San Fernando Valley State College

DIETARY INFLUENCE ON GASTRIC ULCERS

A thesis submitted in partial satisfaction of the requirements for the degree of Master of Science in Home Economics

by

Angela Mary Lundequist

June, 1971
The thesis of Angela Mary Lundquist is approved:

Committee Chairman

San Fernando Valley State College
June, 1971
Dedicated to my partner in life,
James R. Wilkinson, and to my son,
John Mark Wilkinson, whose support
has made my educational experience
possible and whose guidance and en-
couragement have energized my efforts.

A special dedication, in memoriam, to
Dr. George Wharton, whose friendship
and professional guidance abetted the
initiation of this study. He is missed.
ACKNOWLEDGEMENTS

I wish to express my appreciation to the members of the thesis committee, Mrs. Christine Smith, Chairman; Dr. Marjory Joseph; and Mrs. Lillie Grossman, for their time and guidance.

Also, my thanks are due to Dr. Jon Isenberg for his assistance, guidance, and professional involvement, which made possible the study for this thesis.

A special acknowledgement is extended to Miss Jean E. Sturdevant, Chief, Dietetic Service, Wadsworth V.A. Hospital, for giving me the opportunity to conduct this study.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>vi</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of Problem</td>
<td>2</td>
</tr>
<tr>
<td>Purpose</td>
<td>3</td>
</tr>
<tr>
<td>Hypothesis to be tested</td>
<td>3</td>
</tr>
<tr>
<td>Assumptions</td>
<td>3</td>
</tr>
<tr>
<td>Limitations</td>
<td>3</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>4</td>
</tr>
<tr>
<td>Illustrations:</td>
<td></td>
</tr>
<tr>
<td>Figure 1.--Normal stomach and duodenum</td>
<td>7</td>
</tr>
<tr>
<td>Figure 2.--Common ulcer sites in the stomach and in the duodenum</td>
<td>7</td>
</tr>
<tr>
<td>II. REVIEW OF LITERATURE</td>
<td>8</td>
</tr>
<tr>
<td>III. PROCEDURE</td>
<td>27</td>
</tr>
<tr>
<td>IV. RESULTS AND DISCUSSION</td>
<td>29</td>
</tr>
<tr>
<td>V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS</td>
<td>53</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>57</td>
</tr>
</tbody>
</table>
ABSTRACT

DIETARY INFLUENCE ON GASTRIC ULCERS

by

Angela Mary Lundequist

Master of Science in Home Economics

June, 1971

The dietary management of peptic ulcers has become a subject of controversy. For the past 100 years, the basic treatment of peptic ulcer has consisted of food restrictions. Today, with a few exceptions, gastroenterologists concur with the written comments of the Council on Foods and Nutrition of the American Medical Association: "All the elaborate food lists used today for treating gastrointestinal disorders must be regarded as based on unverified impressions and traditional lore" (37:940). Opinions still vary as to what role diet should play in the treatment of the usual patient with peptic ulcer.

It was the purpose of this study to present some of the facts appearing in the medical literature and to give the results of a limited controlled study conducted in a Veterans Administration Hospital with gastric ulcer patients.

Regular or bland diets were randomly prescribed for a total of seven patients who remained in the hospital for a minimum of two weeks. Clinical and radiographic evidence indicated that
diet per se does not have material effect either in the length of time required to heal the ulcer or in the reduction of symptoms.
CHAPTER I

INTRODUCTION

The therapeutic value of the bland diet in treating uncomplicated peptic ulcers has, in recent years, been viewed with marked skepticism. The presence of ulcer deformities or scars in the stomach and duodenal bulb on routine X-ray examination, at operation or autopsy, in patients without previously suspected ulcer has encouraged the attitude that, since some ulcers apparently heal without treatment, therapy is unnecessary (16:423). Thus, it is not surprising to conclude that the efficacy of diet therapy for treatment of peptic ulcer is far from established.

Gastroenterologists do not agree on the dietary program concerning peptic ulcers. Some physicians use a strict diet, others a moderate one, while still others allow patients to select their own food. Reasons for such a wide variation in use of diets for this disease are many. There are few scientific data for prescribing food, while many dogmas and myths have developed in connection with peptic ulcer disease. Furthermore, there is always the question of whether or not a patient will follow a prescribed diet. This possibility has often discouraged physicians from ever relying on diet therapy (23:5).
Statement of Problem

The writer is a registered dietitian working in the setting of a nutrition clinic at the Veterans Administration Hospital, Los Angeles. In this capacity, experience of participating with the various medical teams has brought to light the realization that many patients who have ulcers or other illness relating to gastrointestinal conditions frequently find themselves in conflict with the prescribed dietary regimen they are given and a dietary regimen compatible with their requirements and/or ethnic origin.

The objective of the medical team is to prescribe treatment that will relieve pain, heal the ulcer, and prevent recurrences and complications. Therapy involves not only the treatment per se, but also the physician, the patient, and the ulcer. Non-cooperation by the patient because of lack of understanding of the problem, an inadequate patient-physician relationship, or emotional difficulties, may result in discontinuation of otherwise possibly effective therapy (14:1047).

The dietitian is often privileged to arbitrate the difference between a prescribed strict bland diet and a dietary program that is modified to a point where the patient will accept it and hopefully benefit from it. Inasmuch as the management of peptic ulcers is primarily medical, the dietary programs prescribed often are unnecessary. Patients who have, for a number of years, followed a bland diet because they once had an ulcer, find that they develop a guilt complex when they eat foods not
consistent with the prescribed bland diet. Thus, the question to resolve is dietary. This study seeks the answer to whether a bland diet is to be prescribed or proscribed.

**Purpose**

The purpose of this study is twofold:

1. To investigate some medical rationale to the effect that an active gastric ulcer can be healed in sixty days.
2. To compare and evaluate the effect of regular versus bland diets on gastric ulcers, their pain, and their rates of healing in hospitalized patients.

**Hypothesis to be tested**

The hypothesis may be stated:

An active gastric ulcer can be healed in sixty days without food restrictions excepting alcohol.

**Assumptions**

Two assumptions have been used by the author in the formation of this study:

The first being that the proposed and accepted method of study was feasible and that an adequate sample was available.

The second assumption was that medical interns would concede to the author the prerogative of prescribing or proscribing antacids.

**Limitations**

Time and the number of patients suitable for the research
placed limitations upon the study. A period of ninety days was the time planned in which to obtain the desired number of hospitalized patients diagnosed as having gastric ulcers. Two drastic limiting factors were realized within the first thirty days of the study. First, it was recognized that there are relatively few patients who present definitely diagnosed gastric ulcers. Most ulcer cases are diagnosed as duodenal. Secondly, some medical interns who were involved with the patients in the study refused to eliminate the administration of antacids to some of their patients.

Definition of Terms

Angulus.--A general term for designating angulations of particular body structures or parts—referring, in this text, to a point on the lesser curvature of the stomach.

Antrum.--An anatomical cavity or chamber. The ejectory chamber of the stomach.

Colitis.--Inflammation of the colon (that section of the large intestine which extends from the cecum to the rectum).

Diet, bland.--One which provides easily digested foods and a liberal amount of milk. It eliminates foods that contain raw cellulose and tough fibers, both raw and cooked. Strongly flavored vegetables and substances which may be gas-forming are avoided. Highly seasoned foods, and those that stimulate gastric secretions, or that delay digestion, are omitted.
Diet, regular.--One that will, by example, help to form better
food habits. A regular diet does not restrict any
nourishment, seasoning, or method of preparation.

Diet, soft.--A diet in which the food served is soft and easily
digested: free from tough particles and coarse fi-
bers; free from seasonings and stimulants such as
coffee and broth. Small amounts of pureed vegeta-
bles and strained fruit juices are allowed. Because
the meals are small, six feedings with vitamin sup-
plements are provided in the diet.

Diverticulitis.--Inflammation of any diverticulum, generally
taken to be in the colon unless otherwise specified.

Diverticulum.--A circumscribed pouch or sac of variable size
created by herniation of the lining mucous membrane
through a defect in the muscular coat of a tubular
organ.

Endoscope.--An instrument for the examination of the interior of
any large, hollow interior body organ, especially in
the abdomen.

Epigastric.--Pertaining to the epigastrium, the upper middle
region of the abdomen.

Gastroscopy.--Inspection of the interior of the stomach by means
of an endoscope passed through the mouth.

G.I.--Abbreviation for gastrointestinal in this text.

Hemigastrectomy.--Excision of one half of the stomach.

