



## Case Study

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### CLINICAL EFFICACY OF A TRADITIONAL AYURVEDIC COMPOUND ON PEYRONIE'S DISEASE: A CASE STUDY

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#### ABSTRACT

Peyronie's disease (PD) is an acquired benign disease of the penis. It is a localized connective tissue disorder, includes the presence of fibrous plaque in the penile shaft, penile curvature, penile pain and erectile dysfunction. There are numerous conventional oral drugs to treat the condition with weak scientific evidence. Due to lack of definite pathophysiology of the disease surgical therapy still represents the gold standard for correction of penile deviation. Phytomedicines and traditional medicines are the first choice to treat male sexual disorders in many developing countries. We report a case of a 45-year-old male who presented with plasticity of penis, difficulty of erection and sexual inability. We treated this case with Kanchara Guggulu, a classical Ayurvedic formulation and got promising result in reduction in size of plaque, reduction of curvature of the penis, diminution in pain at erection, correction of erection function. Moreover, well structured, standardized, randomized placebo-controlled studies have to be done in future.

**KEY WORDS:** Kanchara Guggulu, Peyronie's disease, Sexual dysfunction

#### INTRODUCTION

Peyronie's Disease (Penile fibromatosis) is a psychosomatic devastating disease, characterized by painful erections and curvature of the erect penis. It is caused by scar tissue, called plaque, which forms along the length of the penis in the corpora cavernosa. The plaques are detected as a thickened, firm, or hard plaque on the dorsal part of the distal third of penile shaft. The plaques are not visible, and depending on the severity of the condition, the plaques can cause the penis to bend, making sexual intercourse difficult and occasionally painful. The disease may occur in about 1% to 8% of men, most frequently in between 40 to 70 years of age<sup>1,2</sup>. The etiology of the disease is not clear. Atheroma formation and penile trauma predisposes to this condition. It is also believed to be a part of autoimmune disease by some researchers<sup>3,4,5</sup>. Symptoms of the disease develop insidiously or may appear overnight. When the penis is soft, no pain is experienced. But, in severe cases, the hardened plaque (which is benign or noncancerous) reduces flexibility, causing pain and forcing the penis to bend or arc during erection<sup>6</sup>. The diagnosis of the disease consists of medical and family history, a physical examination and imaging test<sup>7,8</sup>. The treatment of the disease is challenging and consists of drug like colchicine, potassium para-aminobenzoate, tamoxifen, acetyl-L-carnitine and Vitamin-E. However, their use is considered off-label with unconvincing result. Surgical therapy remains the gold standard for patients in the chronic phase of the disease but always put the patient at risk<sup>9,10,11,12</sup>. Medicines prepared based on herbs are gaining an enormous attention now-a-day and about 80% of global population are rely on it for their primary health care<sup>13</sup>. Phyto-medicines and traditional medicines are also very

popular and often used for treating the sexual disorders of men and remains the first choice in many developing countries<sup>14</sup>. The disease is akin with some feature of Dhawjabhanga/Klaibya and some form of Shukadosa mentioned in Ayurvedic classics. Ayurveda offer many oral and topical medicines to correct the curvature and size of penis. Keeping the etiology and pathophysiology of the disease in view, we plan to treat a case of Peyronie's Disease with Kanchara Guggulu, a traditional Ayurvedic formulation to assess clinically<sup>15</sup>.

#### CASE REPORT

A 40-years male patient of Kolkata metro region, attended Hospital OPD of National Research Institute of Ayurvedic Drug Development, Kolkata, with complain as follows: Unusual angulation of the penile shaft when erect, pain during erections and/or during sex. Patient felt difficulties while on sexual activity and gradually developed plaques with slightly bending since 6 months. Patient did not have any history of injury. On examination he revealed; height 1.7 m, body weight 71 kg (BMI 24.57 kg/m<sup>2</sup>), Scarring or plaque palpated at the abnormal bend or angle of the penis, palpable of an indentation of the penis shaft at the site of the plaque or scarring & inability to have intercourse. He had a treatment history of vitamin 'E' supplementation along with some Non-steroidal anti-inflammatory drugs and anti-biotic for 15 days. He found euglycaemic and normotensive. He was habituated to take non-veg diet, and smoking 3-4 cigarette per day. He had an irregular bowel problem with normal bladder and adequate sleeping habits. Family history was not suggestive.

Manual examination revealed; 10 no. of plaques on ventral part and 7 no. of plaques on dorsal part of the penis by stretching it with one hand and gently compressing the shaft between the fingers and thumb of the other hand. Localized tenderness elicited on superficial palpation and 20 to 30 degree of the penile curvature has been observed and the presence of penile shortening was not remarkably identified. There was no established abnormality disclosed during systemic examination.

#### Diagnosis

Patients presenting with circumscribed or diffuse penile indurations are commonly encountered in urological practice. The condition is usually diagnosed by taking proper history of the patient, physical diagnosis, ancillary investigation. i.e. Biopsy, X-ray and Ultrasound (USG).

