bija Bhaga (chromosome)

Genotype provides full hereditary information and Phenotype is an organism's actual observed properties, such as morphology, development, or behavior. It is the fundamental fact in the study of inheritance of traits and their evolution which distinct genotype with phenotype. These determines different traits of an individual such as Eye color, Hair color, Height, Weight, Body structure, Facial structures, skin color etc[12].

Bija Bhaga Avayava (gene)

The word gene is derived from the Greek word genesis meaning "birth", or genos meaning "origin". A gene is the molecular unit of heredity of a living organism. Living beings depend on genes, as they specify all proteins and functional RNA chains. Genes hold the information to build and maintain an organism's cells and pass genetic traits to offspring. All organisms have genes corresponding to various biological traits, some of which are instantly visible, such as eye color or number of limbs, and some of which are not, such as blood type, increased risk for specific diseases, or the thousands of basic biochemical processes that comprise life[13]. Abnormal doshas if enters the bija bhaga avayava resulting into the development of disease in that area[4].

Pathological Consequences of Shukravaha Srotas due to Abnormality in Beeja Bhaaga and Beeja Bhaga Avayava

Abnormality in Bija Bhaga

Bijabhaga (chromosome) Malfunctioning of bijabhaga leads to Vandhya (sterile child) may cause due to defect in ovaries or testis[4, 5]; Ex-Turners syndrome, Klienefeltors syndrome etc.

Abnormality in Bijabhaga Avayava

A sterile and impotent individual associated with systemic manifestations leads to pathological condition known as Putipraja-defective progeny[4&5]. Morbidly in bija bhaga also causes repeated abortions as well as premature delivery.

Abnormality in Bijabhaga (Responsible For Sex Character) and Bijabhaga Avyava (Fraction Of Gene) Together

Morbidity in both Bijabhaga (responsible for sex character) and Bijabhagaavyava (fraction of gene) causes Varta in female and Trinaputrika in male[4, 5].

Critical Evaluation of Shukravaha Srotas Due To Bija Bhaga and Beeja Bhaga Avayava Dushti

Defective genes and chromosomes causes due to abnormality in bija bhaga and bija bhaga avayava. This vitiation is at the most preliminary level i.e. gene responsible for generation of male sexual characteristics is affected. Primary sex determination is strictly chromosomal in mammals and is not usually influenced by the environment. The Y chromosome carries a gene that encodes a testis-determining factor. 'Y' chromosome is a crucial factor for determining sex in mammals. A person with five X chromosomes and one Y chromosome (XXXXXY) would be male. Furthermore, an individual with only a single X chromosome and no second X or Y (i.e., XO) develops as a female and begins making ovaries, although the ovarian follicles cannot be maintained. For a complete ovary, a second X chromosome is needed. Secondary sex determination affects the bodily phenotype outside the gonads. A male mammal has a penis, seminal vesicles, and prostate gland. A female mammal has a vagina, cervix, uterus, oviducts, and mammary glands. In many species, each sex has a sex-specific size, vocal cartilage, and musculature. These secondary sex characteristics are usually determined by hormones secreted from the gonads. However, in the absence of gonads, the female phenotype is generated. When Jost (1953) removed fetal rabbit gonads before they had differentiated, the resulting rabbits had a female phenotype, regardless of whether they were XX or XY. They each had oviducts, a uterus, and a vagina, and each lacked a penis and male accessory structures. If the Y chromosome is absent, the gonadal primordia develop into ovaries. The ovaries produce estrogen, a hormone that enables the development of the Müllerian duct into the uterus, oviducts, and upper end of the vagina. If the Y chromosome is present, testes form and secrete two major hormones. The first

hormone—anti-Müllerian duct hormone (AMH; also referred to as Müllerian-inhibiting substance, MIS)—destroys the Müllerian duct. The second hormone—testosterone—masculinizes the fetus, stimulating the formation of the penis, scrotum, and other portions of the male anatomy, as well as inhibiting the development of the breast primordia. Thus, the body has the female phenotype unless it is changed by the two hormones secreted by the fetal testes[3]. These series of events may be correlated to abnormality in bija bhaga and bija bhaga avayava. Ayurveda says that morbidity in shukra and shonita causes all these condition during conception itself and all these may be included under adibala or sahaja vyadhi.

