



Ayurvedic Approach to Diabetes Mellitus Associated With Pancreatitis: A Case Study

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ABSTRACT

Diabetes associated with pancreatitis is an increasingly recognized health concern, primarily arising secondary to pancreatic diseases, with chronic pancreatitis being the most prevalent cause. In *Ayurvedic* terms, diabetes mellitus (*Prameha*) is associated with *Kapha* and *Pitta* vitiation, whereas pancreatitis is linked to aggravated *Pitta* disrupting *Agni* (digestive fire) and leading to *Ama* accumulation. *Ayurvedic* management integrates dietary modifications, *Ayurvedic* formulations, and *Panchakarma* therapies to restore metabolic balance and enhance pancreatic function. This study presents the case of a 29-year-old male diagnosed with Diabetes Mellitus associated with pancreatitis, who sought treatment at Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab. He underwent *Panchakarma* therapies, including *Awagah Swedan*, *Madhu Tailik Basti*, *Shiropichu* with *Brahmi* oil, and *Nasyam* with *Anutaila*, alongside *Ayurvedic* formulations. Following *Ayurvedic* treatment, the patient experienced significant symptom relief, improved glycemic control, and better laboratory parameters, including reduced HbA1C levels and improved liver enzyme markers. These findings highlight the potential of *Ayurvedic* interventions in managing diabetes associated with pancreatitis. However, further clinical trials are necessary to validate these outcomes and establish standardized treatment protocols for enhanced patient care.

INTRODUCTION

Diabetes associated with pancreatitis is increasingly recognized as a significant health concern which arises secondary to pancreatic diseases^[1]. This type of diabetes is

linked to both acute and chronic pancreatitis, with chronic pancreatitis being the most common cause. The relationship between pancreatitis and diabetes is complex, involving both the endocrine and exocrine functions of the pancreas^[2]. The incidence of diabetes following acute pancreatitis (AP)

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varies, with studies indicating that up to 40% of patients may develop diabetes within five years of an AP episode [3]. The risk factors for developing diabetes post-pancreatitis include the severity of pancreatitis, recurrent attacks, and pancreatic necrosis, among others [4].

The relationship between diabetes mellitus (DM) and pancreatitis has been extensively investigated, revealing a bidirectional association [5]. Individuals with type 2 diabetes have been found to have an increased risk of developing acute pancreatitis [6]. A study published in Diabetes Care reported a nearly threefold increased risk of acute pancreatitis in patients with type 2 diabetes. Similarly, a meta-analysis indicated that type 2 diabetes is associated with a 74% increased risk of acute pancreatitis and a 39% increased risk of pancreatitis overall [8,9]. Pancreatitis can lead to the development of diabetes, particularly T2DM, also known as pancreatogenic diabetes [10]. The severity and outcomes of acute pancreatitis may also be influenced by the presence of diabetes. A study found that diabetic patients with acute pancreatitis had a 58% higher risk of intensive care unit admission and a 30% higher risk of local complications compared to non-diabetic patients. These findings underscore the complex interplay between diabetes and pancreatitis, emphasizing the need for vigilant monitoring and tailored management strategies

for patients affected by both conditions [11]. Studies suggest that approximately 20% of patients develop diabetes within five years of an AP episode, increasing to 40% over time [3,7]. Impaired synthesis and secretion of insulin and glucagon due to pancreatic damage contribute to unstable glycemic control [11]. While the association between pancreatitis and diabetes is well-documented, the exact pathogenesis remains poorly understood, necessitating further research. Understanding the unique characteristics of pancreatic diabetes compared to other types is essential for improving patient care and quality of life [12].

In *Ayurveda*, the relationship between diabetes and pancreatitis is understood through the lens of *doshic* imbalances and the disease's pathogenesis [13]. Diabetes mellitus (*Prameha*) is primarily associated with the vitiation of *Kapha* and *Pitta doshas*, leading to metabolic disturbances, while pancreatitis, characterized by pancreatic inflammation, is viewed as a disorder involving aggravated *Pitta dosha*, which governs digestion and metabolism [14]. When *Pitta* becomes imbalanced, it disrupts *Agni* (digestive fire), resulting in the accumulation of *Ama* (toxins) and subsequent inflammation of pancreatic tissue. The *Samprapti Ghataka* [15] is mentioned in **Table 1**.

