

CLINICAL STUDY OF CHRONIC PANCREATITIS (TIKSHNOSHNA PITTA) TREATED WITH SOME AYURVEDIC MEDICAMENTS

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ABSTRACT

Inflammation of the pancreas is known as pancreatitis and the said pancreatic inflammatory disease is classified as Acute Pancreatitis and Chronic Pancreatitis. The usual features of Chronic Pancreatitis are constant pain in epigastric region, vomiting and increase of amylase and lipase three times greater than the upper limit. In present study, a clinical as well as conceptual co-relation with Chronic Pancreatitis has been made with the *Ayurvedic* way, where a new nomenclature *Tikshnoshna pitta* has been coined by Dr Pradyot Bikas Kar Mahapatra. *Guduchi* (*Tinospora cordifolia* Willd. Miers.ExHook.), *Yashtimadhu* (*Glycyrrhiza glabra* Linn.), a salt preparation *Narikela lavana* and *Sutashekhara rasa* (without gold) have been chosen to treat the established cases of Chronic Pancreatitis who were diagnosed and primarily managed by various eminent medical institutes all over India. *Guduchi* 2grams, *Yashtimadhu* 2grams, *Narikelalavana* 500mg and *Sutashekhara rasa* (without gold) 500mg twice daily have been introduced to every patient for 2 months. The effectiveness of the therapy has been found satisfactory and the improvements in clinical as well as laboratory findings are found statistically significant.

Keywords: *Guduchi*, *Yashtimadhu*, *Narikelalavana*, *Sutashekhara Rasa* (without gold), Chronic pancreatitis, *Tikshnoshnapitta*.

INTRODUCTION

Inflammation of the pancreas is known as pancreatitis. Pancreatitis is most often associated with recurrent gallstones or chronic al-

cohol use, although a variety of other causes, including mumps, measles, some medications, congenital conditions like alpha-1 antitrypsin

deficiency and even some scorpion stings may cause pancreatitis. Pancreatic inflammatory disease may be classified as Acute Pancreatitis and Chronic Pancreatitis. ⁽¹⁾ Globally, the incidence of acute pancreatitis is 5 to 35/100,000 new cases per year worldwide, with a mortality rate of about 3%. The incidence of chronic pancreatitis is 8.2 new cases per 100,000 per year and a prevalence of 26.4 cases per 100,000. ⁽²⁾

Pancreas is a digestive gland which performs a range of both endocrine and exocrine functions. In humans, it is located in the epigastrium and left hypochondrium. In adults, pancreas measures between 12 and 15 cm and is shaped as flattened tongue of tissue. ⁽³⁾ The endocrine part produces several important hormones, including insulin, glucagon, somatostatin and pancreatic polypeptide which are involved in the homeostasis of blood glucose and are also involved in the control of upper GI motility and function whereas, the exocrine part is responsible for digestion of carbohydrates, proteins and lipids. The major enzymes involved in the digestion of proteins are trypsinogen and chymotrypsinogen. Those involved in the digestion of fats are lipase and amylase.

Pancreatitis is classified as Chronic Pancreatitis, and any episode of acute pancreatitis is considered an exacerbation of inflammation superimposed on Chronic Pancreatitis. The symptoms are epigastric pain, consistent with the disease; a serum amylase, lipase greater than three times the upper limit of normal and radiological imaging consistent with the diagnosis usually using computed tomography (CT) or magnetic resonance imaging (MRI). Pancreatitis is classified as acute unless there are CT, MRI or Endoscopic retro-

grade cholangiopancreatography (ERCP) findings of chronic pancreatitis. ⁽⁴⁾ In Ayurveda, *Pitta* has been described as *Agni* or fire, as it performs actions similar to fire such as *pachana* (digestion), *dahana* (burning, combustion, oxidation), *parinama* (conversion), *paravritti* (transformation, mutation) *prakashana* (illumination, radiation), *ranjana* or *varnakaram* (coloration) *prabhakaram* (lustre) and *tapana* (heat production). ⁽⁵⁾ The physical qualities of *pitta* are *ishatsneha* (slightly viscous), *ushna* (hot), *tikshna* (sharp, penetrating or intense), *drava* (liquid), *amla* (when *vidagdha*, sour), *sara* (fluid) and *katu* (acrid). ⁽⁶⁾

