



# An Ayurvedic Management of Pancreatitis with Special Reference to *Grahani*- A Case Study

**Author1: Prof. Dr Sachinkumar Patil**, Ph.D. (Kayachikitsa), M.D. (Kayachikitsa) M.B.A. (HR), M.A. (Sanskrit), P.G.D.E.M.S., D.Y.A.  
Professor & H.O.D. Kayachikitsa,  
M.A.M. Sumatibhai Shah Ayurved Mahavidyalaya, Malwadi, Hadapsar, Pune, Maharashtra, India

Chronic pancreatitis progressively damages the pancreas and results in the loss of its function. Constant and disabling pain or pain in the form of recurrent attacks of pancreatitis is usually the main symptom. The available conventional treatments may provide temporary pain relief and manage the complications but cannot arrest the progression of the disease. In the early stages of illness, its diagnosis remains challenging and therapeutic challenges are faced by clinicians due to its development into adenocarcinoma and if it is not treated early, resulting in steatorrhea, diabetes, local complications, and associated psychosocial issues. In Ayurveda, this disorder can be correlated with *Grahani* (derangement of *Agni* situated in *Grahani*) and is clinically characterized by indigestion, decreased appetite, pain in the abdomen, and nausea caused by *Agnisada* (diminution of digestive power). The principle of treatment is *Vatapittashamakriya* (remedies which balance the *Vata* and *Pittadosha*), *Mriduvirechana* (mild purgation), and use of *Yakrutottejaka* (hepatostimulant), *Pramehaghna* (pancreas protective), and *Rasayana* (rejuvenating) formulations. In this case report, a 30-year-old female patient, a known case of chronic pancreatitis with recurrent abdominal pain for the last 2½ years, was managed effectively with Ayurvedic medications. The outcome assessment was based on the changes in the visual analog scale, the need for analgesics, improvement in appetite, digestion, and hemoglobin level, restoration of serum lipase level, and changes observed in symptoms after 42 days of treatment. Recurrence of pain was not observed during the follow-up period. The case infers that *Ayurvedic* medicines can offer an excellent approach to the management of pancreatitis.

## Keywords:

*Agni*; Ayurveda; Chronic pancreatitis; *Grahani*; Pain.

## INTRODUCTION

Chronic pancreatitis progressively damages the pancreas and results in the loss of its function.<sup>[1]</sup> The clinical manifestations include chronic abdominal pain, nausea, vomiting, indigestion, steatorrhea, diabetes, weight loss, and several acute and chronic complications.<sup>[2]</sup> The global incidence of chronic pancreatitis is 10 cases per lakh people in general populations. The global transition rate from recurrent acute pancreatitis to chronic pancreatitis is 35%. Postpancreatitis diabetes mellitus is the most frequent sequel to chronic pancreatitis in 20% of cases.<sup>[3]</sup>

In Ayurveda, this disorder can be correlated with *Grahani* (~derangement of *Agni* situated in *grahani*). It is described as one of the *Maharoga* (~ disease difficult to cure), disease is clinically characterized by indigestion, decreased appetite, pain in the abdomen, and nausea caused by *Agnisada* (~diminution of digestive power).

A review study has shown the excellent and promising results of phytochemicals in the treatment of chronic pancreatitis. The objective of this study is to summarize the protective effects and potential mechanisms of action of phytochemicals in the treatment of pancreatitis. The phytochemicals with anti-inflammatory and antioxidant abilities may be valuable drugs for the treatment of pancreatitis.<sup>[4]</sup> Many phytochemicals (berberine, curcumin, ellagic acid, cinnamtannin B1, resveratrol, piperine, and lycopene) hold the potential to improve the symptoms of pancreatitis.<sup>[5]</sup>

## CASE STUDY

28-year-old female, a known case of chronic pancreatitis for the last 2½ years was visited to the outpatient department (OPD), with complaints of continuous dull pain in the abdomen, indigestion, decreased appetite, and nausea for the last 2½ months. There was a history of an episode of severe pain in the epigastric region of the abdomen for which she was admitted and managed with intravenous antibiotics. Surgery was advised and discharged. On discharge, she was prescribed to continue tablet cefpodoxime proxetil (200 mg), capsule pancreatin minimicrospheres (25000 IU) (combination of pancreatin 300 mg, amylase, lipase 25000, and protease 1000), capsule domperidone (30 mg) and pantaprazole (20 mg) twice a day, syrup sucralfate (1000), dicyclomine (10 mg) and mefenamic acid (250 mg) one tablet as and when required for 10 days. After stopping the medications again, the pain recurred. For possible treatment and to avoid surgery, she opted for ayurvedic treatment. Her personal history revealed irregular dietary patterns and stress while her family and psychosocial history were nonsignificant.