Table 1. The Samprapti Ghataka

Samprapti Ghataka	Details
Dosha	<i>Kapha-Pitta</i> with later <i>Vata</i> involvement
Dushya (Affected Tissues)	<i>Rasa , Rakta , Meda,Udakavah, Mutravah Srotas</i>
Agni (Digestive Fire)	<i>Jatharagni, Dhatvagni Mandya</i> (Impaired metabolism)
Srotas (Channels)	<i>Medovah, Mutravah, Agnivah, Udakavah Srotas</i>
Sroto Dushti (Channel Affliction)	<i>Sanga (Obstruction), Vimarg-gamana (Abnormal flow)</i>
Udbhava Sthana (Origin Site)	<i>Pakvashaya</i>
Vyakta Sthana (Manifestation Site)	<i>Agnashaya, Rasa-Rakta Medo Dhatu</i>
Roga Marga (Pathway)	<i>Abhyantara</i> (internal pathway), affecting internal organs

Ayurvedic management of diabetes associated with pancreatitis focuses on balancing aggravated *Pitta* and *Kapha doshas* through dietary modifications, *Ayurvedic* treatment, and lifestyle adjustments [16]. A *Pitta*-pacifying diet, including cooling and non-spicy foods, helps reduce pancreatic inflammation, while a *Kapha*-pacifying diet, emphasizing low glycemic index foods like whole grains and bitter melon, aids in glycemic control [17]. *Ayurvedic* herbs such as turmeric, licorice root, bitter melon, and fenugreek have anti-inflammatory and hypoglycemic effects beneficial for both pancreatitis and diabetes [18].

Ayurveda emphasizes the importance of daily routines (*Dinacharya*) and seasonal regimens (*Ritucharya*) to maintain *dosha* balance. Regular physical activity, stress management

techniques like yoga and meditation, and adequate sleep are integral components of managing diabetes associated with pancreatitis. Detoxification therapies (*Panchakarma*) such as *Virechana* (therapeutic purgation) and *Basti* (medicated enema) are recommended to eliminate toxins and restore digestive balance [19]. Integrating *Ayurvedic* treatments with conventional medical approaches can provide a holistic strategy for managing this complex condition. By adopting these *Ayurvedic* practices, individuals may achieve better glycemic control and overall well-being. This study aims to assess the impact of *Ayurvedic* interventions for Diabetes Mellitus associated with pancreatitis in a 29-year-old male patient.

CASE REPORT

A 29-year-old male visited Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab, on January 10, 2025. He had a history of Diabetes Mellitus associated with pancreatitis since childhood. A comprehensive medical history, family history, physical examination and diagnostic evaluations were all part of the methodical and thorough examination. He had Diabetes Mellitus since last 4 to 5 years and no addiction related to the condition. The conditions presented were hair

loss and general body weakness. The *Ashta-sthana pariksha* during the visits are mentioned in **Table 2**. The basic vitals during the treatment period is mentioned in **Table 3**. He was admitted for IPD treatment for 10 days and later on discharged during January 19, 2025. The patient underwent *Panchakarma* therapies including *Awagah swedan*, *Madhu tailik basti*, *Shiropichu* with *Brahmi* oil and *Nasyam* with *Anutaila*. The diabetes chart during the IPD is mentioned in **Table 4**. The laboratory investigations during the treatment period is mentioned in **Table 5**.

Table 2. The *Ashta-sthana pariksha* during the visits

Parameter	Findings		
Date	10-01-2025	19-01-2025	21-03-2025
<i>Naadi</i>	<i>Vataj pittaj</i>	<i>Vataj Pittaj</i>	<i>Vataj Pittaj</i>
<i>Mala</i>	<i>Malsangh</i>	<i>Nirama</i>	<i>Avikrit</i>
<i>Mutra</i>	<i>Prakrit</i>	<i>Saam</i>	<i>Prakrit</i>
<i>Jiwha</i>	<i>Lipta</i>	<i>Lipta</i>	<i>Lipta</i>
<i>Shabdha</i>	<i>Spashta</i>	<i>Spashta</i>	<i>Spashta</i>
<i>Sparsh</i>	<i>Sama</i>	<i>Samsheetoshma</i>	<i>Samasheetoshna</i>
<i>Drika</i>	<i>Prakrit</i>	<i>Prakrit</i>	<i>Prakrit</i>
<i>Akriti</i>	<i>Madhyam</i>	<i>Madhyam</i>	<i>Madhyam</i>

Table 3 The basic vitals during the treatment period

Parameter	Findings		
Date	10-01-2025	19-01-2025	21-03-2025
Blood Pressure	120/75 mmHg	110/70 mmHg	110/80 mmHg
Weight	59 Kg	59 Kg	60 Kg
Pulse	86/ min	-	62/ min

