

EFFECT OF VARDHAMANA INDUKANTA GHRITA IN PARINAMASHULA (DUODENAL ULCER)

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(Received on 11.7.2006)

Parinamashula (Duodenal Ulcer) is characterized by specific type of pain at the time of disintegration of ingested food (2-4 hours after meals). It is a Tridosaja Vyadhi though the Pitta Dosa plays predominant role. The modern medical management often does not provide relief and patient may ultimately has to undergo surgery. Considering all these a clinical study was conducted at CRU (Ay.), Hyderabad to evaluate the efficacy of Vardhamana Indukanta ghrita on 29 cases of Parinamashula. Among the 29 cases, 16 cases got good response and 13 got fair response. Based on the statistical analysis highly significant ($P < 0.001$) relief were found in Pain in abdomen 2-4 hours after meals, Vomiting, Burning Sensation in Abdomen, Tenderness in Epigastrium,

Nausea, Acid Eruption, Flatulence, Indigestion & Constipation. Functional improvement was found in radiological tests and FTM study.

Introduction

The disease *Parinamashula* is characterized by specific type of pain at the time of disintegration of ingested food (2-4 hours after meals). The disease though not mentioned in ancient Ayurvedic literature, finds place in medieval Ayurvedic literature under the chapter *Shula*. It has been considered as a *Tridosaja Vyadhi* though the *Pitta Dosa* plays predominant role. The clinical description of *Parinamashula* is very close to the clinical picture of duodenal ulcer. The treatment of this disease in modern medical science is based on the use of

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drugs to reduce acid secretion and to neutralize excessive acidity and help healing of the ulcer. The medical management often does not provide relief and patient may ultimately has to undergo surgery.

There is immense potential to explore the alternate means of treatment. The Ayurvedic treatment is found quite efficacious in the management of this disease. The *Samana* and *Sodhana* therapies for this disease have been successfully tried under Council's research projections. Certain single herbals e.g. *Satavari*, *Varuna*, *Madhuyasti*, *Apamarga* and herbal combinations e.g. *Patoladi Kvatha* and *Yastimadhuadi Kvatha* have been found effective as *Samana* therapy along with certain dietary restrictions. In the present study *Indukanta ghrita* was administered in *vardhamana paddati* starting from 10 gms to evaluate the efficacy of the treatment.

Materials and Methods

1. Level of the Study : I P D / OPD Central Research Unit, Hyderabad during 1987-1990
2. Selection of drug : *Indukanta ghrita* in *Vardhamana paddhati* was selected for clinical trial by CCRAS.
3. Drug Review : *Indukanta ghrita* (Ref- Sahasrayoga) (Table No. I)

Probable mode of action of *Indukanta ghrita*

Main ingredients are *Putika* (*Puti Karanja*) seed, *Devadaru* bark and *Dasamulas*.

Puti Karnja is *katu tikta rasa pradhama dravya*. It is useful in Flatulence, dyspepsia, Fever, inflammations, ulcers / wounds etc.

According to Pharmacological activities it is antipyretic, anti inflammatory, antiviral and anti malarial.

Devadaru is also *tikta katu rasa pradhama dravya*. It is having *Vrana sodhan* (wound /ulcer cleaning), *Vrana ropan* (wound / ulcer healing), *Sothahar* (anti inflammatory), *Vedana sthapan* (pain killer).

Dasamula dravyas are having various actions. Among them some relevant actions are *Tridoshahar* (Normalises all *Tridoshas*), *Anaha Adhma har* (Anti flatulent), *Aruchi Agnimandhya har* (appetizer), *Sothahar* (Anti inflammatory) etc.

Ksheeram : *Vata pitta haram*, *Balyam* (strength promoting), *Rasayanam* (rejuvenator) etc.

Ghritam : *Vata pitta haram*, *Agnidipan* (appetizer) *Balyam* (strength promoting), *Rasayanam* (rejuvenator), *Shulahar* (removes the disease *Shula*), *Vrana har* (Heals Wound/ Ulcer) etc.

