Case Report

Ayurvedic management of chronic constipation in Hirschsprung disease – A case study

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1. Introduction

Hirschsprung disease (HSCR), or congenital intestinal aganglionosis, is a birth defect characterized by complete absence of neuronal ganglion cells from a portion of the intestinal tract, most commonly in the large intestine. The main sign or symptom of HSCR is constipation usually appearing shortly after birth. This constipation is chronic in nature and usually not relieved with laxatives. The present case is of a patient having HSCR which was successfully managed with Ayurvedic treatment. A four year old boy with complaint of severe constipation, abdominal pain, abdominal distension and occasional vomiting was treated with various Ayurvedic procedures. The Ayurvedic diagnosis of the case was Pakvasayagata vata. Shashikashali pinda swedana (sudation with medicated cooked bolus of rice) and Matra basti (enema with medicated oil) with Ashwagandha taila (Ayurvedic medicated oil) was given for first 16 days. From the 2nd month of treatment, Matra basti was administered daily for 3 months in the dose of 25 ml. In 5th and 6th month Matra basti was administered on alternate days in the dose of 25 ml. From the 7th month Matra basti was administered once weekly in the dose of 25 ml. In 14th month Shashikashali pinda swedana and Erandmooladi yapna basti (medicated enema) was given for 16 days. Eight scales based Medical outcome study (MOS) – 36 item short form – health surveys was periodically assessed for outcome which shows good improvement. Experience of this case showed that HSCR may satisfactory be managed with Ayurvedic treatment.

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2. Patient information

A four year old boy with complaint of severe constipation, abdominal pain, abdominal distension and occasional vomiting visited in O.P.D. of department of Panchakarma, National Institute of Ayurveda, Jaipur. He had history of delayed passage of meconium at birth and was managed successfully with soap and water enema. Since then patient was not being able to pass stools without enemas. Patient's developmental milestones, chest and vital signs were normal but he had distended abdomen. The height of patient was 100.2 centimeters (cm) and the weight of patient was 14.5 kilograms (kg). His appetite was normal. Patient had normal micturition. The patient had undergone for consultations in All India Institute of Medical Sciences (AIIMS), New Delhi two months before, where he was diagnosed as a case of HSCR and surgical management was recommended. He was only child of his parents and none of his parent was affected with these symptoms.

2.1. Clinical findings

On physical examination, patient was anxious and his tongue was uncoated. Patient had Vata-pitta prakriti with Avarya samhannana (lowermost body constitution), Avarya sura (~lowermost purest body tissue), Avarya satmya (lowermost homologation), Avarya satva (lowermost mental strength), Madhyam vyavamshakti (middlemost capability to carry on physical activities), Madhyam dharshakti and Jaranshakti (middlemost food intake and digestive power). The patient demonstrated normal gait. On neurological examination higher mental function and speech were normal. All cranial nerves were intact. On motor examination, bulk, tone, power and coordination of arms and legs were normal bilaterally. Joint position sense and vibration sensation was normal bilaterally. Upon abdominal examination, patient demonstrated marked abdominal distention with palpable dilated loops of colon. Rectal examination revealed an empty rectal vault and resulted in the forceful expulsion of fecal material upon completion of examination. Complete blood count (CBC), Thyroid profile and tissue transglutaminase-IGA (TTG) were within limits.

3. Timeline

A detail of the case study and follow up is given in [Table1].

4. Diagnostic focus and assessment

The patient was a known case of HSCR. It was confirmed by previously done anorectal manometry and barium enema that show a dilated proximal colon with empty rectum and barium enema study that demonstrate delayed emptying time and a funnel-like transition zone between proximal dilated and distal constricted bowel (Figs. 1 and 2) [5]. History of delayed passage of meconium at birth and empty rectal vault and forceful expulsion of fecal material just after completion of rectal examination in the case were suggestive of HSCR. Pakvasayagata vata was considered as Ayurvedic diagnosis which is included in Vatavyadhi ~[neurological, rheumatic and musculoskeletal diseases]. Antrakoojana (bowel sounds), abdominal pain, Atop (flatulence), difficulties in passing urine and stool, Anaahata (~abdominal distension) and Trikvedana (pain around sacral region) are the symptoms of Pakvasayagata vata. [6] Acute mega colon, chronic mega colon, constipation, hypothyroidism, intestinal motility disorders, celiac disease, irritable bowel syndrome and toxic mega colon were the differential diagnosis for the case [7]. Thyroid profile and tissue transglutaminase-IGA (TTG) were within normal limit which excluded the diagnosis of hypothyroidism and celiac disease.