Table 4 The diabetes chart during the treatment period

Date	Time	Sugar (mg/dL)
10-01-2025	-	RBS-206 mg/dL
11-01-2025	5:00 AM	FBS-110 mg/dL
	1:00 PM	RBS-138 mg/dL
	4:00 PM	RBS-206 mg/dL
12-01-2025	5:30 AM	FBS-111 mg/dL
	5:00 PM	RBS-112 mg/dL
	8:00 PM	RBS-234 mg/dL
	9:00 PM	RBS-271 mg/dL
13-01-2025	5:00 AM	FBS-145 mg/dL
	1:00 PM	RBS-170 mg/dL
	5:00 PM	RBS-220 mg/dL
	8:00 PM	RBS-209 mg/dL
14-01-2025	5:00 AM	FBS-131 mg/dL
	1:00 PM	RBS-240 mg/dL
	8:40 PM	RBS-146 mg/dL
15-01-2025	5:30 AM	FBS-143 mg/dL
	1:00 PM	RBS-86 mg/dL
	4:00 PM	RBS-171 mg/dL
	8:30 PM	RBS-220 mg/dL
16-01-2025	5:30 AM	FBS-111 mg/dL
	1:00 PM	RBS-172 mg/dL
	4:00 PM	RBS-160 mg/dL
	8:30 PM	RBS-200 mg/dL
17-01-2025	5:00 AM	FBS-210 mg/dL
	8:00 PM	RBS-203 mg/dL
18-01-2025	9:40 AM	RBS-176 mg/dL
	3:30 PM	RBS-200 mg/dL
	8:00 PM	RBS-151 mg/dL
19-01-2025	5:30 AM	FBS-92 mg/dL

Table 5 The laboratory investigations during the treatment period

Parameter	10-01-2025	17-01-2025	19-03-2025
D3 Hydroxy Vit D	-	22.50 ng/ml	93.00 ng/ml
C-Peptide Fasting	1.68 ng/ml	-	0.78 ng/ml
HbA1C	8.60%	-	6.70%
SGOT	28.20 IU/L	28.81 IU/L	-
SGPT	44.27 IU/L	40.36 IU/L	-
ALP	173.41 IU/L	114.35 IU/L	-

Treatment Plan

I. Diet Plan:

Dietary Guidelines from Jeena Sikho Lifecare Limited Hospital:

The patient adhered to a meticulously designed

Table 6. Key recommendations, Meal Timing & Structure:

Timings	Meal structure
Early morning (5:30 AM)	Herbal tea and curry leaves
Breakfast (09 AM - 10 AM)	4 types of Fruits [Body weight (in Kg) x 10 = Grams of Fruits] and Fermented millets + Red juice
Lunch (12:30 PM to 02:00 PM)	Plate 1: 4 types of raw vegetables [Body weight (in Kg) x 5 = Grams of Vegetables] Plate 2: Millet recipe + Alkaline or living water
Evening (4 PM)	Green juice and soaked almonds
Dinner (06:15 PM to 7:30 PM)	Plate 1: 4 types of raw vegetables [Body weight (in Kg) x 5 = Grams of Vegetables] Plate 2: Cooked Standard Meal
Additional Dietary Components	Soaked nut and sprouts (calculated based on body weight) and Fruit juices (Natural sugar with no added sugar)

Disciplined and Intelligent Person (DIP) Diet to complement the *Ayurvedic* treatments for Diabetes Mellitus associated with pancreatitis [20].

Treatment Plan for Diabetes Mellitus associated with pancreatitis Management

I. Dietary Recommendations

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital, Derabassi include the following key recommendations:

II Fig 1. Lifestyle Recommendations



★ Meal Scheduling:
The DIP Diet emphasizes maintaining fixed meal times to regulate blood sugar levels, support metabolism, and prevent overeating. Aligning meals with the body's circadian rhythms enhances digestion and energy balance.



*** Sunlight Exposure:**
Regular sun exposure is encouraged for natural Vitamin D synthesis, essential for bone health, immune function, and insulin regulation. Safe sun exposure is particularly beneficial for those with limited dietary Vitamin D intake.



✿ Grounding Therapy:
Walking barefoot on natural surfaces like grass, sand, or soil (earthing) is believed to reduce inflammation, improve circulation, enhance sleep, and promote overall well-being by balancing the body's electrical charge and reducing stress.

III. Panchakarma procedures administered to patients

1. Awagah Swedan

Procedure:

- The patient was submerged up to the navel in a tub of warm water.
- The temperature of water was maintained at 42°C.
- The patient spent 40 minutes under the conditions provided.

Physiology and mode of action

- Immersion in warm water causes vasodilation, increasing blood flow to the skin and stimulating sweating (*Swedan*), which helps to eliminate toxins and metabolic waste, while improving oxygen and nutrient delivery to tissues.
- The heat opens skin pores, allowing better absorption of *Ayurvedic* components that reduce inflammation, fight oxidative stress and promote healing by modulating pathways like NF-κB.
- The warmth activates the parasympathetic nervous system, lowering cortisol levels, relaxing muscles and enhancing vagal tone to reduce stress and promote a sense of calm and overall body balance.
- Improved circulation and sweating stimulate the lymphatic system, aiding detoxification and supporting immune function to eliminate accumulated toxins and enhance overall health.^[21]

2. Madhutailik Basti

Procedure:

- In order to clear the digestive tract and get rid of toxins, the therapy started with preemptive measures such a mild purgative (*Virechana*) and/or emetics (*Vamana*).
- For best absorption and therapeutic efficacy, a medicated enema with a mixture of honey (*Madhu*) and medicated oil (*Taila*) is given via the rectal channel in a regulated amount, temperature, and pressure.
- The patient is constantly watched for any negative reactions during the course of treatment.