Prakshepa dravyas like *Pippali*, *Pippali mulam*, *Chavyam*, *Chitrakam*, *Nagaram*, *Yavakshara* are having *Dipana* *Pachana* *Anuloman* properties. These may

be useful in symptoms like Flatulence, Indigestion, and Constipation etc. *Pippali* and *Pippali Mula* are also having *Shoolahar* property.

All above drugs actions are in support of selection of this drug for the treatment of disease Parinamashula and its symptoms.

1. Drug, Dosage and other schedules:

Indukanta-ghrita was used in *Parinama Shula* (45 days treatment).

The *Ghrita* was administered orally as per the principles of *Vardhamana Paddhati*. Initially dose was started with 10 gm. (Table II).

Anupana :- Warm Milk was administered as *Anupana* for *Indukantaghrita* . All patients were also advised to take warm water after the *Ghrita Pana* at every half an hour for 3 hours.

3) Criteria for inclusion of study:

1. Age between 20-50 years
2. Pain in abdomen 2-4 hours after meal
3. Burning sensation in epigastric region
4. Acid eructation
5. Pain relieved after vomiting
6. Nausea
7. Tenderness in epigastric region
8. Barium-meal X-Ray showing ulcer
9. Endoscopic evidence of ulcer
10. Duration of disease between 6 months and 10 years

4) Criteria of Exclusion:

1. Age below 20 years and above 50 years
2. Pain due to gall bladder diseases
3. Pain due to renal, urethric calculi
4. Continuous pain due to other reasons specifically due to pancreatitis
5. Acute abdominal colics
6. Malignancy in any part of the body
7. Pyloric stenosis
8. Patient with Haematemesis or severe malena
9. Duration of disease below 6 months and above 10 years

5) Criteria for assessment of Results

Specific scores were given for each and every parameter and recorded initially and during subsequent assessments.

Basing on the individual score of each finding before and after treatments, the response of the treatment can be assessed. Over all effect of the treatment in each individual patient can be assessed by the below formula.

i.e. over all percentage of relief =
(Total score of all findings before treatment
– Total score of all findings after the treatment) X 100 / Total score of all findings before treatment.

Table I
Properties of Indukantaghrita ingredients

Sl. No.	Drug	Botanical name	Rasa	Guna	Veerya	Vipaka	Prabhav/Imp.Karma
1.	<i>Puti Karanja bija</i>	<i>Caesalpinia crista</i> (Linn.) (Merre) Linn.	Katu, Tikata	Laghu, Ruksha, Tiksna	Usna	Katu	<i>Sothahar, Vedanasthapan, dipan, pachan, Jvaraghna</i>
	<i>Puti Karanja</i>						
2.	<i>Devadaru bark</i>	<i>Cedrus deodara</i> (Roxeb) Loud.	Tikata, Katu	Laghu, Snigdha	Usna	Katu	<i>Vrana sodhan vrana ropan & sothahar</i>
3.	<i>Salaparni Mula</i>	<i>Desmodium gangeticum DC.</i>	Madhura, Tikta	Guru, Snigdha	Usna	Madhura	
18	4.	<i>Prusni Parni mula</i>	<i>Uraria picta</i> Desv	Madhura, Tikta	Laghu, Snigdha	Usna	Madhura
5.	<i>Brihati mula</i>	<i>Solanum indicam</i> Linn.	Katu Tikta	Laghu, Ruksa, Tiksana	Usna	Madhura	
6.	<i>Kantakari mula</i>	<i>Solanum xanthocarpum</i> Schradwendl	Tikta, Katu	Laghu, Ruksa, Tiksna	Usna	Katu	
7.	<i>Goksur mula</i>	<i>Tribulus terrestris</i> Linn.	Madhura	Guru Singdha	Sita	Madhura	<i>Tridosahar, Sothahar, Aruchi Anaha har</i>
8.	<i>Bilva mulatvak</i>	<i>Aegle marmelos</i> Corr.	Kashaya, Tikta	Ruksa, Laghu	Usna	Katu	
9.	<i>Syonaka mulatvak</i>	<i>Oroxylum indicum</i> Vent	Tikta, Kashaya	Laghu, Ruksa	Sita	Katu	