5. Therapeutic intervention

Line of treatment for Pakvasayagata vata is similar to general line of management of Udavarta (~abdominal distention due to constipation and other causes). Abhyanga (massage) with Shita jwarakta oil (oil used for Shita jwara), Svedana (sudation), Varti (suppository), Niruha basti, Snehana, Virechana (mild purgation), use of Anulomak (carminative) foods are indicated for the treatment of Udavarta [8]. Since the patient was in his childhood, mild form of different Panchakarma procedures was used. Patient was treated with Mridu abhyanga (mild massage) and Mridu swedana (mild sudation) and Matra basti used.

Abhyanga (massage) with Chandanabalaalakshadi Taila and Mridu swedana with Shashitkashali pinda swedana were done for 16 days. Matra basti with Ashwagandha taila were also prescribed for 16 days [Table 2]. After completion of these Panchakarma procedures a rest of 14 days from all these procedures was given to the patient. From the 2nd month of treatment, Matra basti

| Year   | Incidence/intervention |
|--------|------------------------|
| 2012   | Patient had severe constipation since childhood. |
| 2014–2015 | Patient was consulted for chronic constipation in J.K. Loan hospital and medical college Jaipur and Imperial hospital and research center Jaipur. Patient was suspected to suffer from HSCR. Patient was advised conservative treatment. |
| February–March 2016 | Patient was consulted in Pediatric surgery department of AIIMS New Delhi. Diagnosis of HSCR was confirmed in AIIMS New Delhi. Patient was advised to go for biopsy and colostomy. |
| April 2016 | Patient was unwilling for surgery. Patient visited O.P.D. of National Institute of Ayurveda Jaipur for these problems and was advised for administration of Panchakarma Procedures. |
| 12/04/2016–27/04/2016 | Shashitkashali pinda swedana was done for 16 days along with Matra Basti for 16 days. Selected Ayurvedic oral drugs- Vrihatovatchintamani ras and Drakshaveleha twice a day were also prescribed along with these Panchakarma procedures. There was clinical improvement in patient condition after one month of therapy. Same oral medication was provided to the patient. |
| 12/05/2016–11/08/2016 | Vrihatovatchintamani ras was discontinued from 12/07/2016. Matra basti with Ashwagandha taila once in a day was continued for three months. |
| 12/08/2016–11/10/2016 | Drakshaveleha twice a day was continued as oral medicine. Matra basti with Ashwagandha taila was given on alternate days for two months. |
| 12/10/2016–11/05/2017 | Drakshaveleha twice a day was continued as oral medicine. Matra basti with Ashwagandha taila was given once a week. |
| 14/12/2016 | Serum bilirubin both direct and indirect, serum glutamic oxaloacetic transaminase (SGOT), Serum glutamic pyruvic transaminase (SGPT), serum creatinine ESR,CBC, serum albumin, serum calcium, serum electrolytes, serum phosphorus and total lipid profile were investigated. These were within limit. Barium enema study demonstrates delayed emptying time and a funnel-like transition zone between proximal dilated and distal constricted bowel ~suggestive of Hirschsprung disease. |
| 17/05/2017 | Above hematomal and biochemical parameters were reinvestigated which were within limit. |
| 12/05/2017–28/05/2017 | Shashitkashali pinda swedana was done for 16 days along with Erandmooladi yapana basti for 16 days. Drakshaveleha twice a day was continued as oral medicine. |
was administered daily for 3 months in the dose of 25 ml. In 5th and 6th month Matra basti was administered on alternate days in the dose of 25 ml. Mridu abhyanga with Chandanasbalalakshadi taila and Mridu svedana with warm cloth (Patta svedana) were done as Poorvakarma (preoperative procedure) of Matra basti administration. After completion of one year of treatment, Shashtikashali pinda svedana was done for 16 days along with Erandmooladi yapana basti for 16 days. After completion of these Panchakarma schedule patient was advised to take Matra basti with Aswagandha once weekly. Along with these interventions Ayurvedic oral medications-Vrihatavatachintamani ras 50 mg, with honey twice a day and Drakshaveleha-5 g twice a day were given regularly from 1st day up to 3 months [Table 3]. Only from the 4th month , Drakshaveleha-5 g twice a day is continue to till date.