Physiology and Mode of action:

- *Madhutailika Basti* uses honey and medicated oil to stimulate prostaglandin synthesis, relaxing smooth muscles and enhancing absorption.
- It increases lymphatic flow, helping to reduce inflammation and promoting detoxification.
- The medicated oil inhibits pro-inflammatory cytokines and enzymes, reducing inflammation and swelling.
- Honey contains antioxidants that neutralize free radicals, reducing oxidative stress.
- The combination of oil and honey may influence gut microbiota, improving neurotransmitter balance and stress response, enhancing mental clarity and mood.
- Nitric oxide production relaxes smooth muscles, improving blood circulation and enhancing the therapy's therapeutic effects.
- *Madhutailika Basti* helps balance the *Vata*, *Pitta*, and *Kapha doshas*, promoting overall *dosha* harmony, removing accumulated toxins, and strengthening the digestive fire^[22].

3. Shiropichu with Brahmi oil

Procedure

- *Brahmi* oil was indirectly heated to lukewarm temperature.
- The warmed *Brahmi* oil was gently applied to the forehead and scalp. A cloth pad soaked in the oil was placed on the forehead, covering the *Ajna Chakra* and crown, and left in place for 15-30 minutes.
- The patient was encouraged to remain still, focus on deep breathing, and enjoy the calming effects of the oil.

Physiology and Mode of action:

- The lipophilic nature of *Brahmi* oil allows its active compounds, like bacosides, to be absorbed through the scalp, directly influencing brain function and enhancing cognitive abilities.
- Bacosides improve neurotransmission by increasing the release of acetylcholine, boosting memory, focus, and mental clarity.
- *Brahmi* oil's antioxidant properties help neutralize reactive oxygen species (ROS) in the brain, preventing neuronal damage and supporting brain health.
- *Brahmi* oil reduces cortisol levels, alleviating stress, while its anti-inflammatory properties help protect against neu-

roinflammation, supporting cognitive function.

- The warm oil improves blood flow to the brain, enhancing the delivery of oxygen and nutrients, promoting overall brain rejuvenation and optimal function [23,24].

5. Nasyam with Anutaila

Procedure

- *Anutaila* was warmed to a lukewarm temperature.
- The patient lay down with the head tilted back, and 2–6 drops of lukewarm *Anutaila* were instilled into each nostril.
- Excess oil/mucus was expelled, and the patient avoided exposure to cold.
- The patient was advised to avoid cold exposure.

Physiology and Mode of action

- *Murivena*, with its *Snigdha* and *Ushna Guna*, pacifies aggravated *Vata* in *Janu Sandhi*, reducing *Rukshata*, *Stambha*, and *Shoola*, while enhancing joint lubrication and restoring synovial balance.

- The *Ayurvedic* herbal ingredients, possessing *Shothahara* and *Vranaropaka* qualities, help in reducing *Shotha*, repairing *Dhatu Kshaya*, and promoting *Sandhi Dhatu Poshana*.
- The *Swedana* induced by warm oil enhances *Rakta Sanchara*, promoting *Mamsa Dhatu Balya*, reducing *Kshaya*, and relaxing knee muscles.
- The deep penetration of the oil through *Sukshma Guna* alleviates *Vedana* (pain), enhances *Sandhi Gati*, and facilitates *Prakrita Vat Gati*, improving knee function and overall joint health [25,26].

Medicinal Interventions

The *Ayurvedic* treatment employed in this case included Divya Shakti Powder, DM Capsule, Prameh Rog Har, Carcinex Capsule, Madhumeh Nashak Syrup, Liv DS capsule, Vasant Kusumakar Ras, Dhatu Poshak Capsule, Dr. Madhumeh, Arogya Vati tablet and Sama vati. The *Ayurvedic* medications advised during the treatment period are described in **Table 7**. The details of the medicines advised during the treatment period is in **Table 8**.