Incisura.--A cut, notch, or incision; used in anatomical nomen-
Clature as a general term to indicate an indentation or depression.

Laennec's cirrhosis.--Atrophic disease of the liver. A form of cirrhosis in which the liver becomes fibrotic, tawny in color, and smaller than normal.

Peptic esophagitis.--Inflammation of the esophagus caused by a backward flow of acid and pepsin from the stomach.

Psychogenic.--Having an emotional or psychologic origin.

Pylorus.--The distal aperture of the stomach through which the stomach contents pass into the duodenum.

Relaxants.--Chemical agents that lessen tensions.

Secretogogues.--Agents which stimulate the secreting organs.

Ulcer, duodenal.--An ulcer resembling gastric ulcer but situated in the duodenum.

Ulcer, gastric.--An ulceration of the mucous lining of the stomach.

Ulcer, peptic.--An ulceration of the mucous membrane of the lower esophagus, stomach, or duodenum.

Upper G.I. series.--As routinely done for hospitalized patients when mentioned in this text; it includes:

1. Ingestion of barium sulfate (contrast medium).
2. Fluoroscopy and radiography of the stomach following such ingestion.
Esophagus enters stomach from above and carries food from mouth.

The acid and pepsin of the cells secreted here.

Food receives bile from liver and pancreatic juice from pancreas (and is thus made alkaline) with which to carry on digestion in intestine.

Muscular action churns the mass of food and blends it with secretions.

Contractile waves push already digesting food through relaxed pylorus into duodenum.

Fig. 1.—Normal stomach and duodenum.

D = Duodenal ulcer sites.
G = Usual gastric ulcer sites.

Fig. 2.—Common ulcer sites in the stomach and in the duodenum.
CHAPTER II

REVIEW OF LITERATURE

There have been more superstitions and half-truths related to food and digestion than to almost any other function of the human body. Nevertheless, more has been learned about food and nutrition in the last fifty years than ever before. Some of the circulated misconceptions have been shown to have a factual basis with each not just based on the will to believe.

Observations in the laboratory and at the bedside have demonstrated that anger or mental distress can cause loss of appetite and other digestive symptoms (7:95). Thus, many gastrointestinal symptoms can be ascribed to tension, to anxieties, and to pressures originating at home or at work. Sometimes a vacation, reassurance, or mild sedation will relieve this type of gastrointestinal difficulty and modification of food intake is neither indicated nor necessary. Allergists often assert that people are sensitive to certain foods and that this sensitivity is manifested by digestive symptoms.

Medical experience has indicated that some foods may indeed irritate the digestive tract. The irritable digestive tract probably is the most common gastrointestinal disorder for which bland diets are prescribed; and, gas, abdominal discomfort, constipation, or diarrhea may be relieved when raw fruits and vegetables, fruit juices, and highly spiced foods are eliminated.
from the diet, even temporarily. Similar types of diets may be helpful also in the management of inflammatory bowel disease such as ulcerative colitis or diverticulitis. The elimination of milk sugar (lactose) will relieve the flatulence and diarrhea in people with a deficiency of the enzyme lactase (10:50).

In peptic ulcer the frequent intake of soft or bland foods is a useful adjunct in the control of the stomach's acid secretion. Scientifically, physicians often list the irritating factors as mechanical (fibers and roughage); chemical (as vinegar, horseradish, pepper, mustard, pickles, spices and other condiments); and thermal (excessively hot or cold temperatures). Fried foods, greasy foods, and hot breads may produce difficulties for persons with weak stomachs or irritable digestive tracts. Some people complain of gaseous discomfort every time they eat beans, cabbage, onions, green or red peppers, cucumbers, or peanuts and such individuals express relief when these foods are omitted (5:162, 163, 170).

Beliefs of patients that specific foods cause gastrointestinal symptoms are difficult to interpret and concepts based upon such incriminations are likely to impair rather than increase understanding of the role of diet in gastrointestinal disease. For anyone, the ingestion of a certain food may have powerful and complex meanings. Individual reactions to any food can be influenced by previous pleasant or unpleasant personal associations, as well as by religious, ethnic, or familial practices and preferences, and taboos concerned with foods in any
way. The not unnatural consequences of eating such as belching, flatulence, and bloating result in a tendency to associate in various ways the ingestion of certain foods with the function of the digestive organs. This tendency may readily be extended to include incriminations of specific foods in the genesis of gastrointestinal dysfunction (9:19).

History of dietary treatment for peptic ulcer

The bland diet for the treatment of peptic ulcer is hallowed by tradition and the concept upon which it is based has deep roots in medical history. As early as the first century A.D., Celsus prescribed a smooth diet, free of acrid foods, at a time when little was known about disease of the stomach, and, in the seventh century A.D. practitioners believed in the healing properties of milk when taken by patients whose digestive symptoms, as then described, suggested the likely possibility of peptic ulcer (33:1068).

It seems that Christopher R. Pemberton was among the first to propose the principles of the medical treatment of peptic ulcer that are adhered to at present. He obtained considerable symptomatic information and observed that certain patients had increased pain in their abdomen when their stomachs were empty. Though he did not recognize the existence of peptic ulcer, he believed that altered stomach secretions irritated the nerves of the stomach thus causing pain, and that food and certain alkaline drugs were capable of counteracting this altered
secretion and thus relieving the pain (33:1068).

During the succeeding years the disease of peptic ulcer became established as a pathological and clinical entity. Jean Cruveilhier (33:1068), in 1856, is believed to be the first to emphasize the value of the so-called milk diet. The liberal and frequent feedings for peptic ulcer that were advocated by the early nineteenth century physicians were later replaced by a different plan based upon the belief that the stomach needed complete rest when there is an ulcer; and that complete rest is attained only when the stomach is empty.

This notion was championed by many practitioners in Europe but it was Einhorn who introduced the plan into the United States. In 1904 Herman Lenhardt objected to the rest theory and urged early feeding of peptic ulcer patients. Lenhardt's contemporaries did not accept his principles (33:1069). It remained for Bertram Sippy (6:500), in 1915, to break the common practice of initial starvation treatment and establish the beginning principle of continuous control of gastric acidity through diet and alkaline medication. However, his rigidly outlined program of milk and cream feedings with slow additions of single soft food items over a prolonged period of time allowed little variation for individual need or nutritional adequacy. Some increase in diet was made in 1935 by a Danish physician, Meulengracht (24: 1220), who introduced a more liberal approach in feeding peptic ulcer patients especially as treatment for hemorrhage. Years later Franz J. Ingelfinger termed Meulengracht's dietotherapy
as inconsistent and fraught with ludicrous consequences. Meulengracht advocated a relatively liberal diet for the patient with a bleeding ulcer. As a result, the patient with a duodenal ulcer that happened to be bleeding was fed lamb chops, potatoes, and stewed apricots; but the patient who had an acute ulcer, similar in all respects except that it was not bleeding, was fed milk, custard, farina, and eggs (2:173, 174).

The main value ascribed to the rigid traditional regimen advocated by Sippy and Meulengracht was that they established the important acid-neutralizing principle of frequent feedings. In effect, this factor is responsible for the entrenchment of the severe restrictions which have been imposed upon the conservative dietary programs in common practice today (6:503).

Physiological and dietary considerations

The gastrointestinal tract is a sensitive mirror of the individual human condition. Its physiological functioning reflects both physical and psychological conditioning. In adapting diet therapy for patients with gastrointestinal disorders, the clinician is dealing not so much with a specific food item per se as with the state of the body that receives it. There is far more truth than mere humor to the statement: Surrounding every stomach there is a person.

Diet therapy for various gastrointestinal disorders may be determined by a consideration of four basic factors as stated by Williams. Three of these factors are physiological:
The secretory functions which provide the necessary environment and agents for chemical digestion; the neuromuscular functions which provide the necessary motility for mechanical digestion and move the food mass along; the absorptive functions which enable the end products of digestion (the nutrients) to enter the body's circulation and nourish the cells.

The fourth factor affects each of the others. It is the psychologic influence. The individual's particular emotional make-up and his manner of dealing with life's day-to-day problems and challenges will often be reflected in the functions of his digestive tract. Here again, it is not what he eats, it's what is eating him that is important (6:499).

**Peptic ulcer**

The term gastric ulcer denotes an eroded lesion in the stomach, usually occurring along the lesser curvature or near the pylorus. A duodenal ulcer is a similar lesion found in the duodenal bulb where the gastric contents empty into the duodenum through the pyloric valve and are most concentrated. The term "peptic ulcer" means either a gastric or duodenal ulcer.