10.	<i>Sriparni mulatvak</i>	<i>Gmelina arborea</i> Vent	<i>Tikta, Kashaya</i> <i>Madhura</i>	<i>Guru</i>	<i>Usna</i>	<i>Katu</i>
11.	<i>Patata mulatvak</i>	<i>Setereospermum suaveolens DC.</i>	<i>Tikta, Kashaya</i>	<i>Lughu, Ruksa</i>	<i>Usna</i>	<i>Katu</i>
12.	<i>Agnimantha mulatvak</i>	<i>Premna integrifolia</i> Linn.	<i>Tikata, Katu</i> <i>Kasaya</i> <i>Madhura</i>	<i>Ruksam</i> <i>Laghu</i>	<i>Usna</i>	<i>Katu</i>
13.	<i>Goksiram</i>		<i>Madhura</i>	<i>Singdha Guru,</i> <i>kincit kleda</i>	<i>Sita</i>	<i>Madhura</i> <i>Vata pitta haram,</i> <i>Balyam, Rasayanam.</i>
14.	<i>Goghrutam</i>		<i>Madhura</i>	<i>Guru, Kleda,</i> <i>Singdha</i>	<i>Sita</i>	<i>Madhura</i> <i>Vata pitta</i> <i>haram, Agnidipan</i> <i>Balyam, Rasayanam</i> <i>Sulahar, Vrana har</i>

Prakshepa dravyas

15.	<i>Pippali</i>	<i>Piper Longam</i> Linn.	<i>Katu</i>	<i>Laghu, Snigdha,</i> <i>Tiksna</i>	<i>Anusna</i> <i>Sita</i>	<i>Madhura</i>
16.	<i>Pippali Mula</i>	Root of the <i>Piper Longam</i> Linn.	<i>Katu</i>	<i>Laghu, Ruksa</i>	<i>Usna</i>	<i>Katu</i>
17.	<i>Chavyam</i>	<i>Piper chaba</i> Hunter	<i>Katu</i>	<i>Laghu, Ruksa</i>	<i>Usna</i>	<i>Katu</i> <i>Dipan, Pachan,</i>
18.	<i>Citraka</i>	<i>Plumbogo Zeylanica</i> Linn.	<i>Katu</i>	<i>Laghu, Ruksa</i> <i>Tiksna</i>	<i>Usna</i>	<i>Katu</i> <i>Anuloman, Soolahar</i>
19.	<i>Sunthi</i>	<i>Zingiber officinale</i> Rose.	<i>Katu</i>	<i>Loghu, Snigdha</i>	<i>Usna</i>	<i>Madhura</i>
20.	<i>Yavaksara</i>	Impure carbonate of Potash of Potash	<i>Katu</i>	<i>Lahu, Snigdha</i>	<i>Usna</i>	<i>Katu</i>

Table II
Schedule of treatment of *Vardhamana Indukanta ghrita*

No. of days	A. Drug Therapy Medicine in gms.
1 st to 3 rd day	10 gms per day
4 th day	14 gms per day
5 th day	18 gms per day
6 th day	22 gms per day
7 th day	26 gms per day
8 th day	30 gms per day
9 th day	34 gms per day
10 th day	38 gms per day
11 th day	42 gms per day
12 th day	46 gms per day
13 th & 14 th day	50 gms per day
15 th & 16 th day	46 gms per day
17 th & 18 th day	42 gms per day
19 th & 20 th day	38 gms per day
21 st & 22nd day	34 gms per day
23rd & 24th day	30 gms per day
25th & 26th day	26 gms per day
27th & 28th day	22 gms per day
29th & 30th day	18 gms per day
31 st & 32nd day	14 gms per day
33 rd & 35th day	10 gms per day
36 th – 38 th day 9AM & PM	<i>Svedana karma(Nadi sveda)</i>
39 th day at bed time	<i>Virechana karma</i> (3 gm of <i>Trivrut Churna</i> with hot water at Bedtime on 39 th day).