Table 7 The *Ayurvedic* medications advised during the treatment period

Date	Medicines	Dosage with <i>Anupana</i>
10-01-2025 to 19-01-2025 (IPD)	Divya Shakti Powder	Half a teaspoon HS (<i>Nishkala</i> with <i>koshna jala</i>)
	DM Capsule	1 TAB BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Prameh Har Powder	A teaspoon BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Carcinex Capsule	1 CAP BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Madhumeh Nashak Syrup	15 ml BD (<i>Adhobhakta</i> with <i>sama matra koshna jala</i>)
	Liv-DS Capsules	1 CAP BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Vasant Kusumakar Ras Tablet	1 TAB OD (<i>Adhobhakta</i> with <i>koshna jala</i>)
19-01-2025 (Discharge)	Prameh Har Powder	A teaspoon TDS (<i>Adhobhakta</i> with <i>koshna jala</i>)
	DM Capsule	1 TAB BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Vasant Kusumakar Ras Tablet	1 TAB OD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Divya Shakti Powder	Half a teaspoon HS (<i>Nishkala</i> with <i>koshna jala</i>)
	Dhatu Poshak	1 CAP BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Dr. Madhumeh	1 TAB BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
21-03-2025	Dr. Madhumeh	1 TAB BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Prameh Har Powder	Half a teaspoon BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Arogya Vati	2 TAB BD (<i>Adhobhakta</i> with <i>koshna jala</i>)
	Sama Vati	1 CAP BD (<i>Adhobhakta</i> with <i>koshna jala</i>)

