



Case Study

Ayurvedic intervention in the management of uterine fibroids: A Case series

Kamini Dhiman

Department of Prasuti Tantra and Stri Roga, Rajiv Gandhi Govt. Post Graduate Ayurveda College, Paprola, Kangra, Himachal Pradesh, India

Abstract

Uterine enlargement is common in reproductive life of a female. Other than pregnancy, it is seen most frequently in the result of leiomyomas. Leiomyomas, are benign smooth muscle neoplasmas that typically originate from the myometrium, due to fibrous consistency and are also called as fibroid. They may be identified in asymptomatic women during routine pelvic examination or may cause symptoms. Typical complaints include pain, pressure sensations, dysmenorrhea or abnormal uterine bleeding. Management of uterine fibroid through surgery is available to meet urgent need of the patient, but challenges remain to establish a satisfactory conservatory medical treatment till date. Hence, it was critically reviewed in the context of *Granthi Roga* (disease) and treatment protocol befitting the *Samprapti Vighatana* of *Granthi* (encapsulated growth) was subjected in patients of uterine fibroids. Seven cases of uterine fibroid were managed by Ayurvedic intervention. Ultrasonography (USG) of the lower abdomen was the main investigative/diagnostic tool in this study. After 7 weeks, patients presented with USG report as absence of uterine fibroid. Ayurvedic formulations *Kanchanara Guggulu*, *Shigru Guggulu*, and *Haridra Khand* are found to be effective treatment modality in uterine fibroid.

Key words: *Granthi*, *Haridra Khand*, *Kanchanara Guggulu*, leiomyomas, uterine fibroid

Introduction

Uterine fibroid, a noncancerous growth of the uterus that often appear during childbearing age of female and also known as fibromyomas, leiomyomas or myomas; is one such gynecological disorder which is posing a major health problem.^[1] Less than 0.1% of all uterine fibroids are malignant. Regardless of benign neoplastic character, uterine fibroids are responsible for significant morbidity in a large segment of the female population. The clinical effects are related to their local mass effect, resulting in pressure upon adjacent organs, excessive uterine bleeding, or problems related to pregnancy, including infertility and repetitive loss of pregnancy.^[2] As a consequence of these local pressure effects and bleeding, uterine fibroids rank as a major reason for hysterectomy accounting for approximately one-third of all hysterectomies or about 2,00,000 hysterectomies/year.^[3,4] Fibroids are of unicellular origin and possess a distinct autonomy from their surrounding

myometrium because of their outer connective tissue layer which allows leiomyomas to be easily “shelled out” of the uterus during surgery.^[5,6] Localized nodular swelling/growth has been referred under the name of *Granthi* that develops due to localization of morbid body humors in body tissue.^[7] It protrudes like joint of bamboo/joint between two parts of a plant or kernel of the fruit of *Amalaki* (*Emblia officinalis* Gaertn.) and is relatively hard and tough, glandular or nodular swelling; knotty, hard and rough appearance. Pathogenesis of *Granthi* is propounded as when morbid *Tridoshas*, vitiate *Rakta* (blood), *Mamsa* (fleshy/muscles), and *Meda* (fat/adipose tissue) that are admixed with *Kapha* produce rounded protuberant, knotty or glandular and hard swelling called *Granthi*.^[8] Etiopathogenesis, clinical features and treatment of *Granthi*, are identical to the *Granthi* of any other body part, however few clinical features present due to a specific location of the disease as a result of anatomical and physiological disturbance.^[8,9] *Granthi* when present in *yoni* (female reproductive system)/*Garbhashaya* (uterus) will lead to disturbed menstrual cycle-menorrhagia, metrorrhagia, dysmenorrhea, etc., along with infertility. On per vaginal examination, bulky uterus is felt. Such clinical entity is diagnosed today as Uterine fibroid where in *Vata Dosh*a (humor) is the predominant pathological factor being the natural site of its location (*Basti Pradesh*) in the body. In Ayurvedic literature total, nine types of *Granthi*

Address for correspondence: Dr. Kamini Dhiman, Reader, Dept. of Prasuti Tantra and Stri Roga, RG Govt. PG Ayurveda College, VPO Paprola, Kangra - 176 115, Himachal Pradesh, India. E-mail: kd44ayu@yahoo.co.in

have been mentioned depending upon the pathological factor, and the body tissue involved.^[10-12] Fibroids can be related to the “*Granthi*” mentioned in Ayurvedic texts, and it can be managed according to the principle of *Samprapti Vighatana* (to break the pathogenesis).

