Efficacy of Virechana, Triphaladi decoction with processed Guggulu in the management of ovarian cyst - A pilot study

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Abstract

Background: Ovarian cyst is an emerging problem among the women of reproductive age group. Most of the ovarian cyst (80%–85%) are benign, and two-thirds of these occur in women between 20 and 44 years of age. They may be identified in asymptomatic women during routine pelvic examination or may produce symptoms. Management of the ovarian cyst through surgery is available to meet urgent need of the patient, but to establish a satisfactory conservative medical treatment is the need of the hour. According to Ayurveda, ovarian cysts can be managed on the line of Kaphaja Granthi (nodular/glandular swellings by Kapha Dosha) and Vidradhi (abscess). Aim: The aim of this study was to evaluate the clinical efficacy of Virechana (therapeutic purgation), Triphaladi Kashaya (decoction) with processed Guggulu (Commiphora mukul Engl.) in the management of ovarian cyst. Materials and methods: 16 patients were included in this clinical study and among them, 15 patients completed the treatment and one patient was dropped out from the trial. Patients were given Virechana followed by Triphaladi Kashaya (50 ml) with processed Guggulu (1 g) orally twice a day before meal for 60 days. The patients were followed up till 1 month. The assessment was carried out on subjective parameters such as lower abdominal pain, backache, and dysmenorrhea as well as objective parameters such as ovarian cyst size and volume by four-dimensional gray scale and color doppler sonography. Cancer antigen 125 was also assessed before and after treatment. Results were statistically analyzed using Wilcoxon signed-rank test and Student’s t-test by sigma statistical tool (version 3.5, Systat Software Inc., United States). Results: Significant results were observed in subjective parameters such as lower abdominal pain (93.11%), backache (81.81) and dysmenorrhea (90.90%) as well as objective parameters such as reduction in size of the cyst (60%) and complete resolution of the cyst (26.66%). Conclusion: Triphaladi Kashaya with processed Guggulu is more effective in hemorrhagic cyst and simple cyst rather than other cyst, due to Shothahara properties which may have effectively curtailed the progress of ovarian cyst.

Keywords: Ovarian cyst, processed Guggulu, Triphaladi Kashaya, Virechana

Introduction

An ovarian cyst is a sac filled with fluid that forms on or inside the ovary. When the follicles in the ovaries do not rupture, they form small cysts and any ovarian follicle that is larger than 2 cm is an ovarian cyst. Ovarian cyst can range widely in size, from being as small as a pea to larger as an orange. In a cross-sectional study, about 4%–7% of women who were examined by sonography had ovarian cysts larger than 30 mm. While many of these ovarian cysts are spontaneously impoverished, some of them require surgical interventions, leading to discomfort, risks of performed interventions and treatment cost.[1] There is the most discriminating four-dimensional gray scale and color doppler sonographic features to determine differentiation between malignant and benign adnexal masses and to develop a scoring model called Assuit Scoring Model (ASM) that would enable more accurate diagnosis with features, i.e. tumor volume, type of mass, papillary projection, and sepaet with 0–3 score, which was adapted in this study.[2] There is no effective treatment for ovarian cysts in modern science rather only hormonal therapy and laparoscopy; hormonal therapy which has its side effects. While laparoscopy or surgical management is a treatment option, there is a chance of recurrence in most of the cases, and hormonal therapy is not a cure. Hence, there

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is need to define an effective Ayurvedic treatment protocol for the prevention and cure of ovarian cyst.