The fundamental cause of peptic ulcer is not clear. Two important factors seem to be involved: (1) Most patients are found to have a marked increase in acid secretions. (2) The degree of tissue resistance to withstand the digestive action of these secretions is questioned. In the development of gastric ulcers, although the presence of acid is essential, the degree of tissue sensitivity seems to be a very important factor. It is thought that the high acid secretion is responsible for the breakdown of some pinpoint in the mucosal wall with a resultant eating away of the surrounding tissue and the formation of a crater. Ulcers seem to occur only in areas which come in contact with hydrochloric acid—the stomach, the duodenum, and the lowest sec-
What causes the increase in the secretion of hydrochloric acid is not known. However, it has been observed that the development of an ulcer seems to be related to emotional and other types of stress. Peptic ulcer has sometimes been called the "executives' disease" because it occurs frequently in men whose position in our competitive society subjects them to increased pressures for achievement.

Wolf and Wolff (38:670)(25:625) reported their observations of the gastric mucosa in a patient with a gastric fistula. They found that emotional conflict involving anxiety, hostility, and resentment was accompanied by increased acid secretion, hypermotility, and engorgement of the gastric mucosa. They are of the opinion that anxiety and conflict stimulates overactivity of the stomach which may produce hemorrhage or perforation, however slight, which can become a peptic ulcer.

Symptoms

Increased gastric tone and painful contractions from two to three hours after meals is the main symptom of peptic ulcer. It is usually a burning or gnawing type of pain which is relieved by food or alkalies such as sodium bicarbonate or other antacids.

The diagnosis of ulcer is commonly made by a gastric analysis and by fluoroscopy and radiography findings. Hyperacidity and hypersecretion of gastric juice are usually found in examination of the stomach contents, and the ulcer crater is often plainly visible on the roentgenogram. The pain complained
of by the peptic ulcer patient, when the stomach is empty, is due to the action of the highly acid gastric juice on the open lesion when no food is present to dilute and neutralize the juice. Nutritional deficiencies may be evidenced by low plasma protein levels, anemia, and loss of weight. Hemorrhage may be the first sign of the ulcer in some patients (3,892,893).

Diet therapy

The medical treatment of peptic ulcer consists basically of the neutralization of hydrochloric acid to free the affected area from irritation and to promote healing. In the last century, this has been achieved by the use of a severely restricted diet supplemented with drugs to buffer the highly acid gastric juice. Rest and removal from stressful situations may also be indicated at the beginning of treatment.

Traditional or conservative dietary management of peptic ulcer generally term the regimen as "bland". The word comes from the Latin word blandus meaning "a smooth tongue" or "soothing". For many hospitalized patients the bland diet has taken on the connotation of something tasteless, uninteresting, and unattractive. Nevertheless, the bland diet is planned to eliminate any food that would stimulate gastric secretions or irritate the gastric mucosa. Foods eliminated are: (a) Those that increase acid secretions. These include highly seasoned foods, meat extrac-tives, coffee, tea, alcohol, citrus fruit juices, fried foods, spices and flavorings; (b) Mechanical irritants. Any food believed to be abrasive in its effect upon the ulcer. These in-
clude all raw foods, plant fibers (strained fruits and vegetables are used), coarse or rough foods, whole grains, and gas-forming (baked beans), or strongly flavored foods (such as onions); (c) **Thermal irritants.** Foods that are **very hot or very cold** are believed to disturb the lesion by their effect on surface blood vessels. Very hot substances increase the blood supply, thus overactivating the area; very cold substances constrict the blood supply, thus slowing the physiologic functioning. Included in this category are hot beverages and soups (especially meat or broth-based soups), frozen desserts, or iced beverages.

The initial milk and cream routine is gradually increased to include soft puddings and custards or other foods that are easy to digest. Milk and milk products are considered **very good** for ulcers because, as proteins, they are capable of neutralizing the acidity of the gastric juices. This property has lent credence to the motto: "No acid, no ulcer!"

It is interesting to note that the variety of diets currently prescribed for peptic ulcer are presumed to have qualities with beneficial effects on gastrointestinal functions rather than because of any special nutritional attributes. The regimens are comprised of foods recommended because they are said to possess certain qualities such as high or low residue, high or low roughage or fiber content, and digestibility; but are lacking in distressful gas-forming or irritating properties. These might be qualities that have been ascribed to foods on the basis of traditional beliefs or hearsay. The available experimental evidence
which can support the classification of foods as being bland or otherwise is based essentially on studies done on animals. Because the physiology and eating habits of human beings and animals certainly are not similar, such findings cannot always be considered interchangeable (20:505).

**Dietary rationales**

Despite the many changes in the details of peptic ulcer management and the giant strides made in medicine in this century, none of these includes the cause and cure for peptic ulcers. Lack of knowledge concerning the cause of the disease has prevented rational therapy based on removal of etiological factors. Current therapeutic measures are either empirical or based on drugs that reduce the peptic activity of the gastric contents.

The indicated approach to reduce the peptic activity of the gastric contents has been rendered difficult by the problems involved in maintaining adequate inhibition of peptic activity. Accumulated data from studies that span the past two decades serve to indicate the contradictions which abound surrounding the question of food's influence on gastric acidity. The traditional milk and cream and bland diet regimen advocated by Sippy (6:500), Moeller (27:194), and Roth (5:152), was based on the belief that milk (a protein) serves as a neutralizer of gastric acidity, and that cream was beneficial because it suppresses gastric secretion and generally soothes the ulcer by coating the stomach. These assumptions have not been supported by research (6:503).
It is true that protein foods are effective buffering agents because of their amphoteric nature. (Amphoteric, Amphi-
teros (Gr.) meaning both, indicates the dual nature of amino acids in solution which can ionize to behave either as an acid or as a base, depending upon the pH of the solution.) Milk has some buffering effect but other protein foods seem to be as ef-
ficient or more so. All proteins are strong secretagogues.

Saint-Hilaire, et al. (29:8-10), in a study with dogs, found that fish, chicken, beef, pork, cottage or dry cheese, eggs, and milk called forth the greatest gastric secretions of acid from among twenty-four foods tested.

Any form of fat tends to suppress gastric secretion and motility through the enterogastrone mechanism. (The enterogastrone mechanism is operant when gastric acidity is high. The glands in the duodenal mucosa then produce enterogastrone which counteracts the excess acidity by inhibiting the release of hydrochloric acid and pepsin secretions which, in turn, reduces the gastric motility.) Too, the volume of any food sufficient to exert antrum pressure stimulates gastric secretion. Thus, milk and cream may exert some adverse effect though viewed as bland foods (4:365)(6:504). A study by Babkin (2:172) contends that, although fats generally depress gastric secretory activity under certain experimental conditions, they also may exert a variable effect when taken by man as part of a mixed diet. A large amount of fats is believed to have a delayed stimulating effect on gastric secretion. The conclusion of the study indi-
cates that the bulk of foods must be classified as having either an intermediate or unknown effect on the rate of gastric acid and pepsin formation. Ingelfinger (2:174) indicated that pork products have been forbidden from the bland diet because they leave the stomach slowly and are thus considered less digestible.

The routine omission of any fiber in the diet seems to have no basis in fact. Individual modes of eating, improper mastication, and rapid consumption of foods are possible sources of irritation. Shull and others (32:1071) contend from their experience with individual patients that so-called coarse or rough foods such as lettuce, raw fruits, celery, cabbage, and nuts, do not necessarily irritate or harm a peptic ulcer when they are properly chewed and mixed with saliva. Grinding or straining of food is needed only when teeth are poor or absent. J. B. Kirsner (16:424) indicates that there is no conclusive evidence implicating coarse or seasoned foods in the development or chronicity of peptic ulcer or demonstrating enhanced healing of peptic ulcer by use of soft or bland diets.

Spices supposedly irritate the stomach and stimulate acid production; therefore they have been rarely, if ever, permitted in an ulcer diet. Patients frequently complain of the monotony and tastelessness of bland diets because of this omission. When Schneider, et al, (6:504) treated fifty ulcer patients with a conventional bland ulcer diet, they added capsules containing cinnamon, allspice, thyme, sage, paprika, cloves, and other spices, in amounts used in well seasoned foods, to each meal.
No increase in gastric juice or untoward symptoms or impaired ulcer healing was noted. Some difficulty was encountered with chili, black pepper, mustard seed, and nutmeg, but only in five out of fifty patients.