Uterine fibroids do not have definite medical treatment in the modern gynecological practices other than surgery, thus making the patients seek alternate therapies of healing. Barring morbid surgical cases, usual mentality of patients is to avoid the surgery to a possible extent by seeking Ayurveda or any other alternative treatment of their choice. This usual behavior also holds true for the patients with uterine fibroid where malignancy has been ruled out. The reasons for avoiding the surgery may be many e.g. preserving the anatomical and functional integrity of the body, a mere fear of surgery, age of the patient, financial constraint, social reason and so on. In the view of these facts and keeping in mind treatment limitations of this problem, a hypothesis regarding treatment protocol was made.

Materials and Methods

The patients presented with features suggestive of uterine fibroid were examined, a clinical diagnosis was made and then confirmed with the help of ultrasonographical (USG) examination. After confirmation, patients having uterine fibroid of <40 mm × 40 mm × 40 mm were considered for this case series. The demographic profile, associated gynecological symptoms such as pain lower abdomen, backache, excessive and irregular bleeding if present were noted. Laboratory investigations like blood and urine were also documented. Purpose and effect of medication was explained to patients. Treatment was prescribed to the patients willing for medication. Patient outcomes were also analyzed.

Vata, *Kapha* dominating *Tridoshas* are involved in the pathogenesis of the *Granthi Roga* hence *Vata-Kaphahara* medications are required, *Dushyas* are *Rakta*, *Mamsa*, and *Meda* hence the medications should possess *Raktashodhaka* (blood purifier), *Lekhana* (scrapping or dissolving) properties. *Srotodushti* is type of *Sanga*, *Vimargagamana*, *Atipravritti* so by *Aamapachana* and *Vatanulomana* drugs this problem can be controlled, and to combat *Agnimandhya*, medicines having *Deepana* (stomachic), *Pachana* (digestive) properties are required; with this hypothesis, *Vata-Kaphahara* (which alleviates vitiated *Vata* and *Kapha Doshas*), *Raktashodhana* (purification of blood), *Lekhana* (bio-scrapping) and *Shothahara* (anti-inflammatory) Ayurvedic medicines, easily available in the market such as *Shigru Guggulu*, *Kanchanara Guggulu*,^[13] and *Haridra Khanda*^[14] were chosen for this case series. *Kanchanara Guggulu* is in clinical use for many centuries in the treatment of *Gandamala* (cervical lymphadenopathy), *Apachi*, *Arbuda*, *Grandhi*, *Kushta*, etc.

Study design

Shigru Guggulu (each of 250 mg) two tablets, *Kanchanara Guggulu* (each of 250 mg) two tablets, and *Haridra Khanda* 3 g were prescribed to take orally after meal at the interval of 12 hours with the *Anupana* (vehicle or adjuvant) of milk for the duration of 7 weeks to seven patients [content of the drug are depicted in Table 1].