When the deranged Tridosha (bio humors) vitiates the Mamsa (fleshy/muscles), Asrik (blood), and Meda Dhatu (fat/adipose tissue) along with Kapha, it produce a circular, raised, and knotted inflammatory swellings called Granthi (nodule/glandular growth). Main clinical feature of Granthi, Vidradhi (abscess), and Apachi (enlargement of the glands of the neck) is swelling/inflammation or protuberance. Shotha (inflammation) may occur in different body parts; these are of many types due to the different location and clinical features. Hence, ovarian cyst can be called as Beejakosha Granthi (ovarian cyst) on the basis of its location in Beejakosha (ovary) and its surroundings. Ovarian cyst produces symptoms such as lower abdominal pain, lower backache, dyspareunia, dysmenorrhea, amenorrhea, menorrhagia and breast tenderness. It is assumed the drug to be effective in removing the ovarian cyst, should possess Shothahara (anti-inflammatory) properties, Kapha-Medohara (which alleviates vitiated Kapha Dosha and Medo Dhatu) properties and Granthi-Vidradhihara (which resolve cyst and abscess) properties. Virechana (therapeutic purgation) is indicated in Granthi. Trivrita (Operculina turpethum Linn.), Danti (Baliospermum montanum Muell.-Arg.), and Triphala – (combination of three drugs viz. Terminalia chebula Retz., Terminalia belerica Roxb. and Emblica officinalis Gaertn.) decoction was selected for Virechana which has purification property of vitiated Dhatu (tissue). After Virechana, the effect of Shamana (conservative) drug becomes more potent. Hence, Triphaladi Kashaya with Shuddha Purana Guggulu was given as Shamana drug. Triphaladi Kashaya (decoction) has properties of Shothahara, Granthihara (reducing size of cyst), Kapha-Medohara, and Vatanulomana (normal movement of Vayu) actions. Prakshepa (condiments) of processed Guggulu has property of Lekhana (scrapping) and it removes Srotorodha (obstructive pathology occurring in the channel). Considering these, the research work was planned to assess the clinical efficacy of Virechana, Triphaladi Kashaya with processed Guggulu in the management of ovarian cyst. Primary outcome of the study was removal and/or reduction in the size of the cyst. Secondary outcome was changes in cardinal and associated clinical features related to ovarian cyst.

Materials and methods

The females (n = 16) attending the OPD of Prasutitantra and Streeroga, IPGT&RA, Jamnagar, fulfilling the inclusion criteria of selection, were registered in the study irrespective of their caste and religion. The study was approved by the Institutional Ethics Committee, IPGT&RA, Jamnagar (IEC No. PG/7/-A/Ethics/2017-18/2069, dated November 17, 2017). The study was registered in the Clinical Trial Registry India (CTR1/2018/01/011289, Registered on: January 12, 2018). Before initiation of the study, written informed consent was taken from each patient. A detailed clinical research proforma, incorporating all the points of history-taking, physical examination, and assessment of the treatment, was maintained for record and analysis purpose. Ingredients of Tripritadi Kashaya and Triphaladi Kashaya was procured from pharmacy of Gujarat Ayurved University, Jamnagar and Guggulu was purchased from Gujarat State Forest Department store of Jamnagar and identified in the pharmacognosy laboratory of IPGT&RA, Jamnagar [Table 1].

Criteria and method for diagnosis

Transvaginal sonography (TVS) was done on the 4th or 5th day of menstrual cycle for diagnosis of an ovarian cyst for consecutive two cycles prior enrollment of the patient.

Inclusion criteria

- Married females having age group between 18 and 50 years
- Patients having ovarian cyst size ≤ 7 cm
- Single or multiple/unilateral or bilateral/unilocular or multilocular ovarian cyst