B. SAMASARJANA KARMA

40th day	F.N & A.N	<i>Peyam 3 Annakalas</i>
41 st day	F.N	
41 st day	A.N	<i>Vilepi 3 Annakalas</i>
42 nd day	F.N & A.N	

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43 rd day	F.N & A.N	Akrutayusha 3 Annakalas
44 th day	F.N	
44 th day	A.N	Krutayusha 3 Annakalas
45 th day	F.N & A.N	

Table III
Demographic pattern of 29 Parinamashula Patients

Patients Particulars

Male: Female	23:6
Mean age in years	33.8
Mean disease duration in Days	1013

Table IV
Relief of treatment in various parameters

Sl. No	Parameters	Total score Before Treatment	Total score After Treatment	Percentage of relief
1.	Pain abdomen	435	75	82.76%
2.	Nausea	85	20	76.47%
3.	Vomiting	80	10	87.5%
4.	Burning sensation in abdomen	325	65	80%
5.	Acid eructation	150	40	73.33%
6.	Flatulence	80	25	68.75%
7.	Indigestion	130	45	62.96%
8.	Constipation	95	20	78.95%
9	Tenderness in Epigastrium	370	65	82.43%
10	Overall	1750	365	79.143%

Table V
Results of Patients

Drugs	Results of the treatment				Total
	Good Resp.	Fair Resp.	Poor Resp.	No Resp.	
<i>Indukanta ghrita</i>	16	13	0	0	29

Table VI
Effect of treatment on Pain abdomen [N=29]

Symptom	Mean grade score			S.D	S.E	t	P
	B.T	A.T	BT-AT				
Pain abdomen	15	2.586	12.414	± 2.54	0.472	26.29	<0.001

Table VII
Effect of treatment on Nausea [N=17]

Symptom	Mean grade score			S.D	S.E	t	P
	B.T	A.T	BT-AT				
Nausea	5	1.176	3.824	± 2.186	0.547	7.00	<0.001

Table VIII
Effect of treatment on Vomiting [N=16]

Symptom	Mean grade score			S.D	S.E	t	P
	B.T	A.T	BT-AT				
Vomiting	5	0.625	4.375	± 1.708	0.427	10.247	<0.001

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Table IX
Effect of treatment on Burning sensation in abdomen [N=25]

Symptom	Mean grade score			S.D	S.E	t	P
	B.T	A.T	BT-AT				
Burning sensation in abdomen	13	2.60	10.40	± 2.858	0.572	18.20	<0.001

Table X
Effect of treatment on Acid eructation [N=18]

Symptom	Mean grade score			S.D	S.E	t	P
	B.T	A.T	BT-AT				
Acid eructation	8.333	2.222	6.111	± 3.234	0.762	8.02	<0.001

Table XI
Effect of treatment on Flatulence [N=16]

Symptom	Mean grade score			S.D	S.E	t	P
	B.T	A.T	BT-AT				
Flatulence	5	1.56	3.44	± 2.394	0.598	5.74	<0.001

Table XII
Effect of treatment on Indigestion [N=26]

Symptom	Mean grade score			S.D	S.E	t	P
	B.T	A.T	BT-AT				
Indigestion	5	1.731	3.269	± 2.426	0.476	6.87	<0.001

Table XIII
Effect of treatment on Constipation [N=19]

Symptom	Mean grade score			S.D	S.E	t	P
	B.T	A.T	BT-AT				
Constipation	5	1.053	3.947	± 2.094	0.480	8.22	<0.001

Table XIV
Effect of treatment on Tenderness in epigastrium [N=29]