Table 1: Ingredients of the test drugs

Dravya	Botanical Source	Part used
<i>Kanchanar</i>		
<i>Guggulu</i>	<i>Commiphora mukul</i> Hook. ex Stocks.	Oleo resin
<i>Kanchanar</i>	<i>Bauhinia variegata</i> Linn.	Bark
<i>Amalaki</i>	<i>Emblca officinalis</i> Gaertn.	Fruit pericarp
<i>Bibhitaki</i>	<i>Terminalia bellirica</i> Roxb.	Fruit pericarp
<i>Haritaki</i>	<i>Terminalia chebula</i> Retz.	Fruit pericarp
<i>Pippali</i>	<i>Piper longum</i> Linn.	Fruit
<i>Shunthi</i>	<i>Zingiber officinale</i> Rosc.	Rhizome
<i>Maricha</i>	<i>Piper nigrum</i> Linn.	Fruit
<i>Varuna</i>	<i>Crataeva nurvala</i> Buch-Ham.	Bark
<i>Ela</i>	<i>Elettaria cardamomum</i> (L.) Maton.	Seed
<i>Tvak</i>	<i>Cinnamomum cassia</i>	Bark
<i>Tamal Patra</i>	<i>Cinnamomum tamala</i> Linn.	Leaf
<i>Shigru Guggulu</i>		
<i>Shigru</i>	<i>Moringa oleifera</i> Lam.	Bark
<i>Pilu</i>	<i>Salvadora persica</i> Linn.	Bark
<i>Rasa Sindur</i>	-	-
<i>Guggulu</i>	<i>Commiphora mukul</i>	Oleo resin
<i>Haridra Khand</i>		
<i>Haridra</i>	<i>Curcuma longa</i> Linn.	Rhizome
<i>Triphala</i>	<i>Emblca officinalis</i> Gaertn., <i>Terminalia bellirica</i> Roxb., <i>Terminalia chebula</i> Retz.	Fruit pericarp
<i>Trikatu</i>	<i>Zingiber officinale</i> Rosc., <i>Piper nigrum</i> Linn., <i>Piper longum</i> Linn.	Rhizome Fruit
<i>Nishoth</i>	<i>Operculina turpethum</i> Linn.	Root
<i>Nagarmotha</i>	<i>Cyperus Rotundus</i> Linn.	Rhizome
<i>Kutki</i>	<i>Picrorhiza kurroa</i> Royle ex Benth.	Rhizome
<i>Chitraka</i>	<i>Plumbago zeylanica</i> Linn.	Root
<i>Ela</i>	<i>Elettaria cardamomum</i> (L.) Maton.	Seed
<i>Tvak</i>	<i>Cinnamomum cassia</i>	Bark
<i>Jirak</i>	<i>Cuminum cyminum</i> Linn.	Fruit
<i>Dhanyaka</i>	<i>Coriandrum sativum</i> Linn.	Fruit
<i>Ajamoda</i>	<i>Trachyspermum ammi</i> Linn.	Fruit
<i>Sharkara</i>	-	-
<i>Lauha Bhasma</i>	-	-
<i>Abhraka</i>	-	-
<i>Bhasma</i>		

Case 1

A 20-year-old unmarried girl having complaint of severe pain in the abdomen and back during and before periods came to the hospital and visited the outpatient department (OPD) of Prasuti Tantra and Stri Roga Department (PTSR). As the patient was anxious because of going to be getting married after 6 months and had taken some modern medical treatment for the same problem and did not get relief for the same, she had ultrasound

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scanning (USS) at some private clinic. As per her USG reports, the uterine fibroid of the size of 35 mm × 13 mm was present in the posterior wall of the uterus. The fibroid was intramural type of fibroid. As per the hypothesis for the *Vilayana* of *Granthi*; *Lekhana*, *Kaphahara* medicines are required in the said problem hence. Combination of drugs quoted above was prescribed to the patient. In the very next cycle, her complaint of pain abdomen before and during the cycle were reduced. After 7 weeks, a repeat USG was done, and the report was of normal study.

Case 2

A 42 years old married female having complaints of excessive and irregular periods, pain lower abdomen and back, of variable intensity being present throughout the cycle, visited OPD of PTSR department. She was advised to have her USS to exclude any pelvic pathology as the causative factor of her gynecological complaints. As per her USG reports, it was concluded as uterine fibroids of 28 mm × 18 mm size present in the posterior wall and of 24 mm × 14 mm size in anterior wall. The same combination was prescribed to the patient. After taking medications, she had her menstrual period at the interval of 28 days that was greater than her previous interval, but she reported some heavy bleeding in that cycle. Again up to 3 weeks when patient did not have period which was frequent earlier, patient went for USS and reported as normal study.

Case 3

A female patient of 47 years having similar complaints excessive and irregular periods, heaviness in the abdomen, weakness and giddiness reported to the OPD. When USS was advised to the patient to exclude the pelvic pathology, it was reported as adenomyosis in the uterus, increasing the size of the uterus that was 84 mm × 62 mm × 52 mm. The patient was advised to take a second opinion of a modern gynecologist in this regard. The patient was advised for hysterectomy by the gynecologist of the modern fraternity. As the patient was non affording, she was interested to have Ayurvedic management first for the said problem then would decide for surgical treatment if there was no improvement. As adenomyosis is also the growth disorder of uterine origin, similar to *Granthi*, the same combination was prescribed to the patient and after the period of 7 weeks, the reduction in the size of uterus (71 mm × 57 mm × 44 mm) was reported as well as was underlined by sonologist and was advised to continue the same treatment for some longer duration.