Wolf (38:2) fed a variety of highly seasoned foods to an experimentally fistulous subject whose stomach and duodenum were normal, and to a second patient with a gastric fistula who also had an active duodenal ulcer. No evidence of irritation to the gastric mucosa appeared in either subject. Wolf (38:3) even applied several chemicals, including strong condiments, directly through the fistula to the gastric mucosa of the two subjects. At the same time, he also applied the identical materials to the skin of their forearms. There was no remarkable effect on the gastric mucosa; the greater reaction was on the skin.

Foods labeled gas-formers also are questionable routine omissions for all patients with peptic ulcers. Koch and Donaldson (18: 658,659) found little consistency in the replies of 655 hospitalized patients concerning individual tolerances for standard foods such as onions, fried materials, cabbage, coffee, baked beans, orange juice, nuts, and many spiced ingesta. Symptoms and responses varied widely among the patients, with no greater frequency of intolerance in those with gastrointestinal disease than in those with no disorder of the gastrointestinal tract. It was entirely a matter of individual response.

Ingelfinger (15:1) states:

A solid item in the folklore of food is that shell beans, especially those of the Boston-baked type, are "windy". Yet
modern science, and specifically that generated in the animal research laboratory, has proclaimed that intestinal gas, whether retained or expelled, consists mostly of swallowed air. This theory derived some support from LePetomane, a fin-de-siècle phenomenon of Gallic entertainment, who "used his abdominal cavity like a bellows" to blow out a candle at one foot or to pipe a pungent tune.

A number of physicians, some English and some American, became particularly interested in the problems of ulcer patients and sought either to validate or invalidate the traditional bland diet with studies of their own. Gill (6:504) reported a series of studies with chronic ulcer patients whose ulcers healed in four to eight weeks with placebo treatment of a daily injection of one milliliter of distilled water and no diet or exercise restrictions or medication. Gill concluded that ulcers healed not by manipulation of the various common therapies used but because the person with the ulcer is under the care of a physician who can ease his worries and fears—thus giving the patient confidence that he will do well.

Similar studies were conducted in England by Lawrence (22:482), Todd (35:365), and Doll (11:5). Lawrence (22:483,484) compared results obtained by feeding ulcer patients a regular unrestricted diet with the results found by feeding a restricted bland diet. His conclusions indicated that restrictive dietetic treatment of peptic ulcer did not hasten healing or disappearance of pain. Todd (35:365) and Doll (11:5) also concluded that rigid dietary treatment was not verified as being either superior or sound therapy. In the United States, Kramer (4:367) found that relief of symptoms and healing of peptic ulcers were the same for
patients on a liberal diet as for those on a restricted bland diet. Kramer's (4:367) dietary management consisted of milk, antacids, and the regular ingestion of foods as desired. Each patient ate as he chose. Satisfactory healing in peptic ulcer disease was obtained on a much more liberal dietary regimen (than is conventionally prescribed) by Miller and Berkowitz (26:353). Their study involved a large series of patients.

Sampling of studies and opinions in the 1960s

Kramer and Case (20:509) attribute the abounding inconsistencies concerning the diet therapy of the most common disorders of the gastrointestinal tract to: (a) the imperfect knowledge or available information concerning the fate of foods when ingested by human beings in normal amounts as part of a mixed diet, (b) the need for a clear definition of the pathogenesis and pathophysiology of disease. Otherwise, diet therapy is based on pure speculation, (c) the fact that a meal plan is not worked out with each patient which includes a minimum of dietary restrictions. This would involve some experimentation and adaptation to individual needs.

W. A. Krehl (21:191) is of the opinion that most clinicians have found a liberal diet to be equally as effective as a rigidly restricted diet in the treatment of peptic ulcers. However, he also suggests that the diet be adjusted to the patient and not the patient to the diet. Careful assessment of the patient's nutritional status and of his cultural and socio-economic
background should always precede the dietary prescription.

Hugo C. Moeller (27:194) indicated that the dietary approach to the management of peptic ulcer has proponents as well as opponents. He believes that each practicing gastroenterologist utilizes his clinical experience as a guidepost to dictate the dietary pattern he prescribes. He quotes the findings of a survey of the members of the American Gastroenterological Association as indicating that approximately 84 percent of the group insisted that their patients adhered to diets similar to Sippy's (4:365) during the acute phase of the ulcer disease, and 64 percent favored adherence to long-term bland diets in the management of the mild, uncomplicated, but healing ulcer. Approximately two-thirds of the members indicted specific foods as irritants, while many emphasized the quality and quantity of food, particularly the regularity and frequency of feedings. Over half of the group thought that there was no need for a patient with a quiescent or healed ulcer to observe any particular dietary restrictions. This opinion is held by some gastroenterologists because surveys indicate that an ulcer, in many cases, is symptomatic of an emotional disturbance and if the problem can be resolved, the ulcer usually becomes quiescent or healed. Thus, dietary restrictions would serve no purpose. Kirsner (17:950) concurs with this point of view.

Dr. Moeller (27:194), however, advocates the conventional strict ulcer regimen. He prescribes a diet as follows: three ounces of milk given every hour on the hour, and an antacid given
every hour on the half-hour, during the waking hours. If the patient has pain at night, he is to be awakened every two hours and given four ounces of milk and a double-dose of antacids. He also prescribes anticholinergic agents and sedatives when their use is indicated. The initial milk diet is followed with bland foods. The patient is urged to follow a strict bland diet for at least six months after which the program can be liberalized to some extent. However, coffee, alcoholic beverages, and strongly seasoned foods should always be avoided, in his opinion.

Lennard-Jones and Babouris (23:116), in their study, indicated that clinical trials failed to show that the kinds of food ingested had any marked effect upon the rate of healing of peptic ulcers. They concluded that the gastric acidity in twelve patients with duodenal ulcers was no greater when they took a completely "free-choice" diet than when they took a typical "therapeutic" diet as conventionally advised for peptic ulcer.

"The Ulcer Patient Should Watch His Diet" is the title of a paper written by James L. A. Roth (5:161). He wrote that:

The objective of medical measures in the management of the patient with active peptic ulcer disease is "stomach rest". Such relative "stomach rest" is achieved, we believe, through dietotherapy, antacids, anticholinergics, sedatives, and the avoidance of mucosal irritants in foods, condiments, medications, alcohol, and coffee.

Franz Ingelfinger (2:171), writing at about the same period of time as James L. A. Roth above, wrote "Let the Ulcer Patient Enjoy His Food". He implied that for acid-peptic disorders, diet therapy is probably more questionable than rational; that the antacid effect of alkalies and food is short-lived; and
that there is no objective evidence that coarse or spicy foods damage the gastric mucosa.

Dr. Robert M. Donaldson, Jr. (12:898), in an editorial, suggests that dietary treatment for most gastrointestinal disorders has been derived, in large part, from incriminations of specific foods by patients, and that the greatest number of current practices concerned with diet therapy are based on unsubstantiated opinions and traditions.

Dr. Buchman (8:1016) and his colleagues conducted a controlled study to determine whether varied diets (bland or regular) led to differences in healing or clinical responses of patients with duodenal ulcer. The investigation was limited exclusively to duodenal ulcer cases. There were 113 patients in the study which spanned a period of two years. Patients were hospitalized for several weeks with what was believed to approach optimal control of dietary management.

Data from the study showed that duodenal ulcers in human beings heal as rapidly with a regular diet as with a restricted diet. In addition, X-ray examinations demonstrated that recurrences of duodenal ulcers were not increased while patients were following a regular, unrestricted diet during a one-year follow-up. Symptoms, too, were not materially different for in-patients with duodenal ulcer regardless of whether bland or regular diets were eaten. Most gratifying to the patient and clinician alike was the sense of relief from burdensome and inconvenient dietary restrictions which was often voluntarily expressed by the pa-
tients on the unrestricted diets.

From the preponderance of evidence in support of the unrestricted diet that appears in the literature, it would seem that R. H. Salter (30:879) expressed the concerted opinion of many researchers when he wrote: "In most of the gastroenterological disorders for which diet is considered an important aspect of therapy, there is little evidence that special diets accomplish anything more than the relief of symptoms—and even this is open to doubts."

Last but not least, the opinion indicated by F. J. Ingelfinger (15:3) in September, 1969, is perhaps the prevailing concept held by many younger physicians:

Except for measures designed to reduce gastric acidity, dietotherapy for acid-peptic disorders is probably more debatable than reasonable. The rationale underlying most such measures is quaintly primitive. It is "common sense" that sharp-edged food might "scratch" the ulcer; that foods which burn the tongue (for example, spices) probably "burn" the alimentary mucosa; and that food so bulky as to prevent the stomach from "resting" should be prohibited. Real evidence supporting any of these assumptions is conspicuously lacking, although it has been suggested that overloading the stomach may affect duodenal blood flow by stretching the antrum.