Table 1: Ingredients for trial drug

| Drug                          | Latin name                             | Parts used | Quantity |
|-------------------------------|----------------------------------------|------------|----------|
| Trivritadi decoction (Virechana drug) |                                        |            |          |
| Danti                         | Baliospermum montanum Muell.-Arg.      | Root       | 1 part   |
|                               |                                        |            | (7 g)    |
| Trivrita                      | Operculina turpethum Linn.             | Root       | 2 part   |
|                               |                                        |            | (14 g)   |
| Triphala*                     | Terminalia chebula Retz.               | Fruit      | 4 part   |
|                               |                                        |            | (28 g)   |
|                               | Terminalia bellerica Roxb.             | Fruit      |          |
|                               | Emblica officinalis Gaertn.            | Fruit      |          |
| Triphaladi decoction (conservative treatment) |                                |            |          |
| Triphala*                     | Equal quantity of Haritaki, Bibhitaki and Amalaki | Fruit | 12 g    |
| Shigru                        | Moringa oleifera Lam.                  | Stem bark  | 12 g    |
| Varuna                        | Crateaevia nurvala Buch. Ham.          | Bark       | 12 g    |
| Dashamula                     | Bilva-Aegle marmelos Corr.             | Stem bark  | 12 g    |
|                               | Agnimantha-Clerodendrum phomoidis Linn. | Stem bark  |          |
|                               | Shyonaka-Oroxylum indicum Vent.        | Stem bark  |          |
|                               | Gambhari - Gmelina arborea Roxb.       | Stem bark  |          |
|                               | Patala - Stereospermum suaveolens DC   | Stem bark  |          |
|                               | Brihati - Solanum indicum Linn.        | Whole plant|          |
|                               | Kantakari - Solanum surattense Burm.f. | Whole plant|          |
|                               | Shalpamri - Desmodium gangeticum DC    | Whole plant|          |
|                               | Prishniparni - Uraria picia DESV.      | Whole plant|          |
|                               | Gokshura - Tribulus terrestris Linn.   | Fruit      |          |
| Guggulu                       | Comniphora mukul Engl.                 | Resin      | 1 g      |
Exclusion criteria
- Pregnant women
- Women with hemoglobin <7 gm%
- Tubo-ovarian mass, dermoid cyst, and malignant tumors
- Patients with uncontrolled hypertension, diabetes mellitus, tuberculosis, and any other severe systemic disease
- Patients contraindicated for Virechana Karma.

Investigations
- Routine hemogram such as Hb%, total leukocyte count, differential leukocyte count, erythrocyte sedimentation rate, platelet count, bleeding time, and clotting time was done. Biochemical investigations such as fasting blood sugar, postprandial blood sugar, liver function test (total serum bilirubin, serum glutamic pyruvic transaminase, and serum glutamic oxaloacetic transaminase), renal function test (blood urea, uric acid, and serum creatinine), lipid profile (serum cholesterol, serum triglycerides, serum high-density lipoprotein, serum low-density lipoprotein [LDL] and very LDL) were performed in all registered patients. Urine analysis for routine and microscopic was also done. Cancer antigen 125 (CA 125) and serum prolactin were also investigated. These investigations were done before treatment (BT) and after treatment (AT). TVS was done BT and AT. Serological investigation i.e. Human immunodeficiency virus, hepatitis B surface antigen, venereal disease research laboratory and hepatitis C virus were done only BT.

Treatment protocol
In the present study, the treatment duration was 10 weeks (2 weeks for Virechana Karma and 8 weeks for conservative treatment [Table 2]). The patient was advised for Virechana Karma after cessation of menses. After Virechana Karma, Triphaladi Kashaya with processed Guggulu was given orally for 8 weeks [Table 2].

Medicine preparation
All the ingredients of the formulations were identified and authenticated in the Pharmacognosy Laboratory of IPGT&RA, Jamnagar. Guggulu which was already collected by Gujarat State Forest Department Corporation Limited, Vadodara, on October 20, 2016, was obtained from its branch in Jamnagar dated August 24, 2017 and was preserved under identical condition to make it as Purana. Purana (old) Guggulu was purified by Triphala decoction in the Rasashastra and Bhaishajyakalpana Department, IPGT&RA, Jamnagar, on January 29, 2018.[12] Coarse powder of Triphala was soaked in water for overnight. Next day, it was boiled at low temperature (100°C) without covering it. Water was evaporated slowly and reduced till the quantity became 1/8th. It was filtered with clean cotton cloth. Filtered liquid was again heated and then, impure Guggulu was added in it and stirred well, which was filtered by cotton cloth and obtained residue was collected in cloth and discarded. This filtered liquid was again boiled on stove on medium temperature of 100°C with continuous stirring. When it was converted in to soft mass, it was transferred in a small vessel to avoid the burning of Guggulu at the bottom of vessel. This processed Guggulu was kept under sunlight for 15 days, and then, fine powder was prepared and stored in an air tight container.