CRITICAL EVALUATION OF AYURVEDA CONCEPT

Nara-Nari Shanda[10]

Genetic and congenital factor responsible for impotency in both male and female.

Pavanendriya (Aspermia) [10]

That is the testicles of individual are without any sperm, which may be due to the obstruction in the passage of sperm at any location or undescended testis. It may be compared to bilateral anorchia or vanishing testes syndrome, an extremely rare disorder.

Dwireta (Hermaphrodite) [10]

If the fraction of sperm and ovum, responsible for the creation of germinal cells in the foetus gets afflicted & if sperm and ovum are equally divided during the process of conception, then the offspring will be hermaphrodite, having characteristic of both sexes. This may be compared to Intersex. It is usually said to be congenital, involving chromosomal morphologic, genital /gonadal anamolies such as diversion from typical XX or XY. Such Individual may have biological characteristics of both male and female sexes.

Sanskaravaha (Obstruction) [10]

If the testicles (reservoirs of sperm) of fetus are afflicted with vata then offspring become aspermic. It may be by the obstruction of the seminal passage by vata or it may be due to structural abnormality. Congenital disorders of sperm transport are rarely due to absence or atresia of the male ductal system.

Vakri (Hypospadiac) [10]

Weakness in sperms of male partner & irregular posture of female during coitus make the offspring hypospadiac.

Vatika Sandha (Undescended Testis) [10]

Being afflicted with vata and agni (Pitta) if the testicles of fetus get destroyed then there is emasculation (Castration) in offspring. Testicular factors may include genetic defects on the Y chromosome, testiculardysgenesis syndrome etc.

CAUSATIVE FACTORS FOR THE VITIATION OF SHUKRAVA SROTAS

The following etiological factors vitiates Sukravahasrotas and shukra

AHARAJA (DIETETIC) causes

Excessive consumption of AsatmyaAharasevana (Intake of incompatible food), Ruksa(rough), Kasaya(astringent), Lavana(salt) and Amla(sour). Excessive intake of Lavana(salt)and Katu(pungent) Rasa leads to PumstvaUpaghata or impotency. Excessive intake of Tikta(bitter) Rasa leads to Shukrashosana and Srotokharatva. Consumption of excessive Kasaya Rasa leads to impotency, Shukravarodha and Srotovibandha. Hence excessive consumption of these Rasas leads to Shukradusti[6]. Excessive consumption of alcohol (recommended limits for men in the range 20–40 g per day.), Tobacco, narcotics leads to infertility. Alcohol consumption lowers plasma testosterone synthesis. MANASIKA (PSYCHOLOGICAL) causes Chinta (worry), Shoka (grief), Bhaya (fear), Krodha (anger), Avisrambha or Avisvasa (ack of trust towards the female factor), Abhicara (Exorcism); are the psychological factors, which lead to the Shukradusti[6]. These factors are having the root cause for Depression / Anxiety.Unhealthy relationships;loss of health, status or prestige, self esteem, self confidence, security, a fantasy or the hope of fulfilling an important fantasy and something or someone of great symbolic value etc. in adulthood are the causative factors for depression. Stress affects the quality of a man`s sperm. The stress that comes from emotional disturbances such as divorce, separation or a death in a family may inhibit the cells ability to travel swiftly, through the vaginal tract.

KSATA (Traumatic) causes

Ksata or injury to shukravasrotas leads to Sukradusti[6]. Injury to the testis, testicular torsion may lead to atrophy of testis and impaired fertility.

