



Case Report

Management of acute calculus cholecystitis with integrated Ayurveda and Yoga intervention: A case report

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ABSTRACT

Acute calculus cholecystitis (ACC) is a frequently reported medical condition in general practice. Approximately 20% of patients with gallbladder stones experience ACC in their lifetime. Ayurveda and Yoga are ancient traditional systems of medicine used for treatment of diseases and improving and maintaining health. There has been an increased use of Ayurveda and Yoga in the management of several health conditions in India and worldwide. The present case study is of 34 years female patient who had ACC. Post diagnosis of ACC patient was advised to undergo cholecystectomy; however, she approached alternative therapies with c/o vomiting, nausea, abdominal pain, jaundice, itching, and abdominal bloating with deranged liver functions. Ayurveda and Yoga intervention protocol was designed. Ayurveda treatment consisted of mild purgation (*mrudu virechana*) with *trivittalehyam* for consecutive seven days, followed by oral administration of *Tab Liv 52*, *Bhunimbadi Kadha* twice daily, and *Amalaki Rasayana* in the morning for 45 days. Patients received 8 teleyoga sessions over a period of 45 days. A therapeutic diet was advised during treatment period. After two months patient reported complete recovery in symptoms, and all laboratory investigations reached to normal range. This case study suggests the positive role of Ayurveda and yoga intervention in the management of ACC. This case report warrants future clinical studies on integrative medicine in ACC.

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1. Introduction

Gallbladder stone (GBS) affects more than 10–15% of the population, and around 20% of patients with GBS experience acute calculus cholecystitis episodes (ACC) during their lifetime [1]. Seventy percent of patients with ACC experience biliary colic, and 24% of patients develop biliary obstruction [2]. ACC patients often come with severe jaundice, and an inflamed gallbladder with stone is a hallmark of ACC it can be confirmed with clinical findings, blood sample, and radiological findings.

Ayurveda is an ancient health care system. Aim of the Ayurveda prevention of the disease, promotion of the health, and cure of the

disease [3]. The diagnosis, treatment, and lifestyle prescription in Ayurveda is based on tridosha concept. Ayurveda recognizes ACC as one of the pitta dominant conditions called *Rudhapathkamala* (one of the types of kamala-jaundice), and hence, the management of ACC must be focused on *pitta* mitigation. In addition to detoxification therapies (panchakarma) and *pitta* pacifying medication, Ayurveda advise the lifestyle modification (*ahara, vihar, and achara*) also. *Virechana* is one of the five systematic detoxification procedures mentioned in the Ayurveda. It involves therapeutic medicated purgation after administration of medicated oils/ghee. This procedure helps to soften the dosas (*pitta*) and remove it from the body. *Virechana* is recommended in several pitta dosha dominated disorders [4]. Yoga is also an ancient tradition of a lifestyle that promotes the physical, mental and spiritual growth of an individual [5]. Yoga practice has diverse health-benefiting effects in both clinical and non-clinical populations [6–8]. A combination of

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alternative therapies such as Ayurveda and Yoga may have synergistic effects in clinical conditions such as ACC.

2. Patient information

Thirty-four years of female patient consulted online on 10 June 2020. Her chief complaints were abdominal pain, fatty food intolerance, icterus, generalized itching, frequent vomiting, nausea, and abdominal bloating since 28/05/2020. The patient was normal before 20 May 2020. She developed mild back pain, bloating excess of burping, followed by severe abdominal pain on the 20th morning. She took Tab Pantocid–D (1 BD before meals), and Tab Cyclo-pam (TID after meals) for 3 days and felt relief from the symptoms. She had no symptoms for one week; later, she developed moderate abdominal pain, nausea, vomiting, which worsen over a few days, and felt no relief with analgesics and antacids. After one week, she started developing jaundice and generalized itching. The liver function test, abdominal sonography, MRI (abdomen) and complete blood count were done (details Sonography report revealed over distended gallbladder with sludge).

MRI-Cholangiopancreatography revealed distended gallbladder with sludge and 2–3 gall stones with size 2–4 mm. There was mild diffuse thickening of gallbladder wall 3.5 mm with peri-gallbladder edema.

2.1. Clinical findings & diagnostic assessments

The patients was diagnosed with acute cholecystitis by the gastroenterologist based on the presence of Murphy’s sign, radiological findings such as stones, sludge, peri-gallbladder edema and wall thickening [9].

