

ALFRED BENZON PUBLICATION I

# GASTROINTESTINAL HORMONES and other Subjects

presented at the  
Fifth Scandinavian Conference on Gastroenterology

Edited by Eigil Hess Thaysen

MUNKSGAARD

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Aalborg — Denmark — August 25.-28., 1971

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ERRATUM

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Gastric distension in the dog elicits gastric acid secretion by two different mechanisms. Distension of the antrum results in a marked acid secretion provided that antral acidification is prevented. This effect is caused by release of gastrin from the antrum and the gastrin release is inhibited by a low antral pH. Distension of the corpus-fundus region also results in gastric acid secretion. This effect is caused by cholinergic activation of the acid secreting glands via vago-vagal and intramural reflexes. (1,2) Gastrin and the cholinergic activation of the acid secreting glands act synergistically by potentiation.

In the present study the gastric acid response to distension of either the antrum or the corpus-fundus region has been determined in man. The gastric juice was collected via a nasogastric tube. Distension was produced by a thin rubber balloon taped to the tip of the nasogastric tube in antral distension experiments or to the nasogastric tube 20 cm above its tip in corpus-fundus distension experiments. Graded increase of balloon volume was obtained by injection of fluid (for antrum distension) or air (for corpus-fundus distension) into a thin tube connected to the balloon. The position of the balloon was intermittently checked on a X-ray television screen. The following technique was adopted in order to obtain a neutral antral milieu during antrum distension despite the presence of gastric acid secretion and at the same time allowing determination of the acid output. The tip of a thin catheter was placed in the fundus. Through this catheter Sörensen's phosphate buffer of pH 8 was continuously infused at a rate of 225 cc/15 min. The pH of the gastric content during buffer infusion never fell below pH 6 despite marked gastric acid secretion. The buffer contained phenol red in a low concentration. The amount of phenol red collected via the nasogastric tube was determined and eventual loss of gastric content could be calculated. The collected mixture of gastric juice and buffer as well as the buffer alone was titrated to pH 9.5. On basis of the titration values, the collected volume of gastric content and the loss



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# Preface

During the planning of the Fifth Scandinavian Conference on Gastroenterology to be held in Aalborg in August 1971 the local organizing committee decided to publish in full all communications accepted. Furthermore, it was resolved to release the communications in book form in advance of the conference in order to further exchange of ideas during the meeting.

Fortunately, the realization of this ambitious idea was made possible by a grant from the Alfred Benzon Foundation, which has covered all expenses in the printing of the book and has also given financial support to the meeting itself. The organizing committee takes this opportunity to thank the Foundation for its generosity.

We are also indebted to the Municipality of the City of Aalborg and to the Board of the Aalborg Hospitals for their economic and practical support of our enterprise.

Last, but not least, the editor wants to thank all authors, who have followed the suggestion to translate their communications into English, thus making the publication accessible to an international forum. It is hoped that the book will give a clear up-to-date picture of current Scandinavian gastroenterology.

At the present conference, the main emphasis has been placed on gastrointestinal hormones. This is partly a reflection of the vast achievements of the last decade, and partly due to the fact that Scandinavian, especially Swedish, scientists have contributed substantially to this field of research.

Much research has been dedicated to the factors eliciting gastric secretion of hydrochloric acid. Above all, these investigations have been fundamental for the study of the so-called entero-gastrones and similar substances that may decrease or almost abolish the secretion of this acid. Thanks to purification and synthesis of an increasing number of these hormones and their analogues we shall in all probability ultimately be provided with a clinically useful substance.

Some thirty papers on gastrointestinal hormones have been submitted for the conference. This implies that several other aspects regarding these hormones, their actions and interactions will be discussed.

We are happy and honoured that professor Morton I. Grossman has accepted our invitation to introduce and discuss the main topic. Furthermore, we are indebted to professor J. E. Jorpes who has kindly agreed to be chairman during this section.

About thirty papers are concerned with subjects not directly related to gastrointestinal hormones. These papers constitute an extensive outline of the vast field of gastroenterology. It has been possible to arrange a special section devoted to surgical treatment of peptic ulcers. This section will be introduced by the Swedish lecturer Lars Olbe, well known for his outstanding research in gastric physiology.

It is the hope of the organizing committee that the present book and the ensuing conference will appeal to the imagination, speed the flow of information and stimulate the progress of gastroenterology.



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