6. Follow up and outcomes

Patient condition was assessed on different intervals on parameters like — child global health and ease in defecation. Good relief in constipation was noted in the patient [Table 4]. The patient had regular defecation in toilet after first Panchakarma schedule. No painful and hard bowel movement was noticed. Medical outcome study — Short form 36 (MOS SF-36) survey items were assessed for outcome which shows improvement [9]. There was increase of 7.5 cm in height and 2.7 kg in weight of the patient during the course of treatment. No concurrent Allopathic medication was administered during this period. Outcome measure was assessed on baseline, after completion of first Panchakarma schedule and at the completion of 4th month, at the completion of 6th month, 9th month and one year. There was improvement in quality of life and in non-specific abdominal pain. There was ease in defecation and bowel movement was regular. Patient was able to defecate every day and there was no pain in defecation. Patient felt some abdominal distension when Matra basti was not administered weekly so it is regularly being administered weekly till date. He did not suffer from any concurrent diseases during the course of period. Serum bilirubin both direct and indirect, serum glutamic oxaloacetic transaminase (SGOT), Serum glutamic pyruvic transaminase (SGPT), and serum creatinine that were tested on December 14, 2016 for assessment of safety profile of treatment were within limits. ESR, CBC, serum albumin, serum calcium, serum electrolytes, serum phosphorus and total lipid profile were also within limits. These investigations and SGPT, SGOT were also within limits on May 17, 2017, however serum alkaline phosphatase was increased which is normal for growing children.

7. Discussion

HSCR is a congenital disorder with main symptoms of severe constipation. Several oral drugs are in use for relieving these symptoms as these drugs are convenient and conventional. However, unlike healthy children and infants, children with HSCR typically do not respond to constipation medicines given by mouth. Various soaps enema are in use for these types of children for temporary relieving constipation but these are painful to the patients and there is also the rebound constipation. Some surgical options are also available for the disease but more postoperative complications and lower quality of life are the major concern to adopt the surgical procedures. Hence, treatments based on Ayurvedic principles may be suitable for the disease. Similar conditions are mentioned in description of Pakvasayagata vata disease. The line of management of Udavarta was adopted to treat this case, as line of management of Pakvasayagata vata is similar to the
management of Udavarta. The primary goals of Ayurvedic treatment in the case was to maintain normal fluid and electrolyte balance, to minimize bowel distension, to relieve the constipation, to manage complications and to improve the quality of life. Chandanabalalakshadi taila having the property of vivardhana, to minimize bowel distension, to relieve the constipation, and can be given in children [13]. This basti is indicated in Chirarsh (chronic hemorrhoids). Elsewhere, it is also indicated in Udara roga (abdominal diseases which ultimately resulted in ascites), Mutrakriccha (~dysuria), Udavarta (~mis-parastalis) and Gulma (~abdominal distension) [13]. All these symptoms are similar with Pakvasayagata vata. It is indicated in classical Ayurvedic text that Niruha basti used in Udavarta can Apanayan the Sira situated at Guda pradesh (~nourishment of nerves situated at large intestine and may increases innervations in muscles and thus

Table 2

| Panchakarma procedures | Method of preparation | Method of application | Days of treatment |
|------------------------|-----------------------|----------------------|------------------|
| Shastikashali Pinda Svedana | 300 g of Shashitka shali (specific variety of rice, which is yielded after 60 days) is cooked with 1.5 L of milk and decoction of Bala moola (root of Sida Cordifolia). This mixture is to be kept in four pieces of cloth to make 4 boluses. Another portion of milk and decoction of the same quantity should be mixed and heated in low temperature to dip the above boluses for warming. | Massage with Aswagandha taila was done on whole body for 15 min followed by whole body massage for 45 min with the help of a cotton bag filled with bolus of processed rice. | 16 days |
| Matra Basti | Snindhavat 1 g, Sutahva (Anethum sowa Kurz) 5 g, Ashwagandha Tail 25 ml, This emulsion is heated gently in a water bath. | Given after meal with 6 no. catheter and 50 ml syringe. Before basti procedure Mrudu abhyanga (mild massage) and Svedana (fomentation) with slight warm cotton pad. Given before meal with basti yantra. | Matra basti was given for first 16 days, Daily from 2nd months to 6th months. From 5th to 6th days on alternate days. From 7th month to 12th month once in a weak. Total 16 basti was given daily. (From 12/05/2017-to 28/05/2017) |
| Erandmooladi yapana basti | Snindhava salt 5 g, honey 25 g, Aswagandha tail 25 ml, Panchatikta Chrita 25 ml, Kalka (paste) 10 g and milk processed with Erandmooladi yapana basti, Kwath (decoction) drugs 200 ml. Powdered rock-salt is added to honey and stirred. Then oil and Chrita are added to this mixture and again stirred. Then paste followed by decoction is to be added and mixed properly to make homogenous emulsion. This emulsion is heated gently in a water bath. | | |