Symptom	Mean grade score			S.D	S.E	t	P
	B.T	A.T	BT-AT				
Tenderness in epigastrium	12.759	2.241	10.517	± 2.046	0.380	27.68	<0.001

Supportive Investigations

Table XV
F.T.M (Fraction Test Meal) changes before and after treatments

Sl.	Drug	Hyper to normal	Hyper to normal	Hyper to hyper	Hypo to hypo	Normal to hyper	Normal to Hyper	Total
1	<i>Indukanta ghrita</i> in <i>Vardhamana Paddhti</i>	12	6	4	2	2	2	1 29

Hyper to Normal means before treatment hyper reading and after treatment Nor-

mal reading. Remaining headings can be understood in the same way.

Table XVI
X-ray Barium meal findings before and after treatments

No. of Patients	Normal Duodenal bulb	Deformed Duodenal bulb & Duodenal ulcer	Partially changes in Duodenal bulb	Remarkable improvement	Total
BT- No of Patients	0	29	0	0	29
AT - No of Patients	16	1	9	3	29

Assessments of both subjective and objective parameters:

Pain in abdomen 2-4 hours after meals

G0 No Pain	- 0
G1 Mild pain	- 5
G2 Moderate pain	- 10
G3 Severe pain	- 15

II. Nausea

Present	- 5
Absent	- 0

III. Vomiting

Present	- 5
Absent	- 0

IV. Burning sensation in abdomen

G0 No burning sensation in abdomen	- 0
G1 Mild burning sensation	- 5
G2 Moderate burning sensation	- 10
G3 Severe burning sensation	- 15

V. Acid Eruption

No acid eruption	- 0
Mild acid eruption	- 5
Severe acid eruption	- 10

VI. Flatulence

Present	- 5
Absent	- 0

VII. Indigestion

Present	- 5
Absent	- 0

VIII. Constipation

Present	- 5
Absent	- 0

IX. Tenderness in epigastria

G0 No pain on palpitation	- 0
G1 Mild pain on palpitation	- 5
G2 Moderate pain on palpitation	- 10
G3 Severe pain on palpitation	- 15

Classification of the Results:

- i. Good Response: 75% or more relief in clinical symptomatology
- ii. Fair Response: 50% to 75% relief in symptomatology.
- iii. Poor Response: 25% to 50% relief in symptomatology.
- iv. No Response: Relief below 25% in symptomatology

OBSERVATIONS

Demographic pattern of 29 Parinamashula Patients (Table III)

Patients were selected in between the age of 20-50 years. Highest incidence of patients was observed in between the age of 41-50 years 14 (48.28%) patients.

Majority patients (13(44.82%)) were having 180-500 days duration of illness. In *Shareera Prakriti* (Body constitution) majority of patients were *Vatapitta* 16(55.17%) and *Pittakapha* 12(41.37%) in nature. Majority of patients *Manashika Prakriti* (Mental or Psychological constitution) is *Rajastamas* (13(44.82%) and *Satvatasmas* 10(34.48%). All the patients are having *Amla* (acidic) *Katu* (pungent) *bhojana*, *Vishamashana* (Irregular food timings) and *Anashana* (not taking food) food habits.

Results

Based on total score of each clinical finding before and after treatments more than 80% relief was found on Pain abdomen, Vomiting, Burning sensation in abdomen & Tenderness in Epigastrium. In Acid eructation 73.33%, in Flatulence 68.75%, in Indigestion 62.96%, in Constipation 78.95% relief was observed. Overall 79.143% relief was observed (Table IV). Among the 29 cases, 16 cases got good response and 13 got fair response (Table V). Based on the statistical analysis highly significant ($P < 0.001$) relief was found in Pain in Abdomen 2-4 hours after meals, Vomiting, Burning Sensation in Abdomen, Tenderness in Epigastrium, Nausea, Acid Eruption, Flatulence, and Indigestion & Constipation (Table XVI to Table XIV).