## CLINICAL FINDINGS

The patient was afebrile, pallor appearance (due to the decreased release of pancreatic enzymes resulting in malabsorption and anemia<sup>[6]</sup>), pulse rate of 76/min, and blood pressure was 110/70 mm Hg. Gastrointestinal system examination revealed tenderness in the epigastric region; the other systems did not revealed any abnormality. *Nadi* (~pulse) was *Vata-pittaja*, *Jihva* (~tongue) was *Sama* (~coated), *Aakriti* was *Madhyama* (~medium built), and bowel habit was regular. *Dashavidhpariksha* (~ten factors examination) revealed *Pitta-VataPrakriti* (~genetic constitution), *Sara* (~tissue excellence), *Satva* (~psychic condition), and *Satmya* (~homologation) were *Madhyama*, while *Vyayamashakti* (~power of performing exercises), *Abhyavaharana* (~power of appetite), and *Jaranashakti* (~digestive power) were *Avara* (~poor). The patient had complained of recurrent attacks of continuous dull pain in the upper abdomen with decreased appetite, nausea, and indigestion.

## DIAGNOSTIC ASSESSMENT

On general examination, the patient was seen as pallor in appearance with tenderness in the epigastric region. Recurrent abdominal pain, anorexia, and indigestion with nausea were the major complaints. Similar clinical features have been described in Ayurvedic text in the context of *Grahani*, where pain, indigestion, and nausea are present. Ultrasonography suggested of pancreatitis. Hemoglobin level was decreased, and serum lipase was raised. Based on history, clinical symptoms, examination, and investigation findings, a diagnosis of chronic pancreatitis have been made. The outcome assessment was based on the visual analog scale (VAS) score,<sup>[7]</sup> need for analgesics, improvement in appetite and digestion, improvement in hemoglobin, and restoration of serum lipase levels.

Table no.1 Observations:

	Patient summary from initial and follow-up visit	Interventions
(day 0)	Constant dull pain in the upper abdomen, loss of appetite, indigestion, and nausea VAS score - 7 Tenderness - 2+Pallor+	<i>Aarogyavardhini vati</i> : 250 mg twice daily with lukewarm water after food <i>Sutashekharā rasa</i> : 125 mg twice daily with lukewarm water before food
(5 <sup>th</sup> day)	Intermittent dull pain in the upper abdomen, loss of appetite, indigestion Relief in nausea VAS score - 4 Tenderness - 1+	Poly herbo-mineral formulation: containing ( <i>Yastimadhu churna</i> – 2 g, <i>Shatavari churna</i> – 2 g, <i>Jatamansi churna</i> - 2 g, <i>Apamarga kshara</i> – 25 mg, <i>Shankha bhasma</i> - 125 mg, and <i>Yashada bhasma</i> - 125 mg) twice daily with lukewarm water after food
(day 14 <sup>th</sup> )	The frequency of pain was reduced, and appetite and indigestion- improved VAS score - 3 Tenderness – 0	<i>Avipattikara churna</i> : 3 g twice daily with lukewarm water before food <i>Amalaki churna</i> : 3 g twice daily with lukewarm water before food
(day 21 <sup>st</sup> )	Pain reduced, no need for analgesics VAS score - 1 Tenderness - 0	The above mentioned medicines were continued for the period of 42 days Dietary and lifestyle modifications were explained
(day 28 <sup>th</sup> )	Complete relief in symptoms VAS score - 0 Tenderness - 0	
(day 42 <sup>nd</sup> )	Complete relief in symptoms VAS score - 0 Tenderness - 0 Pallor-absent, serum lipase-normal The complication has not been seen No other associated complaints	Medication stopped. <i>Sutashekharā rasa</i> : 125 mg with lukewarm water after food – SOS (if pain persists) A low-fat diet, smaller and frequent meals

## FOLLOW-UP AND OUTCOME

The patient was visited on the 5<sup>th</sup>, 14<sup>th</sup>, 21<sup>st</sup>, 28<sup>th</sup>, and 42<sup>nd</sup> days for clinical assessment. On day 5, relief in vomiting was noted. On the 14<sup>th</sup> day, VAS score 3 with absent tenderness and improved appetite. On the 28<sup>th</sup> day, there was complete relief in symptoms. On the 42<sup>nd</sup> day, the patient showed complete improvement. Hemoglobin was increased slightly and serum lipase levels became normal. During treatment, the patient had never reported any adverse effects of medication.

