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Concept of Dooshivisha in Male Infertility W.S.R to Endocrine Toxicity

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Abstract: ***Dooshivisha is one among the unique concept of Visha Chikitsa. Dooshivisha is a kind of attenuated poison which after entering the body, after a lapse of certain time period on obtaining a favourable condition can vitiate the dhathu and produce disease. Sukrakshaya and sukradhathupradosha are the disease produced by Dooshivisha which leads to infertility. This concept of Dooshivisha is similar to the concept of Endocrine toxicity in producing infertility.This article is an attempt to emphasize the concept of Dooshivisha and Endocrine toxicity in Male Infertility*.**

Keywords: *Visha, Sukra, Dhathu,* Endocrine disruptors

VishaChikitsa is one among the *ashtangas* of *Ayurveda* which deals with different types of poison, its diagnosis and treatment[1].*Dooshivisha* is poison, which is either devoid of all ten *gunas*or the poison which is present with ten *gunas* but is devoid of actual potency. Here the *kaphadosha* reduces the *veerya* of *gunas* and because of *kaphavarana,* the digestion is impaired which makes the poison to stay in the body for years together[2].This shows a cumulative effect of poison, that is poison in low dose gets accumulated in the body and produces its action in the form of diseases. These diseases include '*Kshapayet cha sukram'* which means oligospermia[3] and '*Dhathuprabhavanvikaran'* which means vitiation of *dhathu*. Viitiation of *sukradhathu* leads to Infertility[4]. '*Sukrasankshaya'* which means oligospermia is also a complication of *Dooshi visha*[5].

Endocrine toxicity results when a chemical interferes with the synthesis, secretion, transport and metabolism, binding action or elimination of poison which is necessary for endocrine function resulting in loss of normal tissue function, development, growth or reproduction. These chemicals are called Endocrine disrupting chemicals (EDC), and it include various pesticides like Endosulfan and DDT, Polychlorinated biphenyls seen in e-waste, Bisphenol A (BPA) and Phthalates which are seen in plastics, Flame retardants which are seen in furniture and cloths[6].

Failure to achieve conception by a couple of mature age, having normal coitus, during appropriate period of menstrual cycle, regularly at least for one year is termed as infertility[7].

Endocrine system is closely related to male reproductive system. Testicular dysgenesis syndrome which occurs as a result of gonadal development disruption during foetal life is mainly due to adverse environmental exposure like exposure to EDC. Endocrine disruptors effect on male individual include compromised development of androgen dependent sex organs due to impaired testosterone production as well as disruption of sperm motility and fertilizing ability at adulthood. Dichlorodiphenyldichloro ethane (DDE)is a potent androgen and decreases testosterone but also can accumulate in the testisimpairing spermatogenic epithelium in humans. Lindane increases FSH, LH and decreases testesterone but also can accumulate in the testis impairing germinal epithelium and Sertoli function. Exposure to environmental oestrogens (Chlordecone) increase the risk of prostate cancer.Phthalates reduces testosterone causing hypospadias, agenesis of epididymis and testicular atrophy[8]. Prenatal or early life exposure to EDC's like Phthalates, BPA, Perfluorinated compound may negatively affect immune system development, resulting in Type1 diabetes. Sexual dysfunction in all its form is an accompanying phenomenon of diabetes disease[9].

EDC interfere with thyroid hormone function at different levels like, thyroid hormone production, its transfer, bioavailability and metabolism[10].It leads to many symptoms of infertility like decreased sperm count, decreased sperm volume, delayed ejaculation, decreased sperm motility, erectile dysfunction etc[11].

The concept of *Dooshivisha* is very similar to the concept of Endocrine Toxicity. Both of them belongs to artificial variety of poison. They act as are slow poison also[12].EDC after entering the body especially during the developmental period gets accumulated and effect the target tissue to produce infertility later in life.EDC can function at a very low dose in a tissue specific manner. *Dooshivisha* after remaining in the body for a longer period of time vitiate the *dhathu* and produces infertility. Both Endocrine toxicity and *Dooshivisha* are produced as a result of environmental impact which results in infertility. Based on the innumerable studies, which is carried out during the past few decades, it is found that infertility is a disease which occur not only due to genetic factor but also due to environmental impact.

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