A type of *pitta*, *Pachakapitta* may refer to the gastrointestinal hormones responsible for the excitation of *achhapitta* (which includes a wide variety of digestive secretions viz. bile, pancreatic juice and intestinal secretions). ⁽⁷⁾ Like *pitta* described in Ayurveda, the enzymes perform analogous functions viz. splitting or *sanghatabheda*, transforming or *parinama*, mutation or *paravritti*; oxidation or *dahana*, etc. Like *pitta*, enzymes are also present, universally and are built up by the body from appropriate substances derived from *aharadrayas* (nutrition). Thus, in *pitta* we have substances exactly similar to enzymes. ⁽⁸⁾

The features of chronic pancreatitis are similar to the features of *pitta* where *tikshna* and *ushna guna* of *pitta* are aggravated. Hence, this phenomenon may be called as *Tikshnoshna pitta* in Ayurveda. In OPD of IP-GAE&R at SVSP, Kolkata about 63 cases of chronic pancreatitis attended to take *Ayurvedic* remedy. Those patients who had come with the reports from different reputed hospitals like Asian Institute of Gastroenterology, Hyderabad; Christian Medical College, Vellore;

Apollo Hospitals, IPGME&R Hospital, Kolkata with the history of occasional severe epigastric pain, vomiting, nausea, flatulence, anorexia, along with laboratory findings like serum amylase, lipase of higher range i.e. more than three times of normal and in USG, CT, MRCP, features like bulky pancreas in size and shape with or without hyperechoic echotexture with or without dilated pancreatic duct with or without tiny calcific dots noted. Considering the signs and symptoms we have correlated the ailment with *Tikshnoshna pitta*.

Pitta may be called as a byproduct of *Teja* and *Apa mahabhuta*, which means there is maximum presence of *tapa* (heat). This heat originated through some gastro-intestinal secretion where pancreatic secretion is a component. It can be assumed that trypsin and chymotrypsin are the most heated and splitting substances which are liable of auto digestion, means destruction of pancreatic cells itself. So, this evidence shows a clear conclusion that pancreatic enzymes trypsin and chymotrypsin are *tikshna* (sharp) and *ushna* (hot). Hence, it may be called as *Tikshnoshna pitta* which is produced by ill and inflamed pancreas.

As *guduchi*, the best *Samshamaniya* (pacifying) drug mentioned by Sarangdhara, has properties *guru* and *snigdha*, *rasa tikta* and *kashaya*, *vipaka madhura* and possessing *ushna virya*. In such pharmacodynamic information being *ushna virya*, the only *ushna virya* which turns out to be a good *pitta shamaka* and *pitta saraka* (especially *aamashayagatavridhha pitta*).⁽⁹⁾ Likewise, *Yashtimadhu*, having the properties *guru* and *snigdha*, *rasa* and *vipaka madhura* and possessing *sheeta virya* and it acts as a *daha shamaka* (heat pacifier), *vedna sthapaka* (pain reliever).⁽¹⁰⁾ Both *guduchi* and *yashtimadhu* are said to be *Ra-*

sayana by our classics. The *ushna viryarsayana* and *sheeta viryarsayana* in combination may produce the equilibrium of *virya* followed by *dosha*. *Narikela lavana*, possesses *shulanaashaka* and *vata-pitta kapha shamaka* action.⁽¹¹⁾ *Sutashekhara rasa* (without gold) is a potent medicine for *pittaja* diseases.⁽¹²⁾ Also, it reduces the aggravated *vata*, so in chronic conditions it might have some role to reduce all sorts of irritability. So, conceptually these four agents have been chosen to treat the patients of pancreatitis because as it is similar to *tikshnoshna pitta*, so it could be treated by the aforesaid agents by the virtue of their *rasa*, *guna*, *virya*, *vipaka*, *karma* and *prabhava*.

AIMS AND OBJECTIVES

1. To establish and report an *Ayurvedic* nomenclature of chronic pancreatitis.
2. To report the achieved solution of *tikshnoshna pitta* (chronic pancreatitis) with *Ayurvedic* medicines.
3. To report the effectiveness as well as probable mode of action of *guduchi*, *yashtimadhu* and *narikelalavana* and *sutashekhara rasa* on *tikshnoshna pitta*.
4. To study the adverse effects, if any, of the drugs *guduchi*, *yashtimadhu*, *narikela lavana* and *sutashekhara rasa*.
5. To report the achieved non-toxic effect of the aforesaid drugs.