Table 8. The details of the medicines advised during the treatment period

Medicine name	Ingredients	Therapeutic Effects
Divya Shakti Powder	Trikatu, Triphala, Nagarmotha (<i>Cyperus rotundus</i>), Vaya Vidang (<i>Embelia ribes</i>), Chhoti Elaichi (<i>Elettaria cardamomum</i>), Tej Patta (<i>Cinnamomum tamala</i>), Laung (<i>Syzygium aromaticum</i>), Nishoth (<i>Operculina turpethum</i>), Sendha Namak , Dhaniya (<i>Coriandrum sativum</i>), Pipla Mool (<i>Piper longum</i> root), Jeera (<i>Cuminum cyminum</i>), Nagkesar (<i>Mesua ferrea</i>), Amarvati (<i>Achyranthes aspera</i>), Anardana (<i>Punica granatum</i>), Badi Elaichi (<i>Amomum subulatum</i>), Hing (<i>Ferula assafoetida</i>), Kachnar (<i>Bauhinia variegata</i>), Ajmod (<i>Trachyspermum ammi</i>), Sazzikhar , Pushkarmool (<i>Inula racemosa</i>), Mishri (<i>Saccharum officinarum</i>).	Deepan. pachana and detoxification
DM Capsule	Amba Haldi (<i>Curcuma amada</i>), Giloy (<i>Tinospora cordifolia</i>), Safed Musli (<i>Chlorophytum borivilianum</i>), Methi (<i>Trigonella foenum-graecum</i>), Neem (<i>Azadirachta indica</i>), Karela (<i>Momordica charantia</i>), Jamun (<i>Syzygium cumini</i>), Bilva Patra (<i>Aegle marmelos</i>), Gudmar (<i>Gymnema sylvestre</i>), Shuddh Shilajeet .	Beneficial for managing blood sugar levels and increases metabolism and energy levels
Prameh Rog Har	Kutaki (<i>Picrorhiza kurroa</i>), Chiraita (<i>Swertia chirata</i>), Neem (<i>Azadirachta indica</i>), Karela (<i>Momordica charantia</i>), Rasonth (<i>Berberis aristata</i>), Imli Beej (<i>Tamarindus indica</i>), Kala Namak , Giloy (<i>Tinospora cordifolia</i>), Sonth (<i>Zingiber officinale</i>), Babool Chhaal (<i>Vachellia nilotica</i>), Sarpgandha (<i>Rauvolfia serpentina</i>), Trivang Bhasm , Yashad Bhasm , Revend Chinni (<i>Rheum emodi</i>), Sodhit Guggulu (<i>Commiphora mukul</i>), Methi (<i>Trigonella foenum-graecum</i>), Jamun (<i>Syzygium cumini</i>), Babool Fruit (<i>Vachellia nilotica</i>), Karanj (<i>Milletia pinnata</i>), Shilajeet , Haldi (<i>Curcuma longa</i>), Harad (<i>Terminalia chebula</i>), Inderjaun (<i>Holarrhena antidysenterica</i>), Vanshlochan (<i>Bambusa arundinacea</i>), Bahera (<i>Terminalia bellirica</i>), Amla (<i>Phyllanthus emblica</i>), White Musli (<i>Chlorophytum borivilianum</i>), Gurmar (<i>Gymnema sylvestre</i>).	Helps in lowering blood sugar levels
Carcinex Capsule	Guduchi powder (<i>Tinospora cordifolia</i>), Kirattikt powder (<i>Andrographis paniculata</i>), Maricha powder (<i>Piper nigrum</i>), Paneer Dodi powder (<i>Hedychium spicatum</i>), Amlaki rasayan powder (<i>Phyllanthus emblica</i>), Tamra bhasm powder , Swarnamakshik Bhasm , Kalmegha (<i>Andrographis paniculata</i>), Neem powder (<i>Azadirachta indica</i>), Laung powder (<i>Syzygium aromaticum</i>), Abhrak Bhasm powder	Used for Arbud/Granthi, LRTI, cell rejuvenation and boosts immune system
Madhumeh Nashak Syrup	Karela (<i>Momordica charantia</i>), Jamun (<i>Syzygium cumini</i>), Neem (<i>Azadirachta indica</i>), Chirata (<i>Swertia chirata</i>), Gurmar (<i>Gymnema sylvestre</i>), Kutaj (<i>Holarrhena antidysenterica</i>)	Helpe in managing blood sugar levels
Liv DS capsule	Bhumiamla Ext. (<i>Barleria prionitis</i>), Kasani Ext. (<i>Cichorium intybus</i>), Himsra (<i>Leptadenia reticulata</i>), Punarnava Ext. (<i>Boerhavia diffusa</i>), Guduchi Ext. (<i>Tinospora cordifolia</i>), Kakamachi (<i>Solanum nigrum</i>), Arjun (<i>Terminalia arjuna</i>), Biranjaspaha (<i>Berberis aristata</i>), Kasamarda Jhavuka (<i>Solanum xanthocarpum</i>), Vidanga (<i>Embelia ribes</i>), Chitraka (<i>Plumbago zeylanica</i>), Kutaki (<i>Picrorhiza kurroa</i>), Haritaki (<i>Terminalia chebula</i>), Bhringraj (<i>Eclipta prostrata</i>).	Used for liver disease, GIT, GERD and loss of appetite
Vasant Kusumakar Ras	Swarna bhasm , Rajath bhasm , Vanch bhasm , Naga bhasm , Loh bhasm , Abhrak bhasm , Praval bhasm and Mukta bhasm	Improves heart health, Balances blood sugar, and Manages stress
Dhatu Poshak Capsule	Chuna Shuddh , Shankh Bhasm , Mukta Shukti , Prawal Pishti , Kapardika and Loh	Boosts immunity and cell rejuvenation
Dr. Madhumeh	Gudmar (<i>Gymnema sylvestre</i>), Methi (<i>Trigonella foenum-graecum</i>), Giloy (<i>Tinospora cordifolia</i>), Neem (<i>Azadirachta indica</i>), Haritaki (<i>Terminalia chebula</i>), Karela (<i>Momordica charantia</i>), Chiraita (<i>Swertia chirayita</i>), Jamun (<i>Syzygium cumini</i>), Vijaysar (<i>Pterocarpus marsupium</i>), Daruhaldi (<i>Berberis aristata</i>), Karanj (<i>Pongamia pinnata</i>)	Helps in lowering blood sugar levels
Arogya Vati tablet	Kajan (<i>Carthamus tinctorius</i>), Loh Bhasm (<i>Ferrum</i>), Abhrak Bhasm (<i>Mica</i>), Tamra Bhasm (<i>Copper</i>), Amalaki (<i>Emblia officinalis</i>), Vibhitak (<i>Terminalia bellirica</i>), Haritaki (<i>Terminalia chebula</i>), Chitrak (<i>Plumbago zeylanica</i>), Katuka (<i>Picrorhiza kurroa</i>), Nimb Patra (<i>Azadirachta indica</i>)	Boosts immunity and helps in cell rejuvenation
Sama vati	Gokshur (<i>Tribulus terrestris</i>), Kaunch (<i>Mucuna pruriens</i>), Shatawar (<i>Asparagus racemosus</i>), Ashwagandha (<i>Withania somnifera</i>), Vidarikand (<i>Pueraria tuberosa</i>), Beej Band Lal (<i>Sida cordifolia</i>), Akarkara (<i>Anacyclus pyrethrum</i>), Talmakhana (<i>Hygrophila auriculata</i>), Musli (<i>Chlorophytum borivilianum</i>), Aawla (<i>Emblia officinalis</i>), Sonth (<i>Zingiber officinale</i>), Jaiphal (<i>Myristica fragrans</i>), Swarn Makshik (<i>Chalcopyrite</i>), Shilajeet Shuddh (<i>Asphaltum punjabianum</i>).	Assist the regular function of the cardiovascular system, enhance digestion and improves immunity

RESULT

After 10 days of IPD he has experienced noteworthy development in symptoms which was further reduced after the follow up, which denotes the interventions used in the study are effective against Diabetes Mellitus associated with pancreatitis. The patient experienced relief from weakness and hair loss, which shows that the *Ayurvedic* interventions used in the case study are effective for Diabetes Mellitus associated with pancreatitis. The pain score reduced from 2/10 to 1/10. The conditions before and after treatment is mentioned in **Table 9** & laboratory findings are mentioned in **Table 5**.