Case 4

A married patient aged 26 years having two kids visited the OPD of PTSR with the complaints of irregular and painful periods with associated complaints of pain in the abdomen and back during and before periods since 1 year. While her USS reported the intramural type of fibroid in the posterior wall of the uterus of 21 mm × 11 mm size. As her kids were small and she was not interested to disturb the integrity of reproductive organs, she insisted for the medical management of her problems, hence same combination was also advised to her. In this case, after 7 weeks the size of the fibroid was reduced and she got symptomatic relief in pain abdomen and backed up to some extent but did not report the normal ultrasound report. She was advised to continue the same treatment for one more

cycle. After completion of 12 weeks duration of the treatment, she got relief in her menstrual pattern became regular and pain was almost reduced she went for the USS and reported the normal study.

Case 5

A female aged 35 years reported almost similar menstrual problems – excessive and irregular periods associated with pain in the abdomen and back during and before periods. However, there was some variation in her USS report as there was one sub mucosal uterine fibroid of 24 mm × 12 mm size along with bilateral ovarian cysts of 47 mm × 32 mm and 29 mm × 20 mm sizes. She was also prescribed the same treatment regimen and after 7 weeks her ultrasound report was concluded as normal study having uterus of normal size and no ovarian cysts.

Case 6

A female aged 46 years having complaint of excessive and irregular period visited the OPD. When USS was advised, it was reported as fibroid uterus with bilateral cystic ovary. With the same treatment protocol after 7 weeks, her scanning report was concluded as normal uterus with a simple cyst left ovary. She got relief in her menstrual problems also.

Case 7

A female aged 36 years visited the OPD with alike problem of irregular menstrual problems associated with pain abdomen and back during and before periods. After USS report, it was observed that she also had uterine fibroid of 25 mm × 25 mm × 26 mm. With the same treatment protocol, she also reported normal study after the duration of 7 weeks and got improvement in her menstrual problems.

Results

Ultrasonography is the only diagnostic tool which is being used for the confirmation of diagnosis of uterine fibroid and to assess the results of management that's why the same was adopted during this case series. Excluding two patients, all the patients reported the normal study on ultrasonography after the duration of 7 weeks. Largest size of the fibroid treated in this study was of 35 mm × 13 mm. Adenomyosis is the entity which results in carcinoma, in that case also encouraging results were reported. Clinically patients got improvement in all the gynecological complaints, which the particular patient had. During follow-up of the patients after 6 weeks; no recurrence was reported clinically as well as on USS.

Discussion

In the *Samprati* (pathogenesis) of *Granthi*, it is mentioned that *Mamsa* (muscle fibers), *Rakta* and *Medo Dhatu* are vitiated. Several studies have found an association between obesity and an increased incidence of uterine leiomyomas. In a prospective study from Great Britain,^[15] the risk of fibroids increased approximately 21% for each 10 kg increase in body weight; similar results were obtained when the body mass index (BMI) was analyzed rather than weight. In a case-control study from Thailand,^[16] a 6% increase in risk

was observed for each unit increase in BMI. Similarly, a large prospective study of registered nurses in the United States found an increased fibroid risk with increasing adult BMI, as well as an increased risk associated with weight gain since age 18 years.^[17] A case-control study from Japan likewise reported that women with occult obesity (BMI <24.0 and body fat \geq 30%) or women with upper-body fat distribution (>0.80 waist-to-hip ratio) were at significantly higher risk.^[18] In a study from Boston, Massachusetts, 51% of the hysterectomies- or myomectomies-confirmed patients with leiomyomata were overweight, and 16% were severely obese.^[19] If we see the contents of the drugs; *Guggulu* (*Commiphora mukul* Hook. ex Stocks.) is analgesic and anti-inflammatory. *Guggulu* possesses *Laghu* (light), *Ruksha* (dry), *Tikshna* (sharp), *Vishad* (clear), *Sara* (mobile), *Dipana* (stomachic enkindle the digestive fire), *Anuloman* (agents removing *Dosha* in downward direction), *Lekhana* (scraping), *Medohara*, *Kapha-Daurgandhya-Hara*, *Hridya* (cardio protective), and *Raktaprasadana* (blood purifying agents) properties and is useful in *Sthaulya* (obesity), *Prameha* (diabetes), and other diseases associated with *Sthaulya* (obesity). Mode of action through modification of thyroid gland functions has been reported with *Guggulu* in a study.^[20]