MATERIALS AND METHODS

The patients and recipes are the main materials of present clinical study. Total 28 established cases of chronic pancreatitis have been treated at the outpatient clinic of IPGME&R at SVSP Hospital, Kolkata. During selection of the patients following inclusion and exclusion criteria have been taken into consideration. Though there were about 63

patients who came to us for *Ayurvedic* management, yet 35 patients have been discarded on the basis of the following exclusion criteria:

EXCLUSION CRITERIA

1. Below 16 and above 65 years of age.
2. Having history of malignancy.
3. Gross pathology in the vital organs like heart and kidney.
4. Patient with stent, cyst, stone, etc. in pancreatic duct.
5. Those who are suffering from diabetes mellitus and hypertension.

INCLUSION CRITERIA

1. Within the age group of 16 to 65 years of age.
2. Having history of specific features during acute attack like pain abdomen, severe vomiting, loss of appetite, severe flatulence, etc.
3. Having history of recurrent occurrence and conservatively treated with IV medications and other anti- spasmotic drugs as well as PPI or H2 blockers.

4. Having history of serum amylase and lipase three times greater than upper normal limit.
5. Evidence or no evidence of pancreatic division and destruction of pancreatic duct through CT, MRI or FRCP
6. Those who have intended to go through the treatment protocol strictly.

DRUG AND DOSE SCHEDULE

1. *Guduchi churna* 2 grams + *yash-timadhuchurna* 2 grams, 1 dose twice daily before principal meals with plain water for 2 months.
2. Tab. *Narikela lavana* 250mg two tablet twice daily after principal meals with plain water.
3. *Sutashekhara Rasa* (without gold) 500mg twice daily morning and evening before food.

METHODS

The following scoring systems in relation to clinical findings have been taken into consideration:

Table 1: Criteria for assessment

Signs and Symptoms	Scoring			
	0	1	2	3
Frequency of Epigastric pain	No pain	Mild pain	Moderate pain	Severe pain
Frequency of Flatulence	No Flatulence	Mild	Moderate	Severe
Nausea- Vomiting	No	Only Nausea, No Vomiting	1-3 vomiting/day	>3 vomiting per day

ASSESSMENT CRITERIA

1. Relief in sign and symptoms.
2. Relief in pathological findings.

RESULT

The clinical findings as well as pathological findings before treatment after treatment have

been compared and assessment has been finally done through statistically analysis by student’s T test. The patients attended every week and clinically they have been monitored every week.

Table 2: Effect of treatment on clinical and pathological findings of chronic pancreatitis

Symptoms	BT mean	AT mean	Relief%	SD (±)	SE (±)	't' value	P value
Pain	1.714	0.167	90.25%	1.5	0.284	5.447	<0.001
Nausea-Vomiting	0.557	0.321	62.54%	0.73	0.138	3.88	<0.001
Flatulence	1.79	0.93	48.04%	1.134	0.214	4.02	<0.001
Serum Amylase	1369.7	154.6	88.7%	1686.6	318.8	3.8	<0.001
Serum Lipase	36916	3404	90.78%	1634.05	308.9	3.87	<0.001
Body weight	52.25	54.3	3.9%	2.71	0.51	4.02	<0.001

DISCUSSION

Pancreatic inflammatory disease may be classified as Acute Pancreatitis and Chronic Pancreatitis. Any episode of acute pancreatitis is considered as an exacerbation of inflammation superimposed on Chronic Pancreatitis. It is evident that the endocrine part of pancreas produces several important hormones including insulin, glucagon, somatostatin and pancreatic polypeptides which are involved in the homeostasis of blood glucose and are involved in the control of upper GI motility and function whereas, the exocrine part is responsible for digestion of carbohydrates, proteins and lipids. The major enzymes involved in the digestion of proteins are trypsinogen and chymotrypsinogen. Those involved in the digestion of fats are lipase and amylase. Epigastric pain, nausea-vomiting and flatulence are the usual clinical features. Striking pathological features are raised serum amylase and lipase greater than three times of the upper limit of the normal range. In *Ayurvedic* view, the *dosha pitta* may be called as a byproduct of *teja* and *apamahabhuta*, means there is maximum presence of *tapa* (heat). This heat originated through the same gastrointestinal tract where pancreatic secretion is a component. It can be assumed that trypsin and chymotrypsin are the most heating and splitting substances