The patient’s disease history was noted. A clinical examination was performed. Body Mass Index (BMI) was 22, with normal blood pressure and heart rate. Icterus was present, and small rashes were presented all over the body. On palpation, there was abdominal tenderness, and gardening was present. She had nausea, intermittent abdominal pain, aversion and fear to eat. These symptoms are suggestive of ama. Hence, to reduce the pain and ama shaman we advised take ajamod + jeeraka water (kashaya) 30 ml twice in a day for 3 days.

3. Timeline

3.1. Therapeutic intervention

Patient signed the informed consent form. An online counselling session was conducted in which patient was advised to follow a diet plan, and yoga sessions along with the medication. The patient was provided with a diet chart and asked to follow it strictly. She was also advised to avoid certain food items such as fried items, salt, and heavy meals. Ayurvedic medication was prescribed, and a yoga module was planned. The timeline of the case is shown in Table 1.

Table 1
Timeline of the case.

Health events	Timeline
1st episode of ACC	20 May 2020
Diagnosis of ACC	27 May
Approached integrative medicine	14 June 2020
Integrated A + Y Intervention started	18 June 2020
1st follow-up	14 July 2020
2nd follow-up	15 August, 2020

On assessments and examination we noticed *pitta dosha prakopa*. Hence, *pitta dosha* mitigation therapy is adopted. *Virechana* is considered as a best remedy for *pitta dosha*. We intentionally avoided systematic *virechan* as the therapy was through telemedicine mode. *Mridu virechan* with *trivrittalehyam* as *anulomaka virechan* is administered with 8 grms of *trivritta lehyam* every day for 7 days. Following *virechan pitta dosha* mitigation treatment was given with *amalaki* and *bhunimbadi kadha* both are considered as *pitta* mitigating formulations [10] (Tables 2 and 3).

3.2. Yoga intervention

Yoga intervention was given twice in a week from 3rd week of after the commencement of Ayurveda treatment. Supervised Yoga intervention was given twice in a week. Yoga session lasted for 45 min. Yoga module consisted of the practices mentioned in Table 4.

4. Follow-up and outcomes

The patient was followed-up for two months. Initially, patients reported difficulty in the following diet, and symptoms persisted till eight days after the start of Ayurveda treatment. Later, the patient started feeling improvement in symptoms, and LFT results also showed improvement. After two months, patients felt complete recovery from the symptoms, and all LFT report reached normal range, and the USG abdomen revealed no sign of inflammation and sludge in the biliary duct and gallbladder. Two gallbladder stones were reported in the gallbladder in post-assessment (detail shown in Table 5).

Table 2
Ayurveda treatment.

Sr No.	Days	Ayurveda medicines
1	1–7 days	<i>Trivrittalehyam</i> 8 grms every night with hot water
2	From 3 to 45 days	Tab Liv 52 2 tablets twice daily
3	From 7th day – 45 days	<i>Amalaki Rasayana</i> 2 teaspoon with warm water in the morning
4	From 7th day – 45 days	<i>Bhunimbadi Kadha</i> 20 ml before meals twice daily

Table 3
Diet recommended during the treatment period.

Recommended	Not recommended
Plan Dal-khichadi, porridge, vegetable soups, boiled vegetables, juices, and soft fruits	Spices, fried, oily, salt, heavy meal, raw vegetables

Table 4
Yoga module.

Type of practice	Practices
Loosening practices	Finger, wrist, elbow, shoulder loosening Neck movements, Drill walking, Toes, ankle, knee loosening
Breathing practices	Hands movement breathing techniques Tiger breathing, ankle stretch breathing
Simple yogic poses	Tadasana, sukhasana, makarasan shavasana, ardhakatchakrasana, anantpadmasana
Relaxation	Yoga Nindra, deep relaxation technique
Pranayama	Nadishudhi, Bhramari pranayama
Meditation	Om meditate, mindfulness meditation

Table 5
Prognosis of the patients during follow-up.