Table 9. Conditions of the patient before and after treatment

Before treatment	After Treatment
Hair loss	Reduced
General weakness	Relief

Implications for Future Research

This study examined a single patient diagnosed with Diabetes Mellitus associated with pancreatitis, showcasing significant improvements following *Ayurvedic* treatment. However, given the single-case nature of this study, its findings may have limited generalizability. Further research is crucial to establish the efficacy, safety, and consistency of these treatments. Standardized, evidence-based treatment protocols will be essential for integrating *Ayurvedic* interventions into conventional healthcare.

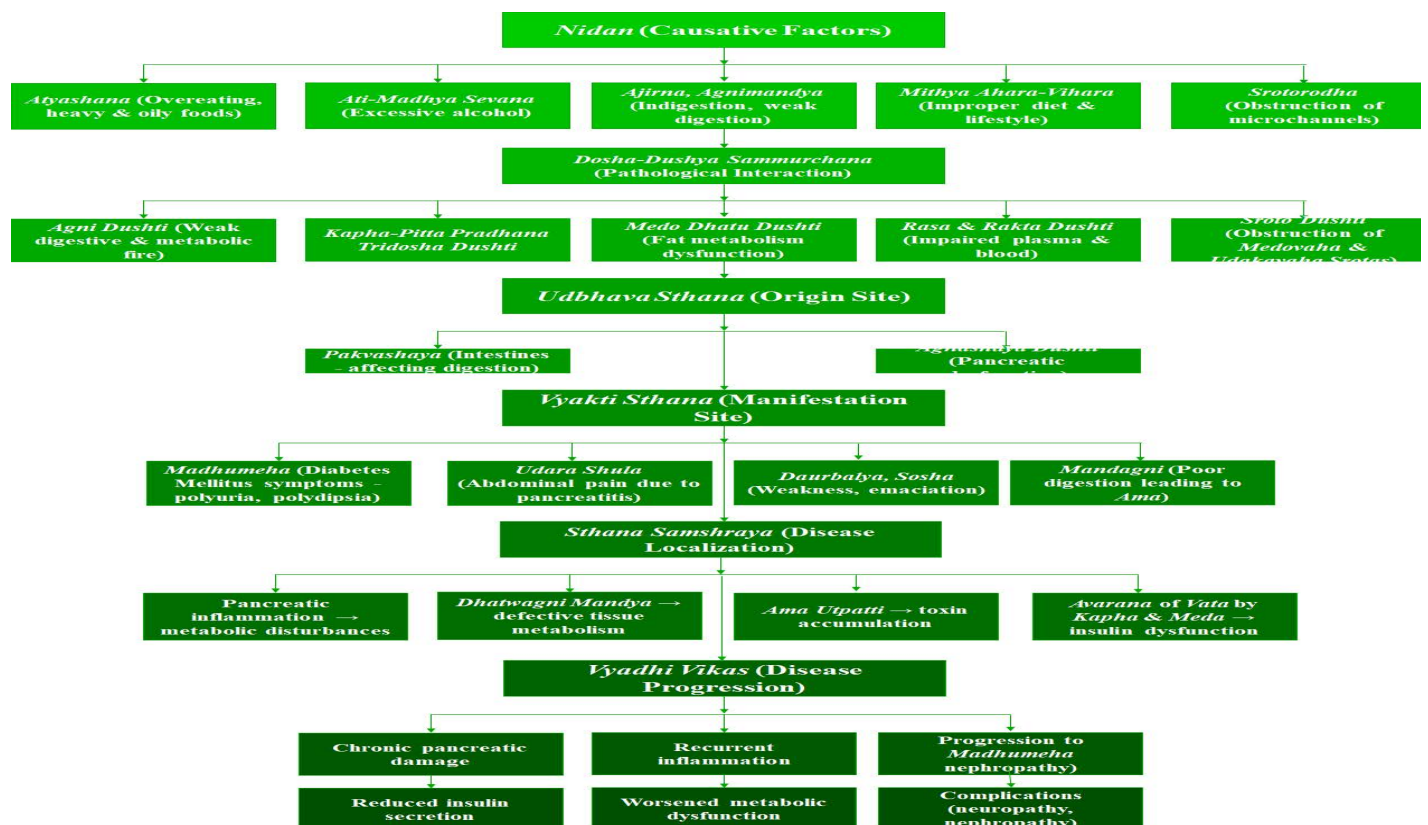
DISCUSSION

Ayurvedic treatment for Diabetes Mellitus associated with pancreatitis offers a viable substitute for conventional medical methods. This case study describes the application of several *Ayurvedic* treatments to a 29-year-old male who had been diagnosed Diabetes Mellitus associated with pancreatitis. There was a reduction in weakness and hair loss. The *samprapti* [27,28,29,30] for this case study is depicted in **Fig 2**.