Posology
Deepana Pachana (administration of appetizers and digestives) was performed by the administration of Trikatu (mixture of Zingiber officinale Roscoe, Piper nigrum Linn. and Piper longum Linn.in equal portion) powder 3 g thrice daily before food with lukewarm water till the symptoms of appropriate Agni Deepana (enhanced appetite) were attained. Thereafter, Snehapana with Goghrita in Arohna Krama (internal oleation with increasing dose starting with dose of 30 ml to end with average dose of 200 ml) was done till proper oleation symptoms were achieved for average 5–7 days. During the gap of 3 days and on the day of Virechana, Sarvanga Abhyanga (whole-body massage) with Bala Taila (oil prepared with Sida cordifolia Linn.) was done followed by Vashpa Sweda (steam fomentation). Virechana was performed by the administration of Trivritadi decoction approximately 250 to 500 ml on the 4th day after performing of Abhyanga and Swedana, on empty stomach. Samsarjana Krama (post-Virechana dietary regimen) was advised for 3–7 days depending on the Shuddhi Lakshanas (purification signs).[13]

For Shamana Yoga (conservative treatment), Triphaladi coarse powder[12] was given to the patient to prepare Kwatha as per method of Kwatha Kalpana (preparation of decoction)[14] after post-Virechana dietary regimen. For this patient was asked to take 48 g of coarsely powdered drugs and boil with 16 parts of water in steel vessel, over a mild flame till the liquid was reduced to 1/8th of the original quantity. Triphala Kwatha 50 ml and Shuddha Purana Guggulu 1 g was given orally before meal for two time a day for 2 months to patients.

Follow up
Follow-up study was conducted every week during the treatment for 2 months and after completion of treatment at the interval of 15 days for 1 month.

Criteria of assessment

Subjective criteria
Cardinal and associated clinical features like lower abdominal pain, backache, dysmenorrhea, breast tenderness, duration of blood loss, and dyspareunia were assessed before and after treatment. [Table 3].

Objective criteria
Changes in size, volume, vascularity of the ovarian cyst through three-dimensional color doppler ultrasonography, Assuit Scoring Model (ASM)[15] (for differentiation of adnexal masses) and also laboratory parameters i.e. CA 125 and S. prolactin were assessed.

Statistical estimation of results
The information gathered based on the observations was subjected to statistical analysis. Sigma stat (version 3.5,
Table 2: Procedure of Virechana Karma

| Procedure                        | Drug and dose                                                                 | Duration (days) |
|----------------------------------|-------------------------------------------------------------------------------|-----------------|
| Deepana and Pachana              | Trikat Churna-2 g/3 times a day with warm water after meal                    | 3               |
| Snehapana (internal oleation)    | Go-Ghriti (as per Koshtha and Agni)                                          | 3-7             |
| Abhyanga and Swedana (massage and steam) | Bala Taila and Bashpa Sweda (morning time)                             | 4               |
| Virechana Karma (therapeutic purgation) (Virechana Yoga – Ch. Chi 7/44) | Triphala 4 part (28 g)                                                     | 1 (single dose) |
|                                  | Trivrita 2 part (14 g)                                                       |                 |
|                                  | Danti 1 part (7 g)                                                           |                 |
| Samsarjana Karma (post-Virechana regimen) | Diet (depending on purification features) (Peya [thin gruel of rice], Vilepi [thick gruel of rice], Akrit Yusha [nonprocessed soup of vegetables and pulses], Krit Yusha [processed soup of vegetables and pulses], normal diet) | 3-7             |

Systat Software Inc., United States) was used to find the standard deviation, standard error, “r” and “P” values. The Wilcoxon’s signed-rank test was applied for all non-parametric data (subjective criteria) to analyze the effect of therapy. Student’s paired t-test was applied for parametric data (objective criteria). P < 0.05 was considered as level of significance.