Kanchanara Guggulu is a classical Ayurvedic formulation, used for *Kapha* accumulations in the tissues. As *Kapha* moves deeper within the system, it may manifest as swollen lymph nodes, cysts or growths. Powerful decongestants such as *Kanchanara*, *Triphala* (a combination of fruits of *Terminalia chebula* Retz., *Terminalia bellerica* Roxb., and *E. officinalis*), and *Trikatu* (*Zingiber officinale* Rosc., *Piper nigrum* L. and *Piper longum* L.) are mixed with *Guggulu* to break down and eliminate hardened *Kapha*. This detoxifying blend supports the proper function of the lymphatic drainage and digestive systems, aiding in the prevention of further *Kapha* accumulation. Its main ingredients *Kanchanara* (*Bauhinia variegata* L.), *Varuna* (*Crataeva nurvala* Buch.-Ham.), *Triphala*, *Trikatu*, *Trijataka* may also be useful in hypothyroidism. *Kanchanara Guggulu* supports proper function of the lymphatic system, balances *Kapha Dosha*, promotes elimination of inflammatory toxins; it is alterative, anti-inflammatory and tonic and is administered in cysts, malignant ulcers, syphilis, fistula, scrofula, sinus, etc., *Kanchanara* is very useful in extra growth or tumors and helps in reducing bleeding.^[21]

Shigru Guggulu is a patent medicine where in *Shigru* (*Moringa oleifera* Lam.) a well-known plant in India, rich in iodine, an essential component of thyroid hormones, T₃ and T₄. It has *Deepana* (stomachic), *Pacahna*, *Kaphavatahara* properties. It is recommended in *Galaganda*, *Kandu*, *Sotha*, *Apachi*, *Vrana*, *Medoroga*, *Vidradhi*, *Gulma*, etc.^[22] *Pilu* (*Salvadora persica* L.) also known as tooth brush tree. It is having *Madhura*, *Tikta*, *Kaphavatahara* properties and is indicated in *Gulma* and pain in joints.^[23] Plant has been reported to have analgesic, anti-inflammatory and bitter stomachic activities. *Rasa Sindura* is *Yogavahi* (catalytic agent), so increase the efficacy of the contents of the medicine, as well as it is indicated in the diseases of *Vata*, *Agnimandhya*, and *Gulma*.^[24] *Haridra Khanda* is indicated in inflammatory disorders.^[14] Various ingredients of *Haridra Khanda* are having *Vata-Kapha Shamaka* (34%), *Tridoshashamaka* (33%) properties, which help to bring the

affected *Doshas* in normal level. The main ingredient of *Haridra Khanda* is turmeric which is processed with ghee and sugar candy. It is one of the best blood purifier so it can be employed in all diseases which originate from *Rakta Dushti* (vitiation of blood). *Haridra* (*Cucuma longa* L.) is having properties like *Tikta Rasa*, *Katu Vipaka*, *Ushna Virya* and *Laghu* and *Ruksha Gunas*, so it acts as good *Lekhana Dravya* – a scraping agent on *Apachit Meda*. *Haridra* digests the *Aama*, *Kapha*, and *Meda*. It has anti-inflammatory and anti-allergic activity. *Haridra* is not only *Kledaghna*; it is *Kapha Lekhana*, *Medo Lekhana*, *Rakta Shodhana*, and *Vrana Lekhana* too.^[25] Some scholars have studied *Haridra* for its *Lekhana* karma in various ways such as *Vranalekhana*, *Kledaghna*, *Raktashodhak*, and *Garbhashaya Lekhana*. Other ingredients having *Deepana*, *Pachana* properties, help in *Samprativighatana* by treating *Agnimandhya*. In recent medical research it has revealed that *Triphala* has a significant medicinal value as a potential detoxifying and anti-cancer agent. *Triphala* had the ability to induce cytotoxicity (cell death) in tumor cells but spared the normal cells.^[26] Similarly, *Triphala* was effective in reducing tumor incidences and increasing the antioxidant status of animals.^[27] *Trikatu* improves the *Agni* (digestive fire) and helps in the removal of *Aama* (toxins) from the body. *Trikatu* gives strength to the reproductive system, used to treat obesity as it keeps a check on food cravings, works as anti-inflammatory and analgesic due to the presence of *Sunthi* in it which works as *Vata Shamaka*, that is, it balances the aggravated *Vata Dosha* which is mainly responsible for all kind of pains in the body. *Nishoth* (*Operculina Terpanthum* L.) is *Medohara* (decrease fat), as well as has been reported to have an anti-inflammatory activity.^[28] Many ancient texts have also described *Nagarmotha* (*Cyperus rotundus* L.) as an anti-inflammatory medicine, a general and nerve tonic, a promoter of uterine contractions too. *Kutaki* (*Picrorrhiza Kurroa* Benth.) is mentioned as *Lekhaniya* (bio-scraping agent).^[29,30] *Cuminum cyminum* Linn., *Coriandrum sativum* Linn., *Elettaria cardamomum* (L.) Maton., *Trachyspermum ammi* Sprague. possess *Deepana*, *Pachana* properties which may help to break the pathogenesis by promoting digestive fire. Along with these, *E. cardamomum* possess antioxidant, gastroprotective, antispasmodic, antibacterial and anticancer properties.^[31] *Cinnamomum tamala* (Buch.-Ham.) T.Nees and C.H.Eberm. own antioxidant activities,^[32] Cumin has been found to possess various pharmacological activities such as antimicrobial, anticancer, antioxidant, and immunomodulatory.^[33-36] Coriander has been reported to exhibit cholesterol lowering activity anticancer activity hepatoprotective activity and have also been reported to be potent antioxidants in *in vitro* testing systems. The anti-inflammatory activity of this plant extract has been demonstrated in carrageenan induced paw edema in experimental animals.^[37-41] *T. ammi* is effective lipid lowering agent. It also has anti-inflammatory, hepatoprotective, and gastroprotective activity.^[42-45] *Abhraka Bhasma* and *Loha Bhasma* improve the quality of *Rasa* and *Rakta Dhatu* which in turn enhance the rest of *Dhatu*s and thus improve the general condition of the patient. Comprehensive view point of ancient Ayurvedic scholars regarding the common pathogenesis of localized/nodular swellings (*Granthi*, *Apachi*, *Galaganda* *Evam Arbuda*) was tested clinically in this case series and was found to be true to the test of time.