“गुरुं सन्निधिं अम्ललवणातमित्तरं सदा शनतः

नवभोजनं च पानं च नदिराभ्यासं सुखासनं च॥७८॥” [31]

Fig 2 The *samprapti* for this case study



During his 10 days of IPD treatment, he underwent *Ayurvedic* therapy regimen provided by Jeena Sikho Lifecare Limited Hospital, Derabassi. **The following medicines help in breaking this pathological cycle:**

Diabetes mellitus associated with pancreatitis is primarily a *Pitta-Kapha* predominant disorder affecting *Agni*, *Meda Dhatu*, and *Ojas*, leading to impaired glucose metabolism, pancreatic inflammation, and insulin resistance. The *Samprapti* involves causative factors such as excess consumption of heavy, oily, spicy, and salty foods, alcohol, stress, and a sedentary lifestyle, which aggravate *Pitta* and *Kapha*, leading to *Agnimandya*, *Ama*, and *Medovaha Srotodushti*. The affected tissues include *Rasa*, *Rakta*, *Meda*, *Majja*, and *Ojas*, with dysfunction in *Jatharagni*, *Bhutagni*, and *Dhatvagni*, leading to poor carbohydrate metabolism and insulin secretion issues. The *Vyadhi Sthana* primarily includes the pancreas (*Agnashaya*), liver (*Yakrit*), and digestive system, making the disease chronic (*Akshepaka*) and difficult to reverse but manageable (*Yapya*).

To address this pathogenesis, *Panchakarma* therapies play a crucial role in *Samprapti Vighatana*. *Awagah Swedan* (Up to navel) improves peripheral circulation, reduces pancreatic inflammation, and alleviates insulin resistance by detoxifying *Medovaha* and *Annavaaha Srotas*. *Madhu Tailik Basti* helps in regulating *Apana Vayu*, improving digestion and insulin action, while also reducing oxidative stress and systemic inflammation. *Shiropichu* with *Brahmi* oil strengthens the HPA axis, modulates neuroendocrine functions, and prevents diabetic neuropathy by reducing stress-induced hyperglycemia. *Nasyam* with *Anutaila* further supports hypothalamic regulation, improving endocrine balance, insulin signaling, and microvascular function, thus preventing diabetic complications. By integrating these *Panchakarma* therapies, the expected outcomes include reduced pancreatic inflammation, improved insulin secretion and glucose metabolism, lower oxidative stress, enhanced nerve function, and better microcirculation, ultimately preventing complications such as diabetic neuropathy and retinopathy. This holistic approach not only targets the root cause of diabetes associated with pancreatitis but also strengthens metabolic and endocrine regulation, promoting overall well-being.

Ayurvedic treatment focuses on pacifying aggravated *Doshas*, detoxifying *Srotas*, strengthening *Agni*, and improving pancreatic function through specific formulations. *Divya Shakti Powder* and *Liv DS Capsule* restore *Agni*, ensuring proper digestion and preventing toxin accumulation. *DM Capsule*, *Madhumeh Nashak Syrup*, and *Prameh Rog Har* regulate glucose metabolism and insulin sensitivity, reducing blood sugar fluctuations. To control *Pitta*-induced pancreatic inflammation and oxidative stress, *Carcinex Capsule* and *Sama Vati* protect beta-cell function, preventing complications like diabetic neuropathy and retinopathy. *Prameh Rog Har* and *Liv DS Capsule* detoxify *Medovaha* and

Mutravaha Srotas, supporting liver function and preventing excessive *Kapha-Meda* accumulation. *Vasant Kusumakar Ras* and *Dhatu Poshak Capsule* serve as *Rasayana*, aiding in tissue repair, immune modulation, and microvascular protection, while *Arogya Vati Tablet* enhances immune resilience to prevent infections. This holistic approach helps restore digestive fire, regulate blood sugar, reduce pancreatic inflammation, enhance liver detoxification, and prevent diabetic complications, ensuring long-term metabolic stability and organ protection.

CONCLUSION

This case study assessing the *Ayurvedic* management of Diabetes Mellitus associated with pancreatitis presents the following key findings:

Symptoms: Initially, the patient experienced general weakness and hair loss. Following *Ayurvedic* treatment, there was significant relief, with the patient reporting reduced weakness and no new symptoms, indicating substantial improvement in his condition.

Vitals: A marked reduction in hair loss and weakness were observed, likely due to positive lifestyle and dietary modifications.

Laboratory Investigations: The test reports showed increase in 25-hydroxy vitamin D from 22.50 ng/ml to 93.00 ng/ml. The HbA1C reduced from 8.60% to 6.70%. The SGPT and ALP reduced from 44.27 IU/L to 40.36 IU/L and 173.41 U/L to 114.35 IU/L, respectively.

Ayurvedic treatments showed positive results, evidenced by symptom relief, better laboratory markers, and stable vital signs. These therapies help by correcting imbalances and restoring harmony in the body, contributing to overall health improvement. However, additional clinical trials are necessary to confirm these outcomes and develop standardized treatment guidelines for managing Diabetes Mellitus associated with pancreatitis.

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