In spite of the absence of any sound evidence, practically any hospital diet manual offers a variety of "Sippy" regimens, and practically every house officer or practicing physician who is taking care of a hospitalized ulcer patient automatically orders a succession of progressive "ulcer diets". Moreover, practically any patient with a peptic ulcer automatically expects an ultra-bland bill of fare. A more successful brainwash is hard to imagine. Conceivably, of course, the conventional regimented approach to the dietary management of peptic ulcer is based on correct although unproved principles. Yet it is hard to believe that some of the strictures are not ridiculous—the use of beef and lamb for the "convalescent" ulcer patient, for example, as opposed to the total and perpetual interdiction of pork. Perhaps the best thing that can be said for the Sippy type of dietotherapy is that it is probably not very harmful.
CHAPTER III

PROCEDURE

Protocol

A research project prospectus was developed, submitted to and approved by Dr. Jon Isenberg, Clinical Investigator, Gastroenterology Service, Wadsworth V.A. Hospital, Los Angeles, California. Dr. Isenberg then assumed responsibility for the feasibility of this study, and formalized the protocol with the Chief of Gastroenterology and with the medical residents and interns serving during the study period.

Method of study

Seven patients admitted to the Medical Service, Wadsworth V.A. Hospital, were placed in the study when gastric ulcer craters were reported by the radiologist, and confirmed by further examination. The patients were then placed in two groups by random selection on the following program:

1. Some patients were given a regular diet, with or without antacids as per medical prescription.

2. Patients in this group were placed on bland diets--each receiving antacids as per medical prescription.

The regular diet was planned to meet the nutritional requirements for normal healthy persons. There was no restriction in the regular hospital diet as to foods included, or their meth-
od of preparation. The bland diet was planned with the same nutritional standards in mind, but with the exclusion of fried materials, highly seasoned foods, raw fruits excepting ripe bananas, and all raw vegetables. Patients covered by protocol were served their assigned diet prepared by the hospital's dietetic personnel for a minimum of two weeks. Daily records were kept of food intake, weight gain or loss, and pain indices. A complete nutritional history was taken of all patients in the study, and each patient was visited daily to ascertain their progress and obtain the necessary data. The daily visits turned out to be periods of socialization; at which times this author was able to foster morale and exchange pertinent information.

Patients were given repeat upper G.I. series prior to discharge from the hospital. Included in the discharge preliminaries, each patient was given appropriate dietary counseling and urged to continue on the same dietary regimen at home as followed in the hospital. As patients were discharged, they were asked to return to the hospital each week for the balance of the study period so that the author and the medical residents could obtain the data necessary for the completion of the study.
CHAPTER IV

RESULTS AND DISCUSSION

Peptic ulcer is commonly a disease of a lifetime. It is a disease of tense, nervous persons who live a strenuous and worrisome life. As time passes, this author becomes more convinced that it is not so much what a patient eats, but how strenuously he lives and how much he worries that determines how often his ulcer flares up or breaks open again. If so, it seems obvious that every person with a peptic ulcer needs to learn how to live with the ulcer, or, better yet, how to live so that the ulcer can heal over and never return to bother him again.

Profile of two typical ulcer patients

This author wishes to introduce you to two patients, one a young male and the other a mature female, with whom the writer became fairly well acquainted and to whom she has given dietary counseling in the past two years.

1. A male social worker, twenty-eight years old, nervous, high-strung, animated, entered the office, when first seen by the writer, with the quick, direct manner of one accustomed to responsibility. He is an ambitious and seemingly capable fellow. On seating himself, he immediately lit a cigarette and appeared anxious to get on with the diet instruction that had been indi-
cated by his physician.

In the course of getting some nutritional history, the writer perchance obtained more information of a medical nature than of a dietary nature. He related his tale of woe:

"I have been suffering with pain in the pit of my stomach. Sometimes it's so mild that it's really only a heartburn but often it becomes a real aching, burning pain, more severe two or three hours after a meal. I can work if I must, but when the pain becomes too bad, I take a glass of milk or some bicarbonate of soda and then I'm relieved and well for a short time—perhaps for half an hour or an hour, and then the pain returns. If I eat a larger meal, I'm good for two or three hours and then, again, the pain; and so it's eat, relief, pain, eat, and relief again.

All last summer, I didn't have an ache but as soon as September and the cooler days came along, my distress returned. Funny that my sickness seems related somehow to the seasons; every April and every September or October, my pains return, lasting several weeks, and finally disappearing until the next 'open' season."

This author asked if he had lost any weight.

"No, strange to say, though I've restricted myself to a milk-egg-cereal diet. I've not only lost no weight, I've even gained."

This author further asked how long he had been afflicted this way.
"Well, to tell you the truth, I think I had it when I was still in high school. Even then I periodically had vague feelings of 'indigestion' between meals but as soon as I ate, the feeling disappeared. You know how a boy is, he'd sooner think of World Series or the Army-Navy game than take his stomach seriously. The pain came primarily when I was anxious or worried, such as before exams, and then it disappeared for months. In later years, it developed more often, remained a few weeks longer each time, and stayed away a shorter time. As I grew older, I noticed the pain becoming fairly constant, especially during my Army days. I was hospitalized a number of times on account of the pain. Finally, I was given a medical discharge because of a stomach ulcer."

The medical history and personality traits of this young man are quite typical of peptic ulcer patients. Characteristics associated with peptic ulcer disease are: rather high sensibility, hyperactivity, and ambition. These people are often heavy smokers who tend toward ambivalence and anxiety.

2. A Navy WAVE, stationed in France during World War II, eventually reached eligibility for return to the United States. When her orders arrived, they turned out to be for passage on a second- or third-rate vessel which had poor food and unhygienic conditions. To make matters worse, the sea was rough most of the way across. The combination of poor food (and consequent avoidance of meals), rough weather, seasickness, danger, and anxiety was most stressful for this individual. Sometime after her re-
turn to this country, she began noticing stomach pains between meals. She made no mention of her symptoms officially until she vomited a small amount of blood one day. In the meantime, however, she slept little, was nervous, and became emotionally upset with little provocation. She was also smoking considerably and resorting to alcohol frequently. An X-ray examination revealed a small ulcer at the lower end of her stomach (antrum) near its exit point (pylorus).

The mucosa, or lining of the stomach, has a natural means of defense against the corrosive action of the gastric juices. However, with peculiar combinations of circumstances, nature's defense mechanism sometimes becomes disarranged. For instance, anxieties coupled with insufficient nourishment will, in some people, be the stimulus initiating the pathological process known as peptic ulcer.

When this woman was hospitalized at that time, orders were written for rest, sedatives, and a bland type of diet for approximately ten days; and then she was placed on a less restrictive regimen as she seemed to improve. Shortly thereafter, another X-ray indicated apparent healing of the ulcer and she was discharged from the hospital. A few months later, she was separated from the service.

The writer met this person some twenty-five years after her initial ulcer experience. Her medical record indicates that she has continued to be a rather unstable individual, experiencing recurrent ulcer episodes.
Review

In considering these two typical ulcer cases, it appears that anxiety played a major role; noting, too, the probable deleterious effects of tobacco and alcohol, poor and insufficient food, and irregular meals; all combining to encourage peptic ulcer formation. Also, it is seen that these ulcers tended to chronicity, recurring at inconvenient times. In one case there was complicating hemorrhage which, fortunately, was relatively slight and of short duration.

These patients were members of an ulcer therapy group which reported to the Wadsworth V.A. Hospital once each month for discussions with the treatment team which was comprised of Dr. George Wharton, Chief of Outpatient Gastroenterology Service, a medical intern (rotating), a Public Health nurse, a social worker, and this author.

In our running contacts with the individuals in this therapy group, it became manifest that when any of them were experiencing fairly stressful situations, uncomfortable gastric symptoms usually developed in these quiescent ulcer cases. It was at such times that the value of the meetings became most apparent because of the opportunities for the patients to ventilate their problems and receive professional attention without processing or appreciable delay.

The above profiles closely parallel some of the cases in this thesis study; thus, some relative importance or weight should possibly be given consideration in probing the writer's
hypothesis (page 3)—even though the individuals in these profiles were not constituents of the study per se.

The gastric ulcer study

A study to determine the therapeutic value of the traditional "bland diet" versus the "regular" or free choice diet in treating uncomplicated gastric ulcers was undertaken to investigate the medical hypothesis that an active gastric ulcer can be healed in sixty days without food restrictions (excepting alcoholic beverages) and gastric acid neutralizers.