Observation on demographic data
Patients for the present clinical trial were registered between February 2018 and February 2019. Sixteen patients were registered for the present study; among them, one patient dropped out due to irregular follow-up of the treatment.

Out of 16 patients of the clinical study, 56.25% of the patients belonged to the age group of 26–35 years while 25% of the patients belonged to age group of 18–25 years. All patients (100%) were married. 62.5% of the patients had Vata-predominant Kapha Prakriti (constitution). The body mass/index (BMI) ranging between 18.5 and 24.9 kg/m² was found in 56.25% of the patients, between 25 and 29 kg/m² was found in 18.75% of the patients and more than 30 kg/m² BMI found in 25% of the patients. The symptoms reported in the patients were irregular menses (26.66%), scanty menses (20 kg/m), excessive menses (26.66%), intermenstrual bleeding (20%), lower abdominal pain (100%), lower backache (86.66%), dysmenorrhea (80%), breast tenderness (46.66%) and dyspareunia (46.66%). No any asymptomatic patients were registered in the clinical trial. A history of pelvic inflammatory disease (18.75%) and hydrosalpinx (18.75%) was noted. Unilateral cyst was observed in 81.25% and bilateral cyst in 18.75% of the patients. Different types of the cysts such as simple cyst (43.75%), chocolate cyst (31.25%), complex cyst (31.25%) and hemorrhagic cyst (25%) were also reported. 73.13% of the patients had a history of primary infertility and 13.33% patients had a history of secondary infertility. CA 125 was found elevated in 18.75% of the patients and serum prolactin was found elevated in 12.5% of the patients.

Effect of therapy on subjective parameters
In the present study, the result revealed that 93.11% of the patients got relief in lower abdominal pain, 81.81% of the patients got relief in backache, 90.90% of the patients got relief in dysmenorrhea, 100% of the patients got relief in breast tenderness. Irregular (delayed) menses was corrected in 50% of the patients, menses were normalized from scanty menses in 25% of the patients and excessive menstrual bleeding was reduced in 75% of the patients. Intermenstrual bleeding was stopped in 33% of the patients. The relief in lower abdominal pain, lower backache, and dysmenorrhea was statistically highly significant. The relief in breast tenderness was statistically significant. Insignificant result was observed in dyspareunia, irregular (delayed) cycle, intermenstrual bleeding, and scanty and excessive menstrual bleeding [Table 4].

Effect of therapies on objective parameters of all types of cyst
In the present study, 60% reduction in size of the cyst, 21.42% decrease in vascularity of the cyst and 63.80% decrease in volume of the cyst was found. The reduction in size of the cyst and volume of the cyst was statistically significant, while the reduction in vascularity of the cyst was statistically highly significant [Tables 5 and 6]. In ASM, score one was reported in one patient BT and AT. The score was zero in all other patients BT and AT. BMI was statistically significant by reduced 4.22%.

Before treatment, CA 125 was found elevated in 18.75% of the patients which was reduced to normal level after the treatment in all patients. Serum prolactin level was found above the normal range before treatment in 12.5% of the patients which became normal after the treatment.