Conclusion

Uterine fibroid is seen during reproductive life of a female irrespective to the age, which may result in various menstrual problems such as dysmenorrhea, menorrhagia, and irregular periods, by disturbing anatomical as well as physiological integrity. Medical management of this problem is possible on the basis of Ayurvedic fundamental principles. *Vata-Kapha Shamaka*, *Rakta-Shodhaka*, *Lekhana*, *Shothghna* and *Kledaghna* medicines such as *Kanchanara Guggulu*, *Shigru Guggulu*, and *Haridra Khand* were found to be very effective in relieving uterine fibroid in this case series. Uterine fibroid is similar to *Garbhashyagata* (intrauterine) *Granthi* (encapsulated growth) but a large sample clinical study will only establish the hypothesis and may help to contribute to avoid uterine fibroid surgery in initial stages.

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How to cite this article: Dhiman K. Ayurvedic intervention in the management of uterine fibroids: A Case series. *Ayu* 2014;35:303-8.

Source of Support: Nil, **Conflict of Interest:** None declared.

हिन्दी सारांश

गर्भाशयज फाईब्रोइड की आयुर्वेदीय चिकित्सा – एक अध्ययन

कामिनी धीमान, इन्दु मिस्त्री

महिलाओं में प्रजनन वय में गर्भाशय की वृद्धि एक सामान्य बात है। गर्भावस्था के अतिरिक्त लियोमायोमा अधिकतर इसका कारण होता है। यह सौम्य प्रकार का अर्बुद है तथा जब ये गर्भाशयज अंतःकला से उत्पन्न होता है, तो इसे फाईब्रोइड कहते हैं। शल्य क्रिया इस की प्रचलित चिकित्सा व्यवस्था है। गर्भाशयज फाईब्रोइड के रुग्णों पर कांचनार गुग्गुलु योग व हरिद्राखण्ड के लाभ का अध्ययन किया गया। अल्ट्रासाउंड निदान सुविधा को मापदण्डरूप में प्रयोग किया गया व पाया गया कि सभी रुग्णों में गर्भाशयज फाईब्रोइड पूर्णतः ठीक हो गया। किसी भी रुग्ण को शल्य चिकित्सा की आवश्यकता नहीं पडी। काञ्चनार गुग्गुलु व हरिद्राखण्ड प्रयोग द्वारा अधिकतम रुग्णों पर चिकित्सकीय अध्ययन कर इस अनुसंधान को और सत्यापित करने की आवश्यकता है।