Table 3

Ayurvedic treatment given to a case of HSCR.

| Name of the drug used orally | Composition | Dose | Anupana | Days of treatment |
|-----------------------------|-------------|------|---------|------------------|
| Drakshaveleha (procured from market, manufactured by Dabur, India company) | Draksha, Jaiphal, Javitri, Ela, Vanslochan, Lavanga, Dalchini, Tejapatta, Nagakeshar, Kamalgatta | 5 g twice a day milk | From 1st day to till date |
| Vibhatatavatintamani ras (procured from market, manufactured by Dabur, India company) | Swarna, Raupya, Abhraka, Moti, Praval, Lauha, Parud, Gandhak | 50 mg twice a day honey | From 1st day up to 3 months |

Table 4

Scoring of eight scales for the case of HSCR based on medical outcome study - Short form 36 (MOS SF-36) survey.

| Scale | Scores dated 12/04/2016 | Scores dated 12/05/2016 | Scores dated 12/08/2016 | Scores dated 15/12/2016 | Scores dated 15/03/2017 |
|-------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 1. Physical functioning | 5.55 | 61.11 | 77.77 | 100 | 100 |
| 2. Role limitation due to physical health | 90 | 00 | 00 | 00 | 00 |
| 3. Role limitation due to emotional problem | 33.33 | 66.67 | 66.67 | 100 | 100 |
| 4. Energy/fatigue | 7 | 48 | 66 | 100 | 100 |
| 5. Emotional wellbeing | 22 | 42 | 62 | 100 | 100 |
| 6. Social functioning | 12.5 | 30 | 70 | 100 | 100 |
| 7. Pain | 20 | 80 | 100 | 100 | 100 |
| 8. General health | 10 | 40 | 80 | 100 | 100 |

* Scoring by the instrument-RAND 36-item Health Survey 1.0.
increases contractibility of muscles of large intestine) [14]. As Udavarta and Vibhandha (~constipation) are mainly Vata predominance disorders, Brihatatatvachintamani rasa was used as this medicine is indicated in all type of Vataja vyadhii (diseases due to vata dosha) [15]. Draksha (Vitis vinifera L.) is having Anulomak property. It is the main ingredient of Drakshavelha. Drakshavelha is effective in Amlapitta (~hyperacidity), Kshaya (~emaciation), Shotha (~oedema), Pandu (~anemia), Daha (burning sensation), Badhakosthata (~constipation), Atisara (diarrhea), and Mandagni (~diminished digestive power) [16]. Hence, this was effective in the case. There is good improvement with treatment in quality of life, bowel distension and constipation in the patient. After the completion of 14 months of treatment patient was able to defecate per day without any discomfort. The treatment is safe for the case as the safety profile of treatment were also within limits. No complication or adverse effects were noticed during the treatment. The case is important one as it throws new light on the possible treatment of HSCR and also help in understanding the pathophysiology and treatment of Pakvasayagata vata in the context of HSCR. The case report demonstrates clinical improvement in HSCR with Panchakarma and Ayurvedic medicinal interventions. There was no need to use any surgical intervention for this case. These Panchakarma and Ayurvedic medicinal interventions have the advantage of Brihman (~anabolic) effect which is evidenced by weight gain in the boy. So these Ayurvedic intervention is preferable than surgical manipulations as postoperative ileus is evidenced by weight gain in the boy. So these Ayurvedic interventions are more effective than surgical interventions in surgical manipulations [17]. As the age of boy advances, there may be some development of new neurons in large colon. At that time patient can be managed with Mridu virechan (mild purgation). In the long term patient may be further managed with Virechan and Anulomak (carminative) foods. For this case long course of treatment and follow up is needed. Experience of this case showed that HSCR may satisfactory be managed with Ayurvedic treatment and controlled trials can be conducted on a good sample size.

8. Conclusion

The case report demonstrates clinical improvement in HSCR with Panchakarma and Ayurvedic medicinal interventions.

Patient consent

Written permission for publication of this case study had been obtained from the patient’s parent.

Patient’s perspective

Parents of the patient were satisfied with the provided treatment.

Sources of funding

None.

Conflict of interest

None.

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