Effect of therapy on different types of cyst
Among seven patients of simple (follicular) cyst, complete resolution of the cyst was reported in six patients while size of the cyst was reduced to 2 cm in one patient. One patient had tendency of follicular cyst in each cycle for the last 1 year which was decreased after completion of treatment. All four patients of hemorrhagic cyst had complete resolution of the cyst. Among two patients of chocolate cyst, the reduction of chocolate cyst was reported in one patient who had 3 cm size of cyst for 1 year which was reduced up to 2 cm in after the treatment. Second patient of chocolate cyst had no improvement in two-month treatment as it was 5 cm cyst and needed to continue treatment for long duration. She reported mild decrease in dysmenorrhea. Among five patients of complex cyst, 3 patients had unilateral and 2 patients had bilateral cyst. Unilateral cyst was reduced up to 1 cm in two patients and complete resolution was found in one patient.
Table 3: Scoring pattern of subjective parameter and objective parameter

| Subjective and objective criteria                      | Grade |
|--------------------------------------------------------|-------|
| Lower abdomen pain                                     |       |
| No pain                                                | 0     |
| Painful, no analgesic required                         | 1     |
| Painful, daily activity affected, analgesic required   | 2     |
| Analgesic required but have no effect                  | 3     |
| Backache                                               |       |
| No pain                                                | 0     |
| Painful, no analgesic required                         | 1     |
| Painful, daily activity affected, analgesic required   | 2     |
| Analgesic required but have no effect                  | 3     |
| Dysmenorrhoe                                            |       |
| No pain                                                | 0     |
| Painful, no analgesic required                         | 1     |
| Painful, daily activity affected, analgesic required   | 2     |
| Analgesic required but have no effect                  | 3     |
| Breast tenderness                                      |       |
| No pain                                                | 0     |
| Painful, no analgesic required                         | 1     |
| Painful, relief after menstruation                     | 2     |
| Analgesic required but have no effect                  | 3     |
| Duration of blood loss (days)                          |       |
| 4-7                                                    | 0     |
| 2-3                                                    | 1     |
| 1                                                      | 2     |
| >7                                                     | 3     |
| Interval between two cycles (days)                     |       |
| 21-35                                                  | 0     |
| <21                                                    | 1     |
| >35-60                                                 | 2     |
| >60                                                    | 3     |
| Size of cyst                                           |       |
| No cyst                                                | 0     |
| 2-3 cm                                                 | 1     |
| 3-4 cm                                                 | 2     |
| 4-5 cm                                                 | 3     |
| 5-6 cm                                                 | 4     |
| 6-7 cm                                                 | 5     |
| Amount of blood flow/vascularity                       |       |
| No blood flow                                          | 0     |
| Minimal blood flow                                     | 1     |
| Moderate blood flow                                    | 2     |
| Highly vascularized with marked blood flow             | 3     |
| BMI                                                    |       |
| 18.5-24.9 (optimal weight)                             | 0     |
| <18.5                                                  | 1     |
| 25-29 (over weight)                                    | 2     |
| >30 (obese)                                            | 3     |

BMI: Body mass index, BT: Before treatment, AT: After treatment

Bilateral cyst was reduced to 1 cm from 2 cm cyst in one patient while another patient got complete resolution. [Table 7].

Discussion

Ovarian cyst is an emerging problem among the women of reproductive age group. Presence of the ovarian cyst leads to congestion causing discomfort in the abdomen.[3] Pain may be due to some complications of the ovarian cyst or due to associated pelvic pathology. Ovarian cyst may also hamper the menstrual cycle as well as ovarian cycle and results into anovulation which cause infertility. Mamsa, Asrik and Medo Dhatu are vitiated in disease Granthi. Although excessive amount of Kapha and Manda (mild) Mamsagni are responsible for growth of Granthi, it is mainly due to Sanga (obstruction due to contraction of lumen).