## DISCUSSION

Ayurvedic perspective of this case presenting with pain in the abdomen, indigestion, decreased appetite, nausea, and vomiting have been established with vitiation of *Vata* due to *Pittadosha*. The differential diagnoses of gastritis, peptic ulcer disease, and gastroenteritis were excluded. The patient came in stage A, which is the early stage of chronic pancreatitis, with symptoms of a recurrent attack of pancreatitis, pain in the abdomen, where complications have not yet appeared, and no steatorrhea and diabetes mellitus, indicating preservation of exocrine and endocrine functions of the pancreas.<sup>[8]</sup> Due to chronicity and recurrence of pancreatitis, *Vata dosha* is predominant and was in *Amaavastha* (~ proinflammatory stage), so its pathophysiology can be correlated to *Vatajagrahanidosha* (~*Grahani* due to *Vata*).<sup>[9]</sup> Indigestion and nausea due to increased *Samapittadosha* (~ *Pitta* associated with *Ama*) while pain in the abdomen due to vitiated *Pitta* and *Vatadosha*.<sup>[10]</sup> As the *Agnashya* (~pancreas) plays an essential role in metabolism, its vitiation results in the manifestation of gastrointestinal tract symptoms. The main objective of the treatment was to manage the symptoms, protect the structure and function of the pancreas from further derangements, and restore the raised biochemical parameters, based on the predominance of *Dosha* and *Dhatu* (~body tissue) [Table 2]. *Vata-pittashamaka* (~pacification of vitiated *Vata* and *Pitta*) and *Rasa-shodhaka* (~macro and microcirculatory channels purifier) medicines were planned according to principles governing vitiation of *Annava* (~digestive tract) and *Rasavaha-srotas* (~macro and microchannels of blood). In dietary and lifestyle modifications, she was advised to avoid salty, sour, spicy, heavy food, curd, butter, nonveg, aerated, caffeinated drinks, onion, tomato, garlic, refined flour, and packaged foods. Smaller and more frequent meals

to be taken in a day and limit the total intake of fat and oils, only 30% of calories should come from fat.<sup>[2]</sup> Advised to minimize anxiety, stress, and daytime sleep. Deep breathing, meditation, walking, and relaxation are advised to be followed regularly.

*Arogyavardhinivati* is indicated in *Medo-dosha* (obesity), *Yakrit-vikara* (liver disorders), *Prameha* (diabetes), and *Jirna-jwara* (chronic fever).<sup>[11]</sup> It is helpful in *Pachana* (~metabolism) of *Amavisha* (~toxins) and clears the microcirculatory channels, improves digestion of fat by stimulating the bile secretion. *Arogyavardhini vati* contains *Kutaki*, *Tamrabhasma* (incinerated copper), and *Abhrakabhasma* (~incinerated mica) which shows significant improvement in the liver function of nonalcoholic fatty liver disease due to its hepatoprotective, choleric action.<sup>[12]</sup> *Kutaki* and *Triphala* have laxative, carminative, liver stimulant, and digestant action.<sup>[13]</sup> *Lohabhasma* (iron) is helpful in anemia, debility, and hepatosplenomegaly.<sup>[14]</sup> *Abhrakabhasma* and *Shilajitu* (asphaltum) repair the cells and helps rejuvenate them.<sup>[15]</sup> *Guggulu* (*Commiphoramukul* (Hook. ex-Stocks)) is antioxidant and anti-inflammatory.<sup>[16]</sup> *Chitraka* (*Plumbagozeylanica* L.) helps relieve indigestion and loss of appetite.<sup>[17]</sup> *Sutashekhara rasa* corrects *mandagni*, *Samapittadosha* (~ *Pitta* associated with toxins derived from improper digestion of food), and vitiated *Rasadhatu*. Thus, helps to release the *Avarana* of *vata* (~obstruction of *Samanvayu*).<sup>[18]</sup>