This investigation was planned to be limited exclusively to gastric ulcer patients with emphasis on hospital care for from two to three weeks and control of dietary management.

(Studies previously conducted and reported in the literature spanned many months, involved large groups of patients, and seemed to indicate that no effect attributable to diet was noted in peptic ulcer cases—regardless of the ulcer sites.)

It was the intention of this author to conduct a short-term study as previously outlined (see Procedure, page 27). Patients were to be hospitalized for a minimum of two weeks and then asked to return to the hospital occasionally for dietary and medical evaluation for a period of several weeks depending on their medical status.

Having obtained all necessary agreements and approvals, then embarking upon and becoming irrevocably committed to the course of study undertaken for this thesis, the writer soon appreciated the wisdom of Robert Burns when he wrote: "The best
laid schemes o' mice an' men gang aft a-gley".

Not being a physician with the authority to completely control such studies, the unexpected limitations which developed (and are delineated earlier under LIMITATIONS, page 3) were most disappointing. However, making the best of what remained, this author amassed the following information and case studies on seven patients to be numbered from 1 through 7.

The chosen patients came under the jurisdiction of the medical interns assigned to the Gastroenterology Service. The writer had the responsibility of giving the patients nutritional counseling, and of recording the daily food intake, as well as keeping a record of their pain on a twenty-four hour basis while they were hospitalized.

PATIENT #1

This forty-two year old male Negro was having intermittent problems with gastric ulcer disease and was readmitted to Wadsworth V.A. Hospital in October of 1970. Patient was on follow-up care for two previous gastric ulcers. One of these ulcers had healed well but the second ulcer had not completely healed. The patient first developed symptoms in May, 1970, when he began to have frequent epigastric pains associated with nausea and vomiting. He was hospitalized for a few days in July, 1970, at which time he showed good response to medical management (rest, antacids, and a bland diet). His ulcers showed 90 percent healing prior to discharge from his first hospitalization.

In October, X-rays of the upper gastrointestinal tract
revealed the unhealed gastric ulcer. Patient was again hospitalized and given in-depth examinations.

By random selection, the writer was permitted to give this patient a regular diet. The patient was automatically prescribed Valium (a relaxant) and antacids. However, the patient did not have any pain. Hence, he did not take the amount of antacids prescribed. The patient became very concerned because he had been informed that, after three weeks of bed rest, he would be given another upper G.I. series at which time, if the gastric ulcer had not healed, he would be evaluated for stomach resection. The second series of X-rays continued to visualize the ulceration on the lesser curvature which, though seeming somewhat smaller, still had not healed.

The patient had, by this time, convinced himself that he had cancer and had begun to urge the medical men to perform a gastrectomy. Besides fearing the possibility of having cancer, the patient was concerned about his employment situation. He indicated that he might not have his job if he were to remain hospitalized "too long".

A hemigastrectomy was performed on November 19, 1970. This author observed the operation and noted that about 50 percent (lower part) of the stomach was removed. The patient did not have cancer. However, the resected section of the stomach showed many small ulcerated areas. Postoperatively, the patient did well while hospitalized.

The profile of patient #1 is as follows:
A World War II Marine, married and divorced, living with adolescent son. Had a love affair which went wrong early in 1970. He has smoked one and one-half packs of cigarettes per day for the past twenty-five years. He had, prior to very recent years, been a moderate drinker of hard liquors. In recent months he had restricted his drinking to a six-pack of beer per week.

He will now necessarily need to follow a dietary regimen rather restrictive with regards to some foods for the remainder of his life because of the gastrectomy. Obviously, Case #1 did not either prove or disprove the hypothesis upon which this thesis is based inasmuch as the diseased portion of the stomach was surgically removed.

PATIENT #2

This forty-seven year old female has a history of peptic disease dating back to 1963, at which time she was noted to have peptic esophagitis. Since 1963, she has been treated with antacids and some food restrictions. Between the food restrictions and the antacids, the patient was able to obtain some relief from pain but not a complete cessation of symptoms.

This was the first Wadsworth V.A. Hospital admission for this woman. She had been hospitalized almost one week at the time she was diagnosed as having a very small active gastric ulcer. Random selection indicated that she was to be given a regular diet. Her physician concurred but did not rule out antacids and other medications such as relaxants.

During her hospitalization, the patient evidenced severe
pain and discomfort for the first two weeks. The pain was noted to occur any time during the day but was unrelated to meals and unrelieved by food.

During the last three weeks prior to her hospital admission, the patient's pain became difficult to control. This seemed consequential to patient's husband having a myocardial infarction for which he was hospitalized at Wadsworth V.A. Hospital.

Past medical history indicates that she has had several minor episodes of gastrointestinal hemorrhage; and has a moderate drinking record. She also has smoked two packs of cigarettes per day for a number of years.

During the third week of hospitalization, the patient began to show signs of feeling much improved. She ate all the food served her and evidenced no discomfort even after eating french-fried potatoes and coleslaw. She continued to take antacids but only very small amounts after meals. The patient now began to press her doctor for discharge. The husband was being discharged (after six weeks of hospitalization) and she wanted to go home with him. She was given another upper G.I. series and the results of these tests indicated that the small gastric ulcer had disappeared and the assumption was that it had healed in the very short period of eighteen days.

Upon discharge, patient was asked to report back each week and contact the writer, but she has failed to do so to date.

This author is firmly convinced that, besides medical management, ulcer patients would benefit by psychotherapy to re-
move stress and correct emotional disturbances. In this case, a point was made by the writer to spend some time with the patient each day in an effort to assure her that she would hasten the healing of her ulcer if she could only relax and have confidence in her treatment team.

The profile of patient #2 is as follows:

A World War II member of the Women's Army Corps; second marriage; has one fourteen year old son and a twenty year old married daughter from her first marriage. In the spring of 1970, the adolescent son decided to leave the mother's residence and went to Oregon to live with his natural father. This event precipitated a family situation charged with emotional tension. The patient is a wiry, high-strung person and her son's departure doubtlessly aggravated the gastric symptoms.

Case #2 has proved that an ulcer can be healed without special bland foods in a relatively short period of time. It also gave the patient feelings of relief in that she no longer needed to avoid foods she liked for fear that they would cause distress.

PATIENT #3

A forty-six year old male with a peptic ulcer which developed in 1945, this patient was admitted to Wadsworth V.A. Hospital for the third time for treatment of intractable ulcer pain. He was enjoying his usual state of health until two months prior to admission, when he lost his job. It was then that he began to notice the onset of aching back and chest pain. He treated him-
self with Bufferin and aspirin for about one week. When the pains persisted he sought his private physician who prescribed oral steroids. After two weeks on oral steroids the patient began to have upper G.I. bleeding and severe heartburns. These symptoms brought the patient to Wadsworth V.A. Hospital in October of 1970.

The patient became a member of the research study within the first week of hospitalization. By random selection, he was assigned the bland diet with the usual antacids and relaxants. Results of the first upper G.I. series revealed a gastric ulcer on the lesser curvature and scars compatible with chronic duodenal ulcer disease. Three weeks later, a second upper G.I. series was done which showed some decrease in size of the ulcer. However, it could not be determined if the ulcer was healed. A gastroscopy performed one week later indicated that the small ulcer on the angulus of the anterior wall was 90 percent healed. During this time, the patient was semi-ambulant, eating a bland diet in the patients' cafeteria, drinking regular coffee, taking antacids on an hourly basis, and smoking at will. During the forty-seven days of hospitalization, the patient had pain only once—on the tenth day of treatment. On the eleventh day, the record indicates an uncomfortable fullness but no pain. A third series of upper G.I. X-rays done at the end of the sixth week of hospitalization did not visualize the ulcer and medical opinion concluded that the ulceration had healed completely. Patient was subsequently discharged, but was urged to abstain from alcohol
and cigarettes.

The profile of patient #3 is as follows:

A World War II veteran, discharged after three years in the Navy with a 10 percent disability rating due to duodenal ulcer. He had a traumatic childhood. His father, an alcoholic, left home, and his mother mistreated him badly. Mother is supposed to be a "neurotic" with stomach complaints. Patient has had hostility towards his mother which he has handled by acting out, by sublimation, and by withdrawals. He was given psychological counseling for approximately six months in 1960. He is unmarried and has earned a living as a taxi driver and as a waiter. He frequently goes on alcoholic binges and normally smokes about one pack of cigarettes per day.

Indications are that this patient will do well with or without medication provided he does not have psychological problems.

