Case Report

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

Kashinath Metri a,*, Sanjib Patra a, Kishore Kumar Ramakrishna b, Kaustub Salvi c, Jagdish Naik c, Nagaratna R.d

a Department of Yoga, Central University of Rajasthan, India
b Department of Integrative Medicine National Institute of Mental Health and Neurosciences, Bengaluru, India
c Department of Yoga and Naturopathy, D Y Patil University Mumbai, India
d Medical Director, Holistic Health Care Centre, Swami Vivekananda Yoga Anusandhana Samsthan, Bengaluru, India

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 jaundice, abdominal pain, nausea, vomiting, itching, and abdominal bloating with deranged liver functions. Ayurveda and Yoga intervention protocol was designed. 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 Ayurveda advise the lifestyle modification (panchakarma) and alternative therapies (panchakarma) and alternative therapies (panchakarma). 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 doshas (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
alternative therapies such as Ayurveda and Yoga may have synergetic 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 Cyclopam (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 patient 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.

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 virechana as the therapy was through telemedicine mode. Mridu virechan with trivritalehyam 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 1

| 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|

Table 2

Ayurveda treatment.

| Sr No. | Days       | Ayurveda medicines                                      |
|--------|------------|--------------------------------------------------------|
| 1      | 1–7 days   | Trivritalehyam 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 | Amalaki Rasayana 2 teaspoon with warm water in the morning |
| 4      | From 7th day – 45 days | Bhunimbadi Kadha 20 ml before meals twice daily        |

Table 3

Diet recommended during the treatment period.

| Diet recommendation | Not recommended |
|---------------------|-----------------|
| Plan Dal-khichadi, porridge, vegetable | Spices, fried, oily, salt, heavy |
| soups, boiled vegetables, juices, and soft fruits | 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 yogaic poses | Tadasana, sukhasana, makarasana shavasana, ardhamukhachikrasana, anantpadmasana |
| Relaxation        | Yoga Nidra, deep relaxation technique |
| Pranayama         | Nadishudhi, Bhramari pranayama |
| Meditation        | Om meditate, mindfulness meditation |
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 tridosha theory. Considering age, symptoms, and the investigations the pitta dosha dominancy 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 trivritavalehyam for seven days. We avoided classical virechan procedure as the intervention was through online. Following virechana for pitta mitigating amalaki rasayana, bahunmbadi 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 trivritavalehyam are potent anti-oxidants and are also known to poses anti-inflammatory activities [13,14]. Further, amalaki Rasayana (Embllica Officinalis) is considered as one of the best anti-oxidants, hepatoprotective, 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 Lucknow 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.
Source(s) of funding
None.

Conflict of interest
None.

Acknowledgement
We are grateful to Mrs Vijaya for conducting teleyoga therapy sessions.

References
[1] Strasberg SM. Acute calculous cholecystitis. N Engl J Med 2008;358:2804–11.
[2] Mestral C, Rotstein OD, Laupacis A, Hoch JS, Zagorski B, Nathens AB. A population-based analysis of the clinical course of 10,304 patients with acute cholecystitis, discharged without cholecystectomy. J Trauma Acute Care Surg 2013;74(1):26–30. Discussion 30-1.
[3] Kumar PV, Deshpande S, Nagendra HR. Traditional practices and recent advances in Nadi Pariksha: a comprehensive review. J Ayurveda Integr Med 2019;10(4):308–15.
[4] Dileep JA, Raman S, Balaji KS, Belludi A. 147. A pre-test and post-test study to assess the effect of virechana in lowering lipid profile. J Ayurveda Integr Med 2018;9(2):54.
[5] Rao GH. Integrative approach to health: challenges and opportunities. J Ayurveda Integr Med 2015;6(3):215.
[6] Singh AK, Kaur N, Kaushal S, Tyagi R, Mathur D, Sivapuram MS, et al. Partitioning of radiological, stress ad biochemical changes in pre-diabetic women subjected to Diabetic Yoga Protocol. Diabetes Metabol Syndr: Clin Res Rev 2019;13(4):2705–13.
[7] Rao M, Metri KG, Raghuram N, Hongasandra NR. Effects of mind sound resonance technique (yogic relaxation) on psychological, sleep quality, and cognitive functions in female teachers: a randomized, controlled trial. Adv Mind Body Med 2017;31(1):4–9.
[8] Rai Arti, Vyas Mahesh, Pathak Pankaj, Bhojani Meera K. Effect of rasayan for longevity with special reference to guduchi and amalaki. Pharma Sci Monit 2019;10(4):p65–9. 6pp.
[9] Ansaloni L, Pisano M, Coccolini F, Petzmann AB, Fingerhut A, Catena F, et al. 2016 WSES guidelines on acute calculus cholecystitis. World J Emerg Surg 2016;11(1):25.
[10] Balakrishnan R, Nanjundasai RM, Manjunath NK. Voluntarily induced vomiting – A yoga technique to enhance pulmonary functions in healthy humans. J Ayurveda Integr Med 2018;9(3):213–6.
[11] Dallavi P, Singh G, Ravishankar B. Experimental study on anti-inflammatory and antioxidant effects of virechana on FA treated rats. J Ayurveda Phys Surg (JAPS)[EISSN 2394-6350] 2018;5(1).
[12] Bhagya SG, Shukla RB, Joshi NP, Thakar AB. A single-case study of management of Jalodara (ascites). Ayu 2017;38(3–4):144.
[13] Kumar V, Kshemada K, Ajith KG, Binil RS, Deora N, Sanjay G, et al. Amalaki rasayana, a traditional Indian drug enhances cardiac mitochondrial and contractile functions and improves cardiac function in rats with hypertrophy. Sci Rep 2017;7(1):1–7.
[14] Patel H, Gupta SN. 232. Successful ayurvedic management of chronic alcoholic hepatitis complicated with ascites: a case report. J Ayurveda Integr Med 2018;9(2):510.
[15] Schumann D, Anheyer D, Lauche R, Dobos G, Langhorst J, Cramer H. Effect of yoga in the therapy of irritable bowel syndrome: a systematic review. Clin Gastroenterol Hepatol 2016;14(12):1720–31.
[16] Jose JK, Kuttan R. Hepatoprotective activity of emblica officinalis and chyavanaprash. J Ethnopharmacol 2000;72(1–2):135–40.
[17] Kuttner L, Chambers CT, Haridial J, Israel DM, Jacobson K, Evans K. A randomized trial of yoga for adolescents with irritable bowel syndrome. Pain Res Manag 2006;11.
[18] Rao J, Metri KG, Singh A, Nagaratna R. Effect of integrated approach of Yoga therapy on chronic constipation. Voice of Research 2016;5:23–6.
[19] Jasti N, Bhargav H, George S, Varambally S, Gangadhar BN. Tele-yoga for stress management: need of the hour during the COVID-19 pandemic and beyond? Asian J Psychiatr 2020;54:102334.
[20] Donesky D, Selman L, Mcdermott K, Citron T, Howie-Esquivel J. Evaluation of the feasibility of a home-based teleyoga intervention in participants with both chronic obstructive pulmonary disease and heart failure. J Alternative Compl Med 2017;23(9):713–21.