Trikatu (mixture of Z. officinale Roscoee., P. nigrum Linn., and P. longum Linn.) improves the Agni (digestive fire) and helps in the removal of Ama (toxins) from the body.[15-17] Virechana eliminates vitiated Kapha Dosha and removes obstruction of Vata Dosha from Artavavaha Srotas (reproductive system) and reduces Sanga (obstruction due to contraction of lumen) and Siragranthi (obstructive pathology occurring in channel) of reproductive system. Virechana also works as Shodhana (purification) of Pitta and Rakta. By this, it removes accumulated Doshas from the body. On the other hand, it reduces extra subcutaneous fat. Hence, it stops the aromatization of androgen to estrogen and reduces extra ovarian estrogen from the body, which reduces the size of the cyst and vascularity.[18] Trivrita (B. montanum Muell.-Arg.), Danti (O. turpethum Linn.) and Triphala (mixture of T. chebula Retz., T. bellerica Roxb., and E. officinalis Gaertn.) eliminates vitiated blood.[19,20] Effect of Shamana drug becomes more potent after purification process. Vitiated Dhatu is purified and gets healthy due to Virechana.[9] Triphaladi Kashaya (Triphala [mixture of T. chebula Retz., T. bellerica Roxb. and E. officinalis Gaertn.]), Varuna (Moringa oleifera Lam.), Shrigra (Crataeva nurvala Buch. ham) and Dashamula (mixture of Bilva - Aegle marmelos Corr., Agnimantha - Clerodendrum phlomoidis Linn. f., Shyonaka - Oroxylum indicum Vent., Gambhari - Gmelina arborea Roxb., Patala - Stereospermum suaveolens DC., Brihati - Solanum indicum Linn., Kantakari - Solanum surattense Burm. f., Shalaparni - Desmodium gangeticum DC, Prishniparni - Uraria picta DESV and Gokshura - Tribulus terrestris Linn.) with processed Guggulu have properties of Kapha-Medohara and Vidradhihara[10] Active compounds of Haritaki are effective in treating cancer.[21] Triphala has the ability to induce cytotoxicity (cell death) in tumor cells but spares the normal cells.[22] Similarly, Triphala is effective in reducing tumor incidence and increasing the antioxidant status.[23] Triphala has analgesic[24] and anti-inflammatory effect.[25] Varuna has an anti-inflammatory property by chemical lupeol. Lupeol decreases myeloperoxidase levels (neutrophil-specific marker), thus causing reduction in cell infiltration into inflamed tissues.[26] A number of triterpenoids have shown potential as antineoplastic agents and exhibit antiproliferative activity when tested against various cancer cell lines.[27] Shigra has Deepana-Pachana (to enhance appetite and metabolism), Kapha-Vatahara (pacifies Vata and Kapha) properties. It is recommended in Galaganda (thyroid disorders), Kandu (itching), Shotha, Apachi, Vrana (wound), Medoroga (lipid metabolic disorders), Vidradhi (abscess),
Gulma (a type of lump), etc.\textsuperscript{[28]} Shigru has properties such as anti-inflammatory\textsuperscript{[29]} and antioxidative activity.\textsuperscript{[30]} Dashamula has anti-inflammatory property.\textsuperscript{[31,32]} Dashamula has consistently shown efficacy in acute inflammation at the possibility of prostaglandin synthesis inhibition as the probable mechanism of action.\textsuperscript{[33]} Guggulu has antiobesity\textsuperscript{[34]} and anti-inflammatory properties.\textsuperscript{[34]} Purana Guggulu possesses scrapping and Medohara properties\textsuperscript{[36]}. Thus, ovarian cysts were resolved by administrating Virechana and Triphaladi Kashaya along with processed Guggulu by virtue of its Shothahara and Lekhana properties.

**Conclusion**

Ovarian cyst is seen during the reproductive life of a female irrespective to the age, which may result in various menstrual problems such as dysmenorrhea and irregular periods, by disturbing anatomical as well as physiological integrity.
Management of this problem is possible on the basis of Ayurvedic fundamental principles. Virechana Karma and Triphaladi Kashaya with processed Guggulu provided statistically significant improvement in reduction and resolution in size of cyst, lower abdominal pain, backache, and menstrual abnormalities. Encouraging result was found in the hemorrhagic cyst and simple cyst than other cysts in this study. A further clinical study on large sample can establish the role of this therapy in cases of specific ovarian cyst.

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Conflicts of interest
There are no conflicts of interest.

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