ABSTRACT: Twenty cases of parinamasula (duodenal ulcer) were selected for the clinical study. The patients were diagnosed on the basis of barium meal, X-ray and gastric analysis in addition to the clinical history and physical examination. All the cases were ulcer positive or with duodenal bulb deformity. Group A (15 cases) was having hyperchlorhydria and hyperacidity and group B (5 cases) was having normal gastric acidity. All the patients were given satawari tuberous root powder 20 gm/day in three divided doses with milk for one month and the results were assessed.

Introduction:

The type of pain which occurs during digestion at the sites—epigastrium (Kuksi), flank (Jathara Parsva), Nabhi (Umbilical region) stanantar (inter mammary region), prsth mula (back), Vasti (Hypogastrium) or pain on all the sites mentioned above, is called parinamasula according to madhava. It is also mentioned that the pain subsides after vomiting/meals or digestion and the pain aggravates during digestion of after taking food, in today’s science duodenal ulcer seems to be an exact clinical correlate for parinamasula, the signs and symptoms of parinamasula are not mentioned in caraka samhita susruta samhita astanga- Hridya and astanga samgraha.

Satawari Mandura is popularly used by ayurvedic physicians in the treatment of parinamasula. Satawari being madhura and Tikta Rasa, Madhura vipaka and sita virya obviously possesses pittahara action. Parinamasula is a disease with dominance of pitta dosa. Therefore satawari ahs beneficial effect as such, Alcoholic extract of the drug is well known for its galactogoue, mild cardiotonic, bronchodilator and anxiolytic activities.

Material and Method:

Radiologically confirmed 20 cases of duodenal ulcer were selected for the clinical study. In a few cases gastroscopy was also done. The hydrochloric acid values in these 20 patients showed two types of patterns, Group A comprised 15 cases who showed hyperacidity and Group B comprised 5 cases showing normal hydrochloric acid values.

1. The patients were of chronic –nature leading to duodenal bulb deformity.

2. The patients were examined clinically (pain and tenderness in epigastrium) with laboratory and radiological investigations so as to arrive at the diagnosis of parinamasula.
3. 20 gms of satawari (tuberous root) powder was given to each patient in three divided doses with milk for one month.

4. Both free hydrochloric acid and total acidity of gastric juice were estimated by fractional test Meal examination (Etherman Alcohol meal). The values were compared before and after treatment.

The response of the treatment was rated as excellent, good, poor or unchanged.

1. Improvement in signs and symptoms as well as significant reduction in acidity of gastric juice (acidity coming within normal limits) was termed excellent response.

2. Relief in signs and symptoms with reduction in acidity of gastric juice (not coming within normal limits) was categorised as good response.

3. Improvement in signs and symptoms or reduction in acidity of gastric juice was termed as poor response group.

4. No improvement at all was termed unchanged.

**Observation:**

Satawari causes a significant improvement in symptomatology of duodenal ulcer (Parinamasula) patients. The symptoms before and after one month of treatment with satawari (root powder 20 gm/day) are given below.

| S. No | Symptoms                  | Present before treatment | Improved after treatment | Improvement in % |
|-------|---------------------------|--------------------------|--------------------------|-----------------|
| 1.    | Epigastric pain           | 20                       | 17                       | 85              |
| 2.    | Burning sensation in epigastric region | 16              | 15                       | 63.7            |
| 3.    | Loss of appetite          | 10                       | 8                        | 80              |
| 4.    | Nausea                    | 8                        | 8                        | 100             |
| 5.    | Constipation              | 7                        | 5                        | 71.4            |
| 6.    | Flatulence                | 6                        | 6                        | 100             |
| 7.    | Vomiting                  | 6                        | 6                        | 100             |
| 8.    | Malena                    | 4                        | 3                        | 75              |
| 9.    | Mental symptoms           | 3                        | 1                        | 33.3            |
| 10.   | Loose motion              | 2                        | 2                        | 100             |

It was observed during the clinical trial that nausea and vomiting are relieved within 4 to 6 days of treatment, Burning sensation and pain in epigastric region were relieved within 10 to 15 days. Loss of appetite and flatulence were improved within 20 to 25 days.

(2) In 15 cases (Group A) total acidity was estimated before and after the treatment. A significant reduction in total acidity was observed as shown in the following table.
Values | SAMPLES
---|---
**Before treatment :**
Mean | 58.66 | 55.00 | 66.26 | 72.26 | 72.40 | 68.26
± S.D | 24.87 | 25.60 | 15.78 | 19.85 | 18.56 | 23.17
S.E | 6.42 | 6.61 | 4.07 | 5.12 | 4.12 | 5.98
**After treatment :**
Mean | 39.66 | 34.00 | 37.86 | 40.40 | 38.53 | 38.00
± S.D | 13.57 | 15.60 | 18.45 | 17.30 | 17.47 | 16.61
S.E | 3.50 | 4.02 | 4.76 | 4.46 | 4.51 | 4.29
**Comparison between before and after treatment:**
T | 2.58 | 2.70 | 4.55 | 4.69 | 5.17 | 4.11
P | <0.05 | <0.05 | <0.001 | <0.001 | <0.001 | <0.001

(3) free acidity decreased, after treatment for one month in 15 cases of duodenal ulcer (Group A) with Satawari.

*Mean value of free HCI at different stages (before and after treatment) in 15 cases of duodenal ulcer (Group A).*

| Values | SAMPLES |
|---|---|
| **Before treatment :** | | | | | |
| Mean | 44.40 | 44.00 | 56.13 | 62.80 | 59.73 | 53.46 |
| ± S.D | 23.66 | 29.70 | 16.23 | 19.44 | 16.30 | 21.95 |
| S.E | 6.11 | 7.67 | 4.18 | 5.02 | 4.14 | 5.66 |
| **After treatment :** | | | | | |
| Mean | 28.80 | 24.60 | 28.73 | 30.60 | 28.00 | 28.66 |
| ± S.D | 15.24 | 16.89 | 18.29 | 15.11 | 17.72 | 16.25 |
| S.E | 3.93 | 4.36 | 4.72 | 3.90 | 4.57 | 4.20 |
| **Comparison between before and after treatment:** | | | | | |
| T | 2.13 | 2.20 | 4.33 | 5.09 | 5.15 | 3.50 |
| P | <0.05 | <0.05 | <0.001 | <0.001 | <0.001 | <0.05 |

(4) Effect of satawari treatment on ESR in 20 cases of Parinamasula.

ESR decreased in 20 cases, after treatment for one month. Before treatment, mean value of E.S.R was 23.15 ± 9.73 which came to 13.25 ± 4.78 after treatment for one month showing positive results (Highly Significant).

Out of 20 cases, the highest number of patients i.e 50% showed excellent response and minimum number of patients i.e 5% remained unchanged. 30% showed good response and 15% showed poor response.
Table: Total response of satawari in 20 cases of parinamasula

| Response | No. of Patients | Percentage |
|----------|----------------|------------|
| Excellent | 10             | 50.0       |
| Good     | 6              | 30.0       |
| Poor     | 3              | 15.0       |
| Unchanged| 1              | 5.0        |
| Total    | 20             | 100.0      |

Summary and conclusion:

1. Parinamasula an duodenal ulcer are clinically similar entities.
2. Treatment with satawari (root powder) shows symptomatic improvement in patients of parinamasula.
3. Satawari is effective in reducing total acids and free hydrochloric acid of gastric juice to significant level.
4. In chronic cases of parinamasula satawari reduced E.S.R significantly.
5. Satawari was found to exhibit excellent response in 50% cases of parinamasula and good response in 30% cases of the same.

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