Case #3 was able to heal a small ulcer in six weeks with relaxed control of his diet beginning soon after acceptance for study, a fact which seems compatible with the findings of prior research and supports a part of the hypothesis of this thesis.

PATIENT #4

This was the second Wadsworth V.A. Hospital admission for this sixty year old male with a history of pulmonary fibrosis who was admitted for the purpose of a lung biopsy. (He was first admitted to Wadsworth in August of 1970 for bilateral pneumonia.) Patient has been plagued with this lung disease since 1959 and it
has been the underlying cause for his numerous bouts with pneumonia.

Shortly after hospitalization, the patient began having gastric distress. He was then given an upper G.I. series and it was found that there was a gastric ulcer on the greater curvature in the antral region.

Patient was then included in this author's study and he was placed on a regular diet by random selection. The medical intern in this case was primarily concerned with the patient's lung disease and did not insist that the patient take antacids.

As soon as the diagnostic examinations were completed, the patient was permitted to go home on pass for periods of three to four days each weekend during his forty days of hospitalization. Pain and food intake records indicate that he had very little gastric pain and its occurrence was not related to food intake since he ate only two meals per day whether he was at home or in the hospital.

An upper G.I. series administered after four weeks of treatment showed that the ulcer was 75 percent healed. Shortly thereafter, the patient was discharged but was to report to the G.I. clinic every three weeks for follow-up and repeat X-rays to determine the healing status of the gastric ulcer. His discharge date was December 18, 1970. He was due to report to the G.I. clinic on January 12, 1971. When he failed to keep this appointment, a call to his home brought to light the information that the patient had been placed in a nursing home on January 5, 1971,
because his lung condition was so severe that he required round-the-clock nursing care.

The profile of patient #4 is as follows:

A World War II veteran; served four years in the Army; and, while in the service, learned to be a cook. He is married with two grown sons. He has been a short order cook and owner of eating establishments in Tennessee since leaving the service.

For years, he smoked two packs of cigarettes per day; and was eating only two meals per day—a big breakfast and a late supper. Also, he drank as many as six to eight pint bottles of beer during the average day, especially when he worked as a cook.

The patient did not seem to be nervous or high-strung, characteristics usually associated with the ulcer personality. He may have developed the gastric ulcer as a result of the stress and worry which his lung disease was causing him.

For study purposes, the writer must presume that the patient has progressed and continued the healing process that was noted during the hospitalization period. In view of this presumption, Case #4 will bear out the hypothesis that an uncomplicated gastric ulcer can be healed without a bland diet and antacids in approximately six weeks.

PATIENT #5

This is a fifty-five year old male whose admission to Wadsworth V.A. Hospital on November 26, 1970, was one of his many hospitalizations. In August, 1970, he was admitted to this hospital for alcohol induced acute brain syndrome. During that admis-
sion, he evidenced frequent pain in the epigastric region and passed tarry stools which indicated internal bleeding. He was then placed on a bland diet with appropriate medications which included antacids. An upper G.I. series, at that time, did not indicate the presence of peptic ulcer. However, there was indication of small esophageal varices which possibly accounted for the "tarry" stools.

Examinations by X-rays and endoscopy in November did visualize a small gastric ulcer in the lesser curvature, the probable reason for the frequent sharp epigastric pains he was experiencing.

This author became involved with the patient's dietary care when, by random selection, he was placed on a bland diet which included hourly intake of antacids while awake. An evaluation of the patient's nutritional status indicated that he was in poor nutritional condition. He had, in recent weeks prior to November, 1970, ingested approximately only 1,500 calories per day, and his intake was very low in protein, vitamin A, and ascorbic acid, as well as calcium and iron. Patient admitted to drinking several cans of beer on days that he did not have stomach pains.

The medical staff decided to follow this patient's progress with the program of bland diet, rest, and medication for approximately six weeks and to then repeat the X-ray series for ulcer healing evaluation. During this period, he was permitted to leave the hospital each weekend and holiday (which included
Christmas and New Year’s).

Upper G.I. X-rays in January showed an ulcer in the lesser curvature with the same observance of size as had been noted two months previously, despite medical treatment. Patient was presented to the surgical staff and determination for gastric resection was made. On February 2, 1971, hemigastrectomy was performed with 40 percent of the stomach being removed. No malignancy was noted.

NOTE (Patient expired on February 9, 1971, as the result of pulmonary arrest)

The profile of patient #5 is as follows:

A World War II veteran who served in the South Pacific for three years in the Army. Later, he was employed as an "oil craft engineer" up to 1953. He was married but had no children. He may have had psychological problems because his mother died at age twenty-nine of "poisoning" (she was a medical doctor) and his father committed suicide.

The patient was hospitalized in 1960 with Laennec's cirrhosis. In 1965, he had lung surgery and a lobe of the left lung was removed because of cancer.

Prior to his last hospitalization, the record shows that he drank many bottles of beer and one pint of gin almost daily and smoked at least one pack of cigarettes per day.

It is this author's opinion that the patient's long-standing poor nutritional state complicated by numerous medical problems had affected his resistance and recuperative powers. As a result he could not heal his gastric ulcer, and because of his
unfortunate demise this case (#5) does not appreciably contribute in any way to the study.

PATIENT #6

This was the first Wadsworth V.A. Hospital admission for this fifty-six year old male who has a long history of intermittent epigastric pain dating back at least fifteen years. Patient was told that he had a duodenal ulcer approximately eleven years ago. Since that time he has had recurrent abdominal pain, usually responding to a bland diet and antacids.

Several weeks prior to hospitalization, the patient had severe epigastric pain not particularly related to meals or the time of day. He also experienced dizziness and extreme weakness, and noted blood in his stools. He went to the Long Beach V.A. Hospital and sought admission. Upon being told that he would have to wait for a bed, he presented himself to Wadsworth V.A. Hospital and was admitted.

Patient states that he has had a twenty pound weight loss over the last year which he attributes to emotional tenseness, secondary to difficulties with his job.

During the first week of hospitalization, patient was given an upper G.I. series which revealed a large gastric ulcer on the lesser curvature in the body of the stomach. Subsequent to the X-rays, an endoscopy revealed that he had two gastric ulcers, one in the body of the stomach and one in the antrum, both of which were on the lesser curvature. The upper G.I. series also revealed scarring of the duodenal bulb.
By random selection, the patient was placed on a bland diet with antacids, relaxants, and bed-rest. During the next two weeks, the patient showed a complete reduction of symptoms including the stomach pains. A repeat upper G.I. series (approximately two weeks after the initial series) revealed almost complete healing of the ulcer in the body of the stomach and complete healing of the ulcer in the antrum.

Patient was discharged on December 30, 1970, after twenty-four days of hospitalization. He was urged to return to the gastroenterology clinic in one month for another upper G.I. series and advised to avoid gastric stimulants such as alcohol, beverages with caffeine content, cigarettes, aspirin compounds, and extremely spicy foods.

The patient did not return to the gastroenterology clinic on February 3, 1971, as scheduled, nor did he keep in touch with this author for the three weeks agreed upon at the time of discharge.

The profile of patient #6 is as follows:

A World War II veteran who was in the Army and served in Special Services and counterintelligence in the South Pacific and in Europe. He is married (fourth time) and employed as a building construction consultant. His medical record indicates he has been a heavy drinker all of his life, binge drinking up to two fifths of whiskey per day prior to 1965. He does not at present appear to be a stable person, possibly resulting from his drinking.

Case #6 shows that uncomplicated ulcers can be healed in
short periods of time even granting that this patient was given
a bland diet and appropriate medication.

PATIENT #7

This is a fifty-three year old male who had his first ad-
mission to Wadsworth V.A. Hospital on December 15, 1970,—almost
too late to be included in the study. The patient had been hos-
pitalized seven days; he was feeling good; and had begun pressing
his doctor to discharge him. He lives in Bakersfield, California,
and was anxious to return home. It was at this point that the
medical intern sent him to this author for dietary counseling.

A brief review of the patient's chart revealed that he
had been ill for approximately one month prior to hospitaliza-
tion; that he had lost about twenty pounds in recent months; and
that the onset of dull, crampy pain in the epigastric region had
been severe enough to waken him in the early mornings. The ini-
tial upper G.I. series demonstrated a large gastric ulcer in the
greater curvature of his stomach, and a duodenal ulcer was noted
in the first part of the duodenum. During the first week of hos-
pitalization, the patient had been treated with vigorous antacid
therapy, a bland diet, and bed rest. This therapy brought a
rapid cessation of abdominal pain and discomfort.