Functional improvement was found in radiological tests (X-ray Barium meal) and FTM study (Table XV and Table XVI).

Discussion

Based on *Parinamashula* symptoms of Ayurvedic literature it can be considered as Duodenal ulcer of Modern Medicine. *Indukantha ghritha*, a special *Ghee* preparation was administered in *Vardhamanapadhati*.

By the treatment overall 79% relief was observed in all clinical findings. Statistically the effect on all clinical findings was found highly significant ($P < 0.001$). Even after the treatment in majority

of patients Barium meal X-rays improvement in ulcer healing was found. In FTM study a significant improvement was also observed.

This effect can be supported by the properties of Ingredients in *Indukantha ghritha* like *Latakaranga*, *Devadaru*, *Dasamulas*, *Goksheera* and *Goghrita*. *Sothahar* (anti inflammatory), *Vranahar* (Heals Wound/ Ulcer) properties of *Latakaranja*; *Vrana sodhan* (wound/ulcer cleaning), *Vrana ropan* (wound / ulcer healing), *Sothahar*, *Vedana sthapan* (pain killer) properties of *Devadaru*; *Tridoshahar* (Normalizes all Tridoshas), *Anahaha Admana har* (Anti flatulent), *Aruchi Agnimandhya har* (appetizer), *Sothahar* properties of *Dasamulas*; *Vata pitta hara*, *Balyam* (strength promoting), *Rasayana* (rejuvenator) action of *Goksheera*; *Vata pitta haram*, *Agnidipan* (appetizer) *Balyam*, *Rasayanam*, *Shulahar* (removes the disease *Shula*), *Vrana har* action of *Goghrita* and *Dipana* (Appetizing), *Pachana* (Digestive), *Anulomana* (increases bowel's down word movement) properties of *Prakshepa-dravyas* supports the result of the Treatment.

Though initially some patients felt difficulty in consuming high quantity of *ghritha*, later by the effect of treatment voluntarily they completed treatment. A sense of well-being and improvement of health was also observed. It may be probably by the *Rasayana* effect of this medicated *ghritha*.

Conclusion

Though there are many Ayurvedic treatments for the disease *Parinamashula Indukantha ghrita* in *Vardhamanapaddhati* was found effective in all clinical signs and symptoms of the disease. The drug *Indukantha ghrita* has all potential

ingredients to provide relief for *Parinamashula* patients. The treatment schedule (*Vardhamanapaddhati*) has been designed scientifically to normalize the aggravated *Doshas*. Anyhow it can be concluded that further research can provide more benefits for *Parinamashula* (Duodenal ulcer) patients.

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सारांश

परिणामशूल (डियोडिनल अल्सर) में वर्धमान इन्दुकान्त घृत का प्रभाव

परिणामशूल व्याधि के लक्षण डियोडिनल अल्सर से मिलते हैं। इस पत्र में 29 रोगियों के ऊपर वर्धमान इन्दुकान्त घृत का प्रभाव के बारे में अध्ययन किया गया है। केन्द्रीय अनुसंधान एकक, हैदराबाद में किया गया इस अध्ययन में 16(55.17 प्रतिशत) रोगियों में पूर्ण लाभ एवं 13(44.83 प्रतिशत) रोगियों में आंशिक लाभ पाया गया है। चिकित्सा के पहले एवं चिकित्सा के बाद विभिन्न क्लीनिकल पैरामीटरों के तीव्रता के अनुसार स्कोरिंग दिया गया। इस चिकित्सा से पूरा क्लीनिकल पैरामीटरों में कुल मिला के 79.14 प्रतिशत आराम पाया गया है। सांख्यकीय विश्लेषण (स्टटिस्टिकल अनालसिस) से उदर दाह, उदरशूल, उत्केश, अम्लोदग्गार, छर्दि, आधमान इत्यादि सभी लक्षणों में चिकित्सा से अति महत्वपूर्ण प्रभाव ($p < 0.001$) पाया गया।