which are liable of auto digestion means destruction of pancreatic cells itself. So, this evidence clearly shows a clear conclusion that pancreatic enzymes trypsin and chymotrypsin are *tikshna* (sharp) and *ushna* (hot). Hence, it may be called as *tikshnoshna pitta*, which is produced by the ill and inflamed pancreas. As in *Ayurveda*, the gastric secretion when becomes *vidagdha* rather called fermented and produces excessive sour, then the phenomenon *Amlapitta* occurs. Likewise, the symptoms which come through the influence of pancreatic enzymes trypsin and chymotrypsin reach with the property of *tikshna* and *ushna*, may be called as *tikshnoshna pitta*, as a disease entity. This concept has been supported by *Charaka* as he mentioned in his text that diseases are of innumerable of varieties depending upon their distinctive features like pain, color, etiology, site of origin, manifestation, symptoms and nomenclature.

In present study, 28 established cases of chronic pancreatitis, previously managed at different eminent hospitals of India have been treated at OPD of IPGAE&R at SVSP, Kolkata. The patients of 16-65 years of age without having any evidence of diabetes mellitus, hypertension, cyst, stone, stent or any gross pathology in heart or kidney intended to take *Ayurvedic* treatment. *Guduchi*, *Yashtimadhu*

2grams each, *Narikela lavana* 500mg twice a day and *Sutashekhar rasa* 500mg twice a day. After 2 months of administration of the aforesaid drugs, the clinical results have been assessed through clinical and pathological findings. It has been found that almost all the patients have not been admitted again to any of the hospitals for epigastric pain and vomiting, each and every patient have gained weight and their appetite has increased and they were fully satisfied with the therapy. Before and after therapy a scoring, system has been performed to establish the result of therapy over four major complaints- pain, nausea with vomiting, flatulence and weight loss. It has been found that pain reduced by 90.25%, nausea and vomiting reduced 62.5%, flatulence reduced by 48.05% and statistically the relief was found highly significant i.e. $P < 0.001$. Body weight was markedly increased by 3.9% and found statistically significant i.e. $P < 0.001$. Most important pathological findings i.e. serum amylase and lipase have been calculated and percentage of relief was found 88.7% and 90.78%, respectively. Statistically, both the findings were found highly significant i.e. $P < 0.001$. The above-mentioned success of therapy came due to the properties of *Yashtimadhu* and *Guduchi* which are pacifying *tikshna* and *ushna* property of *pitta* by *guru* and *snigdha* properties. Simultaneously, *yashtimadhu* and *guduchi* possessing the *viryash-eeta* and *ushna* respectively, virtually both the drugs are creating homeostasis or equilibrium of *doshas*. *Sutashekhar rasa* is a potent *pittanashaka*. Being a *rasa aushadhi*, it has shown its rapid action of *pitta nashana* in present study. As *narikela lavana* is *rochaka*, *pa-chaka*, *pitta nashaka* and *shula nashaka*, so it

has also worked along with the other three components of treatment. From these observations, it could be concluded that, treatment of chronic pancreatitis w.s.r *tikshnoshna pitta* could be treated with *Guduchi*, *Yashtimadhu*, *Sutashekhar rasa* in the dose of 2grams, 2grams, 500mg twice daily respectively before food along with *narikela lavana* 500mg twice daily after food. *Guduchi* being a potent immunomodulator and the best *Shamshamaniya* drug, it may have some role in avoiding the recurrence of such ailment. No notable adverse effect found during the therapy.

CONCLUSION

It can be concluded from the above study that chronic pancreatitis may be taken into consideration as *tikshnoshna pitta* as nomenclature in Ayurveda. The effectiveness of the four drugs viz. *Yashtimadhu*, *Guduchi*, *Narikela lavana* and *Sutashekhar rasa* is highly significant. Mode of application of *Yashtimadhu* 2grams, *Guduchi* 2grams twice daily before principal meals; *Narikela lavana* 500mg twice daily after meals and *Sutashekhar rasa* 500mg twice daily before food. This above-mentioned therapy was able to cure all sorts of clinical features and able to bring back the raised serum amylase and lipase within normal limits. No such adverse effects noted.

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