Health events	Pre (18/06/2020)	First follow-up (14/07/2020)	Second follow-up (15/08/2020)
Bilirubin (total)	3.12	1.3	0.61
Bilirubin (direct)	1.18	0.45	0.19
Bilirubin (indirect)	1.9	0.9	0.4
SGOT	72	109	16.20
SGPT	103	147	21.80
Alkaline phosphate	199	284	116
Glubulin	3.9	4.3	2.9
A/G ratio	0.8	0.8	1.1
Gama GT	131	435	38
Clinical findings			
Symptoms			
a) Jaundice	+++	+	Nil
b) Itching	+++	++	Nil
c) Vomiting	++	Nil	Nil
d) Nausea	++	+	Nil
e) Bloating	+++	Nil	Nil
f) Abdominal pain	++	+	Nil
g) Fat-meal intolerance	+++	++	Nil
Investigation	Pre		Post

In the latest follow-up on 4th January 2021 patient reported that she is has no symptoms, LFT reports found normal, and she could able to eat fatty diet without any discomfort.

5. Discussion

The present case report demonstrated a successful recovery from ACC following integrated Ayurveda and Yoga intervention. This case report also demonstrated the feasibility of telemedicine and teleyoga in the management of ACC.

Conventional management of ACC involves cholecystectomy (surgical removal of gallbladder). However, significant number of patients following cholecystectomy experiences several GI related symptoms. The present case report no side effects were noticed during the treatment and follow-up.

In this case report, the treatment protocol was based on tri-dosha theory. Considering age, symptoms, and the investigations the *pitta* dosha dominance was evident. Hence, *pitta shamaka* treatment was adopted. *Virechan* is considered as the best intervention in *pitta* dominant disorders; therefore, we chose *mridu virechan nity-anulomak* type of *virechan* with *trivrittavalehyam* for seven days. We avoided classical *virechan* procedure as the intervention was through online. Following *virechana* for *pitta* mitigating *amalaki rasayana*, *bhunimbadi kadha* and *tab Liv 52* was advised. Also, the patient was advised to follow *pitta* pacifying diet for a minimum 45 days. Patients achieved complete recovery in 45 days of treatment.

The changes in the disease pathology following Ayurveda treatment may be attributed to reduction in inflammation following *virechana*. In the animal experimental model *virechana* was found to have anti-inflammatory and anti-oxidant properties [11]. *Virechan* induces purgation this may help to improve intestinal mobility, and reduces pain and bloating [12].

Ayurveda formulations; *amalaki rasayana* and *trivrittavalehyam* are potent anti-oxidants and are also known to pose anti-inflammatory activities [13,14]. Further, *amalaki Rasayana* (*Embl-ica Officinalis*) is considered as one of the best anti-oxidants, hepato-protective, and poses anti-inflammatory properties. It is also a rich source of Vit C [15].

Yoga also known to reduce inflammation and pain sensitivity. It helps to improve GI function and relax the mind. Yoga found to be effective in GI-related problems such as irritable bowel syndrome and constipation [16,17]. It might have helped to reduce pain and pain intensity, and improves pain tolerance. Yoga is known to enhance awareness, which might have helped the patients to follow the recommended diet meticulously. Yoga intervention was administered through teleyoga sessions by a yoga therapist. Teleyoga sessions were found to be feasible and effective. Previously teleyoga was administered in different health conditions [18].

Due to COVID 19 pandemic, there was a complete lockdown during the treatment period. Hence, we adopted a telemedicine strategy to reach out and help the patient. We found telemedical consultation a feasible, easy, and cost-effective way for consultation and recommendation of the treatment. Similarly, institutions like the National Institute of Mental Health and Neurosciences, Bengaluru, India, and Gathiya Clinic Luckhnau has adopted these facilities for patient consultation during the complete lockdown. We used telemedicine for consultation and recommendation of treatment in this case [19,20].

6. Patient perspective

Patient stated that “I am doing fine, in fact, better than before ACC because I lost weight following the diet recommended during the treatment, which I wished, and Yoga helped to relax and increased my awareness in choosing the right diet. Thanks to ACC, it has introduced me to Ayurveda and Yoga, which I will try to follow in my life journey”.

7. Conclusion

Integrated Ayurveda and Yoga intervention is found to be effective in the Management of ACC without side any effects. This study suggests the feasibility of teleyoga and telemedicine (Ayurveda) during lockdown situation. A Pilot study with adequate sample size is warranted.

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Conflict of interest

None.

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