With the consent and agreement of the medical intern, the
bed rest directive was rescinded; the patient was permitted to go
to the patients' dining room for meals, and allowed other ambula-
tory activities; and his diet was changed to regular—with the
discretion of taking antacids if desired.
The profile of patient #7 is as follows:

A World War II veteran who served in the Asiatic theater; married; and presently employed as a box maker.

His medical history is significant in that his father, mother, and one of his brothers either have or had duodenal ulcers. The reference to familial ulcers is not meant to imply that the patient's condition is necessarily attributable to genetic connections, but it does indicate that the patient and his family members may each have a characteristic which could be causing or masking an emotional or medical problem.

The patient has no personal history of peptic ulcer before the present time. However, he had been feeling ill for several months prior to this hospitalization. He presented a recent history of cough and night sweats—in addition to the previously noted weight loss. Tuberculosis was suspected. The fear of being ill with tuberculosis could have precipitated emotional stress great enough to weaken the stomach's resistance to the hypersecretion of gastric juices. Once hospitalized, the patient was tested for tuberculosis and assured that he did not have such disease.

Patient #7 was hospitalized for a total of fourteen days. Immediately prior to discharge on December 29, 1970, a repeat upper G.I. series demonstrated greater than 75 percent healing of the gastric ulcer, and there was no evidence of the previously noted duodenal ulcer.

The discharge instructions were for him to return to the
gastroenterology clinic in one month; to avoid strong gastric stimulants such as alcohol, cigarettes, caffeine and aspirin containing compounds; and to eat only the foods that he felt would not upset his digestion.

The patient did not return to the hospital as requested, but because of the rapid ulcer healing noted in just fourteen days of hospital care and the easing of his concern about tuberculosis, the writer supposes that complete healing occurred within the thirty days subsequent to discharge.

Discussion

Elmer W. Heffernon (13:425) indicates that peptic ulcer occurs commonly; is worldwide in incidence; and results in the loss of many work hours—with about 10 percent of the adults in the United States experiencing peptic ulcers during their lifetimes. He further mentions that peptic ulcers are typically chronic, usually recurrent, and found ten times as frequently in men as in women.

In view of the appreciable number of people who are constantly being afflicted with the symptoms of peptic ulcer, it would seemingly be advantageous for members of medical treatment teams to critically assess the therapeutic value of the traditional bland diet from a scientific point of view.

This author's study clearly points up that the healing rate of a gastric ulcer is not materially affected by limiting the diet to bland foods. The proportion of ulcers which healed, or were healing, during the hospitalization period was equal in
those patients on regular diets to those on bland regimens.

The patients on the regular hospital diet had the opportunity to test their physiological responses to such foods as baked beans, coleslaw, and fried onions; and realized that they could enjoy these foods without unpleasant gastric and psychological symptoms.

Lawrence (22:482) treated 140 hospitalized patients afflicted with the various gastrointestinal ulcers either with regular diets which included fried materials, cheeses, and pork pies, or with strict bland diets which embraced only semi-soft foods. He gave all his patients the same medications and kept them in bed until the ulcers were shown to have healed by X-ray examination. Healing of the ulcer was obtained in 93 percent of the patients on both dietary programs; in average time of fifty-eight days for those on the regular diets, and sixty-four days for those on the semi-soft diets.

It is possible to interpret the studies by Lawrence above and by this author as signifying that the pathogenesis of peptic ulcer is entirely unrelated to diet. So far as the healing time of ulcers is concerned, it is the opinion of Lawrence, and of the writer, that most uncomplicated peptic ulcers will heal within a span of approximately sixty days irrespective of the diet—provided that the patient's emotional tranquility is considered. It appears to have much relevance.

The consensus of the outpatient treatment team headed by Dr. George Wharton and concerned with an ulcer therapy group (see
was that, after peptic ulcer diagnoses are confirmed, physicians would be well-advised to analyze the patient's life pattern and environment in seeking the cause.

It was noted that many peptic ulcer patients resisted, in varying degrees, attempts to bring their personality problems to view, but it was generally felt that clinicians should always keep in mind that some life-stress situation is likely involved. The causes of stress can range from the purely psychic, through combination reasons, to the strictly somatic.

If persistence was utilized, experience demonstrated that even stubborn individuals would eventually accept the suggestion that life problems may influence treatment and its effectiveness.

Dr. Wharton indicated that it was his long-held opinion that many peptic ulcer treatment failures can be understood only when the stresses in a patient's life are understood.

This author, over many years, has observed that most reviews of ulcer management emphasized diet, antacids, and anti-secretory agents; with only brief mention, if any, of psychological factors.

The cases reported here suggest that this emphasis should be reversed.

NOTE Dr. George Wharton, former Chief, Outpatient Gastroenterology Service, Wadsworth V.A. Hospital, Los Angeles, California, who is mentioned in this thesis, died February 14, 1971.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The essential objective of this study was to determine the therapeutic value of the traditional "bland diet" versus the "regular diet" in treating uncomplicated gastric ulcers, and to investigate the hypothesis that an active gastric ulcer can be healed within sixty days without food restrictions (excepting alcoholic beverages), and without gastric acid neutralizers.

Due to the limited amount of time this author had in which to obtain the patients and the data, only seven patients were finally available for the study. These patients were selected from admissions to the gastroenterology wards, Wadsworth V.A. Hospital, upon being diagnosed as having gastric ulcers. By random selection these patients then were prescribed: (a) a regular diet and no antacids, (b) a regular diet with antacids, (c) a bland diet with antacids.

Patients were required to be hospitalized for a minimum of two weeks and to follow the prescribed medical and dietary regimens for approximately four weeks as outpatients. They were then to return to the hospital for follow-up examinations. However, all patients except one failed to return for these evaluations.
Conclusions

The data obtained by this author manifests the following:

1. The case histories bring out that the medical staff of the Gastroenterology Service tend toward adherence to the traditional bland diet in the treatment of gastric and duodenal ulcers.

2. The data collected reveals to this author the worth of the hypothesis that diet types per se do not materially affect either the length of time required to heal the ulcer or the reduction of symptoms. In fact, the rate of healing might be in favor of the patients who were prescribed the regular diets.

3. It is evidential that uncomplicated gastric ulcers can be healed without bland diets in approximately six weeks or less provided the patient can be helped to attain and maintain relative peace of mind in the process.

4. An important part of the ulcer program is frequent feedings. It does not appear to make much difference what the patient eats as long as he eats often. By permitting patients to eat regular foods, it is possible to avoid the development of guilt feelings which many times seem to obtain among patients who may have transgressed their prescribed restrictive diets.

5. Perhaps the most serious defect in this study was the difficulty experienced in obtaining information and evaluations several weeks subsequent to discharge of the patients from the hospital. The writer therefore cannot positively state that all study patients released from the hospital with greatly healed
gastric ulcers did completely heal their ulcers within the sixty day periods.

6. The ultimate results were influenced by the presence or absence of complications; the emotional status and cooperation of the patient; and the physician's experience, knowledge, and resourcefulness.

Recommendations

1. The emphasis in treatment should be on the patient as well as on the ulcer.

2. The program should be comprehensive but not overwhelming, and it should be applied with confidence and care with the patients being assured that peptic ulcers are curable.

3. Because all foods stimulate gastric secretions in varying degrees, the construction of a diet completely free of stimulating influence is impossible. However, some foods are irritating to individual ulcer patients and, when known, their avoidance seems reasonable and practical.

4. Numerous medications may increase gastric secretions and irritate the gastroduodenal mucosa. Chemical compounds such as caffeine (found in coffee and tea), and salicylates (found in aspirin and various other analgesics), decrease tissue resistance, and help to reactivate or initiate peptic ulceration. These compounds should be avoided if possible, or administered in conjunction with antacids—if necessary.

5. The limited use of tobacco probably does not increase gastric secretion significantly; and moderate smoking therefore is
not likely to be harmful to the average peptic ulcer patient. However, patients with chronic recurrent ulcers who smoke excessively should realize that their habit doubtlessly is implicated in part. This is true because of their tendency toward reduced intake of food with resultant loss of efficient neutralization of gastric acidity; and perhaps because of as yet unidentified harmful effects upon the gastroduodenal mucosa. These individuals should be encouraged to reduce their smoking to any reasonable extent possible.
BIBLIOGRAPHY
BIBLIOGRAPHY

Books


Articles


34. Sippy, B. W. "Gastric and Duodenal Ulcers: Medical Care by Efficient Removal of Gastric Juice Corrosion." Journal of the American Medical Association, LXIV (May 15, 1915), 1625-30.