A *Pitta-vata shamaka* (*Pitta-vata* pacifying) poly herbomineral formulation which contains *Yastimadhu* (*Glycyrrhizaglabra* L.), *Shatavari* (*Asparagusracemosus* W.), *Jatamansi* (*Nardostachy sjatamansi* DC.), *Apamargakshara* (alkalis of whole plant of *Achyranthesaspera* L.), *Shankhabhasma* (incinerated conch), and *Yashadabhasma* (incinerated zinc) were selected. *Yastimadhu* and *Shatavari* are *Pitta-vata shamaka*, *Dahashamaka* (relieves burning sensation), *Shothahara* (anti-inflammatory), and *Balya* (tonics).<sup>[19,20]</sup> *Jatamansi* reduces anxiety and stress<sup>[21]</sup> that is one of the major causes of hyperacidity and indigestion. *Shankhabhasma* has found to be effective in treating GERD (gastroesophageal reflux disease).<sup>[22]</sup> *Yashadabhasma* possesses anticarcinogenic properties and helps in protein synthesis and digestion.<sup>[23]</sup> *Apamargakshara* has gastroprotective and anticancer activity due to its alkaline property and by virtue of its antioxidant activity, it corrects metabolism at a cellular level.<sup>[24]</sup>

*Avipattikarachurna* acts as *Pittavirechaka* (choleagogue), and *Pittashamaka-dravya* thus helps in removing the excess vitiated *Pitta* and alleviates the digestive complaints.<sup>[25]</sup>

*Amalaki* (~*EmblicaOfficinalis* L.) *churna* contains a variety of tannins that have shown antimicrobial, antiviral, analgesic, anti-inflammatory, and immune-regulating activities in *in-vitro* study and antioxidant properties.<sup>[26]</sup> All these activities help in preventing damage from oxidation stress and also arresting the progression of the disease. It acts as *Rasayana* and balances the target between apoptosis and necrosis.<sup>[27]</sup> The cumulative effect of these medicines brings the balance between *Vata* and *Pittadosha* facilitating a reduction in inflammation and soothing of the gastric mucosa.

Treatment of chronic pancreatitis depends on diet and lifestyle. Nutritional management becomes a vital part in the treatment. Small frequent meals are advised that are easier to digest, reduce pain, avoid a recurrence, and maintain normal blood sugar levels. Abstinence from fried food is important in helping to prevent steatorrhea and pain. Low-glycemic foods such as whole grains, leafy green vegetables, and lean protein are suggested to consume that allows the pancreas to release insulin solely and steadily, putting less strain on the organ, and helping to prevent diabetes.<sup>[28]</sup> The adopted yoga and meditation helped to manage the symptoms, prevent a recurrence, improve the overall quality of life, and enhance the recovery process.<sup>[29]</sup>

## CONCLUSION

This case study infers that Ayurveda formulations can be used to support the management of chronic pancreatitis when a suitable diet and lifestyle are practiced. No adverse effects of the prescribed drug were reported in this case. Ayurvedic medicines offer an excellent approach to manage chronic pancreatitis, but to establish this fact, further studies with adequate sample sizes are required.

### *Declaration of patient consent*

Authors certify that they have obtained the patient consent form, where the patient has given consent for reporting the case along with images and other clinical information in the journal. The patient understands that her name and initials will not be published, and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

### *Conflicts of interest*

There are no conflicts of interest.

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#### Author's short biography:



Dr.Sachinkumar Sahebrao Patil M.D. (Kayachikitsa) Medicine, Ph.D. (Kayachikitsa) Medicine, M.B.A. (H.R.), M.A. (Sanskrit), P.G.D.E.M.S., D.Y.A. Professor and H.O.D., Ph.D. Guide, M.D. Guide, Department of Kayachikitsa, M.A.M.'s Sumatibhai Shah Ayurved Mahavidyalaya, Malwadi, Hadapsar, Pune – 411028, Maharashtra State, India. He is working as an Ayurved Physician and Panchakarma Specialist since last 18 Years. He is a BOARD OF STUDIES MEMBER for Paraclinical Ayurved Board of Maharashtra University of Health Sciences (M.U.H.S.), Nashik. He is a FACULTY MEMBER for Post Graduate Paraclinical Ayurved Board of M.U.H.S., Nashik. He is working as a Research Faculty for Research Methodology and Medical Statistics for M.U.H.S., Nashik. He is a Ph.D. GUIDE for 08 Ph.D. Kayachikitsa (Medicine) students and M.D. GUIDE for 28 M.D. Kayachikitsa (Medicine) students out of which 21 M.D. Kayachikitsa (Medicine) students have been already passed out. His research experience is 15 Years. His research interests in Anxiety disorder, Diabetes Mellitus, Obesity, Hyperacidity, Diarrhoea, Anaemia, etc.