the time required for tissue deposition rather than metabolism.

The results obtained with the anesthetized dog indicate that reserpine causes a stimulation of the small intestine after both cervical vagotomy and transabdominal vagotomy which usually occurs before a marked fall in blood pressure ensues. This indicates that in the range of doses employed in these studies a stimulation of the small intestine by reserpine does not require a complete parasympathetic nervous pathway between the central nervous system and the periphery.

In order to assess the role that decreased sympathetic tone induced by reserpine might play in increasing the activity of the gastrointestinal tract, anesthetized dogs were subjected to transection of the cord at C-6, as well as to cervical vagotomy. With this preparation, in which the effect of sympathetic tone has been removed, reserpine in an intravenous dose of 1 mgm./kgm. also caused a stimulation of the small intestine which was markedly decreased by 2 mgm./kgm. of the ganglionic blocking agent, hexamethonium, given intravenously. These experimental results appear to indicate that it is not the decreased central sympathetic predominance alone occurring after reserpine which is responsible for the stimulation of the gastrointestinal tract, but rather that reserpine has, in addition, a more peripheral stimulatory action. The inhibition of reserpine-induced stimulation by hexamethonium, a ganglionic blocking agent, or by Antrenyl, an anticholinergic agent, suggests that this peripheral site of stimulation may be located within the parasympathetic ganglia, although there exists the possibility of an action on the sympathetic system at a level below the cord transection. The only reported action of reserpine on the cord has been one of facilitation of somatic reflex activity by Schneider (9). A stimulation of this region, therefore, would be expected to cause inhibition rather than the observed stimulation of the intestine.

**Summary**

1. Studies have been designed to determine the cause of the increased motor activity of the intestine caused by reserpine in animals. When reserpine was tested on the isolated ileum of various species of animals, it was found to possess moderate anticholinergic activity and some direct relaxant activity. Cholinergic-like or stimulatory effects were completely absent. Essentially the same results were obtained with the isolated colon of the various species.

2. In the anesthetized dog, on the other hand, with or without cervical vagotomy, reserpine elicited a stimulation of the small intestine. In dogs with a cervical vagotomy, hexamethonium in an intravenous dose of 2 mgm./kgm. decreased the stimulation evoked by reserpine.

3. In the anesthetized dog subjected to both a transection of the spinal cord at C-6 and a cervical vagotomy, reserpine caused a stimulation of the small intestine which was largely inhibited by the administration of hexamethonium in a dose of 2 mgm./kgm. intravenously.

4. A mechanism has been suggested to explain the stimulation of the small intestine evoked by reserpine; an action on the parasympathetic ganglia which augments the effect of a reduced central sympathetic inhibitory influence. Increased intestinal and colonic activity is the most likely cause of the diarrhea caused by reserpine in certain animals.

**References**


**TREVIDAL, A NEW ANTACID COMPOSITION**

**Theodore M. Feinblatt, M. D., Henry M. Feinblatt, M. D., F. A. C. P. and Edgar A. Ferguson, Jr., C. R. T. New York, N. Y.**

**Remedies for ulcer and ulcer-like syndrome fall into the categories of:**

1. Antacid,
2. Antispasmodics, (1)
3. Ganglionic blocking agents,

The oldest and safest is the antacid. While many of the other modalities have received a great deal of scientific attention, the fact remains that antacids have enjoyed a wider spread and more common usage than any other method of treatment. This is by reason of their popular use and because antacids are most often used as an initial treatment. No matter how severe the syndrome may be the antacid should usually be tried first. The reason for this is:

1. Safety.

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(2) effectivity over a wide range of conditions,
(3) it is one of the simplest remedies for pain caused by irritation from hyperacidity,
(4) the rapid demonstration of effectiveness pleases the patient and aids in diagnosis.