Vyadhi Karsana Janya (Disease Induced)

CharakaChikitsa mentioned VyadiKarsana is one of the causative factors for the Sukradusti[6]. In MadhavaNidanaParisista, *Atisara* is mentioned as one of the disease, which will cause Sukradusti.There are many diseases in which shukra involvement is directly mentioned namely arsha, grahanidosha, prameha, panduroga, rajayakshma, avritavata conditions, ksayakasa, shukrashmari, klaibya etc.

Vimarga Gamana of Shukra: (Retrograde Ejaculation)

If one performs sexual act with the urge of micturition then the semen comes along with the micturition or before or after micturition which is known as Mootra Shukra[7] or Shukra Meha[8] on the same conditions is also known as shukramootrakruchra if it is associated with pain in bladder and penis[9]. In this condition semen is ejaculated into the urinary bladder instead of exterior. This may occur if the internal sphincter fails to contract during ejaculation. Retrograde ejaculation occurs if the semen is redirected to the urinary bladder. Generally sphincter of the bladder contracts before ejaculation causing the semen to exit via the urethra. Abnormality in bladder sphincter causes retrograde ejaculation in some individuals. Retrograde ejaculation lead to infertility because of an ejaculation during the intercourse on the condition can be diagnosed by examining the post coital urine for spermatozoa.

Vaidyakrita (Iatrogenic Causes)

Induced inadvertently by a physician or surgeon or by medical treatment or diagnostic procedures pertaining to management of shukravahasrotas and surrounding structures leads to abnormality and vitiation. Astra, Ksara, Agni Vibhrama leads to Sukradusti[6]. While treating with the Sastra, Ksara and Agni may cause harmful effects.

Human Genome Project

Concept of Beeja, BeejaBhaga and Beeja Bhagaavayava are the subject matter may be dealt under Human Genome Project (massive international research project) to investigate this old concept. It deals with the identifying detailed phenotypic features, correlating them with genotypes and to elucidate the entire sequence of genes on all the human chromosomes. Molecular genetics study says that the key to human complexity lies not in the gene number but in how gene parts are used to build different products. Particular gene sequences have been associated with numerous diseases and disorders including breast cancer, muscle disease, deafness, blindness etc and hence genetic counseling is gaining much more popularity nowadays so as to tackle such disorders[2].

Genetic Counseling

It is the communication process which deals with the human problems associated with the occurrence or risk of genetic disorder in a family[2]. Keeping Ayurvedic principles in view, the couple should be instructed beginning from the marriage, followed by conception till delivery. Genetic counseling may aid at different levels of formation of prakriti. Atulyagotriyavivaha and appropriate age for marriage should be strictly followed. Avoid consanguineous marriages. Encourage healthy diet i.e. Shad rasayuktaahara (diet comprises of six tastes) for the proper growth of the fetus because it determines Maaturaharaviharaprakruti. Excess of intake of single

taste food should be avoided otherwise it leads to Shukradushti. One should avoid the garbhopaghatakarabhavas because it determines the Kalagarbhashaya prakruti. One should follow garbhinicharya for each month for healthy growth and development of the foetus because it determines Mahabhutavikaraprakruti. Hence genetic counseling may prove beneficial in avoiding genetic disorders.

CONCLUSION

The concept of Beeja,Beejabhaga and Beejabhaga avayava is a highly evolved concept may be correlated to geneticsof contemporary science. Any defect in these causes genetic abnormalities. Various diets, behaviours, psychological factors, injuries and iatrogenic factors causes vitiate shukra.Vandhya, klaibya, putipraja, varta, shanda, dwireta etc. are the diseases develops due to shukradushti. This problem occurs due to Chromosomal problems, hormone imbalance, illness in the mother, disorders of the immune system, abnormalities in the uterus, and environmental and lifestyle factors such as smoking, alcohol and drug use, and exposure to high levels of radiation are often among the reasons.

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