#### Laboratory investigation

A Biopsy sent for study and found to be scar tissue and diagnosed as Peyronie's disease. Human cell antigen, HLA-B7 has not been associated with the disease. USG of penis with high frequency (7.5-12MHz) linear high transducer suggested penile plaques, seen as focal hyper echoic thickening of the tunica albuginea, exhibiting strong echogenicity with substantial attenuation of the acoustic beam.

#### Differential Diagnosis

The differential diagnoses include the following conditions: congenital curvature of the penis, chordee with or without hypospadias, dorsal vein thrombosis, albuginea scar and cavernosal fibrosis secondary to local trauma, chronic inflammation, scleroderma, benign or malignant primary or secondary tumors<sup>16</sup>. The above diseases were differentiated from PD on the basis of Physical characteristics, Clinical diagnosis, laboratory investigations and other special investigations.

#### Assessment Criteria

The case was clinically assessed by reduction in size of plaque, reduction of curvature of the penis, diminution in pain at erection, correction of erection function on every week for 6 weeks.

#### Case conception and treatment selection

PD, though it is not mentioned in classical Ayurvedic texts, but considering its clinical features, it presumed the vitiation of Kapha-Vata doshas due to presence of plaques, scar tissue and pain. A good number of indigenous compounds have been delineated for the treatment of Vata-Kaphaja disorders and for glandular swelling. Kanchanara Guggulu is one of the best Ayurvedic formulations for the treatment of Goiter and similar conditions. According to Ayurveda it acts on mamsa (flesh) and meda (Body fat) dhatus and have lekhana (scraping) and pachana (increase metabolism in tissues) actions. Kanchanar Guggulu used to reduce accumulated Kapha (Water) in the tissues. It causes disruptions of deep-rooted Kapha dosha (water), maintains the homeostasis of the lymphatic system of body and promotes elimination of toxins. The main ingredient Kanchanara (*Bauhinia variegata* L.), makes this compound useful for Hypothyroidism, Poly cystic ovarian syndrome, Lipoma, various type of fistula in ano, pilonidal sinuses, elephantiasis, and lymphadenopathy including Hodgkin's disease. It also removes excessive fat from the body.<sup>17</sup>

#### Ingredients of Kanchanar Guggulu

Kanchanara tvak (Stem bark of *Bauhinia variegata*), Guggul (resin of *Commiphora mukul*), Haritaki (fruit of *Terminalia*

*chebula*), Bibhitaka (fruit of *Terminalia bellirica*), Amalaki (fruit of *Emblica officinale*), Sunthi (rhizome of *Zingiber officinale*), Maricha (fruit of *Piper nigrum*), Pippali (fruit of *Piper longum*) & Ela (fruit of *Elettaria cardamomum*).

Kanchanara guggulu contains tannins, alkaloids- sennoside, ascorbic acid, bioflavonoids, vitamin C, mucilage, essential oils- camphene, eugenol, gingerols, alkaloids- piperine, piperlongumine, Steroids-guggulsterones, that are lipid soluble, and oleoresins.

**Treatment plan:** The case was prescribed with Kanchanar Guggulu at a dosage of 1 gm. thrice daily with Luke warm water after food for 6 weeks and followed up for another two weeks. He also advised to attend the OPD at an interval of one week.

#### DISCUSSION

Based on the schedule of the administration of drug and assessment criteria the case was clinically assessed on every week till the end of 8 weeks. There was reduction in the number and size of plaques observed after 2 weeks of treatment and remarkably reduction noticed at the end of 6 weeks. Pain during erection of penis observed after 1 week of treatment. Curvature of penis reduced remarkably up to 10 degrees after 6 week of treatment. Correction of erection also found improved after 6 weeks of treatment. USG done after 6 weeks of treatment revealed the two corpora cavernosa are homogenous in echo texture and identified as two hypo echoic circular structure. The tunica albuginea is visualized as linear as hyperechoic structure covering the corpora cavernosa.

The various actions attributed by the drug are due to analgesic and anti-inflammatory, anti-microbial, Hypolipidemic, fibrinolytic and anti-tumor activities of various ingredients present in the formulation. The main pathogenesis involved in the PD is atheroma, vasculitis and auto immune factors. The drug might have reversed the exact path way involved in the genesis of disease.

From this investigation, it observed that, there is a significant progress noticed in respect of overall clinical assessment criteria. The indigenous drug Kanchanar Guggulu selected for the case is an important drug mentioned in Ayurveda. The drug has been used and found effective in various conditions like Obesity, Hypothyroidism, Goiter, adenitis, lymphangitis etc, in where the soft tissue of the body is involved. Its efficacy in the PD is not reported earlier. PD is not a common condition found in general practice. However, these patient are primarily visit sexologist and lastly to urologist for a ray of hope. Since surgical grafting is the main stay of treatment for the condition, but can put the patient at risk of development of priapism. Kanchanar Guggulu found effective in the case is safe and no adverse effect level (NOAEL) has been reported so far. The compound formulation helps to reduce inflammatory process and abled to resolve the plaques developed on dorsal and ventral surface of the penis.

#### Recommendation

The present study is about the presentation of a single case only. Moreover, a well-structured, standardized, randomized placebo-controlled study is recommended.

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