All treatments now recommended for ulcer and ulcer-like syndromes are symptomatic. It can be shown that whether one uses the antacid, the antispasmodic, (1) the ganglionic blocking agent, or surgery the cause of the condition is not being treated. Each of these methods treat some one outstanding feature of the ulcer syndrome. More fundamental medications, looking toward the cause of the difficulty, take too much time to accomplish the necessary relief from discomfort and pain. Should the origin of the dyscrasia be psychosomatic (2,3) causes, it is necessary to give symptomatic treatment while attempting to re-educate the psyche. Should there be vasomotor imbalance resulting in the phenomena of vague abdominal and gastric distress, long term treatments with sympathomimetic (4) drugs sometimes result in more permanent correction. However, during treatment it is necessary to alleviate symptoms. Should the cause be basically one of arteriosclerotic vascular change (5) it is obvious that long term treatment is most necessary (6).

Treatment of the main causes of ulcer or ulcer-like syndrome directed toward 1) psychic, 2) vasomotor, or 3) vascular rationale has not been signally successful, and each requires long term treatment and a high degree of patient cooperation.

The physician is then left with the great common denominator of treatment for ulcer and ulcer-like syndrome, the antacid. The fact that this remedy is also popular for self-treatment in no way detracts from its importance. While scientific works tend to stress antispasmodics, ganglionic blocking agents, and surgery, because these are of more dramatic interest, the great number of simpler cases must not be overlooked, left to self-treatment (7), nor overtreated.

A new and highly efficient antacid composition has been developed which consists of, in combination, magnesium trisilicate (150 mg.), aluminum hydroxide gel, dried (90 mg.), calcium carbonate (105 mg.), magnesium carbonate (60 mg.), together with a special protein binder derived from oats, and a vegetable gum. The dose is 4 to 12 tablets per day. In our groups 4 tablets were given three times per day.

Out of a group of one-hundred cases forty were selected for exhaustive study of symptomatology before and after treatment. X-ray examination was made before and after treatment where indicated and searching history was elicited from each patient. There were 2 groups. In one group the average age was 42.6 years; and in the other 52.1 years. The average weight of one group was 138.2 pounds; and the other, 160.4 pounds. The number of males and females was approximately equal.

The procedure used included an evaluation of the degree of pain and epigastric distress, the degree of abdominal pain and discomfort, the amount of belching, flatulence, and nausea. A note was made of the degree of flatulence (1), nausea, and the degree of appetite. In addition the number of bowel movements per day (8), before and after treatment, was tabulated. The average patient had complaints which dated back at least 2 years. All the cases had an ulcer-like syndrome which was associated with acute gastritis in many cases. There were a few showing spastic colon, irritable bowel, or hypermotility. In about 25% of the group duodenal ulcer could be proved by x-ray examination. Colitis, visceroptosis, and diverticulitis were associated complaints in a minor number of patients.

A rating scale was made and utilized before and after treatment in each case. The rating scale was as follows:

0 — Symptom not present
1 — Symptom present
2 — Interfered with work and sleep
3 — Extreme discomfort or pain

The epigastric pain was present to a point where it had begun to interfere with work and sleep, approximately 1.5 clinical units. After treatment with Trevidal this degree of pain was greatly reduced to approximately one-half of this rating; 0.8 clinical units. This relief of pain was the cardinal point in the success of Trevidal treatment.

Epigastric distress was evaluated at about 2 clinical units showing that in most cases it interfered with work and sleep. After treatment with Trevidal epigastric distress was reduced to approximately 1, that is, to a point where it was present but did not interfere with work and sleep.

The same rating scale was used for abdominal discomfort and abdominal pain. The abdominal discomfort averaged about one and one-half clinical units, that is, a significant degree of discomfort. This was reduced to about one-half its intensity after treatment with Trevidal.

A similar reaction was shown to pain which averaged about 0.7 clinical units but was reduced to a very low point after treatment with Trevidal. This reaction to abdominal pain after treatment with Trevidal confirms the relief of pain by antacid treatment. In many cases which do not need the additional treatment with antispasmodics, ganglionic blocking agents, or surgery, the antacid constituted the complete treatment.

The degree of belching and flatulence was significantly reduced. Nausea and appetite were also significantly aided by treatment with Trevidal.

The number of bowel movements per day was reduced in cases of hypermotility of the bowel.

In summary it is shown that the major measurable symptoms of the syndrome of ulcer and ulcer-like conditions are the following:

Epigastric distress and epigastric pain
Abdominal discomfort and abdominal pain