

HISTORICAL ASPECTS ON THE INTUBATION OF THE UPPER GASTROINTESTINAL TRACT

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AIM

The aim of this work is to present historical witnesses on account of the intubation of the esophagus, stomach, duodenum and jejunum.

MATERIAL

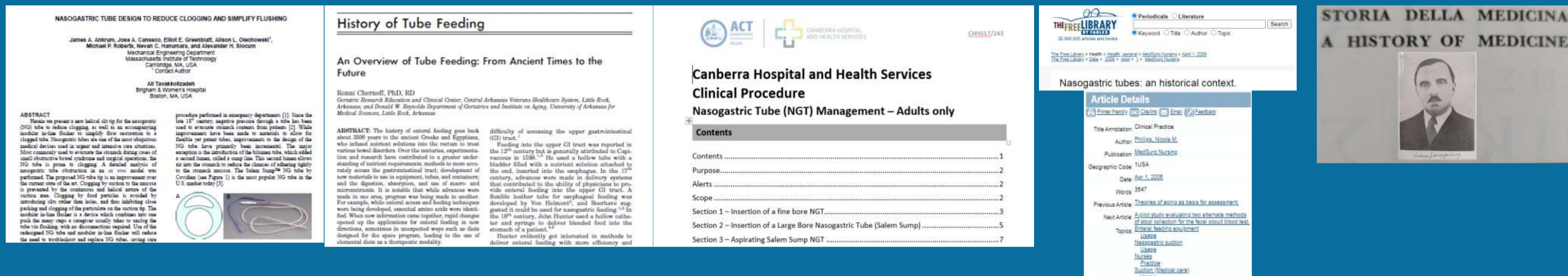
The material is textbooks of History of Medicine, textbooks of Surgery and Internal Medicine, other medical books and medical articles.

METHOD

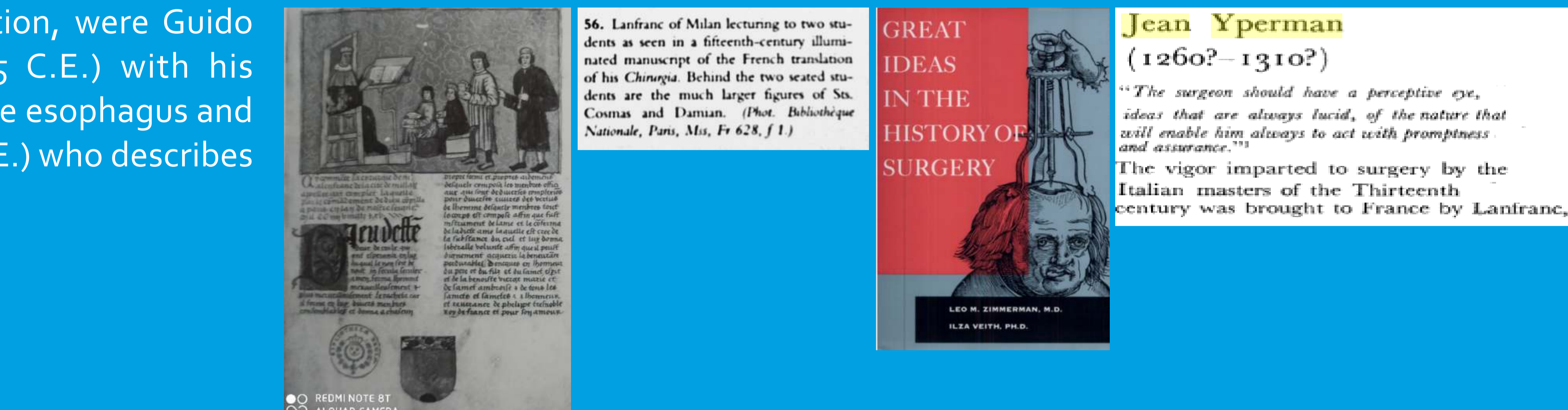
The method is the textual criticism.

RESULTS

in Middle Ages concerning the intubation, were Guido Lanfranchi, a surgeon (1260? – 1315 C.E.) with his innovative technique of intubation of the esophagus and Jean Yperman (1295 – 1361 C.E.) who describes esophageal feeding via a silver tube.



Concerning the intubation of the stomach and small intestine in Renaissance firstly was Fabricius ab Aquapendente (1537), Capivaccus (1598), John Hunter (1790), Philip Physick (1800), Mr. Jukes (1822) and Kussmal's method (1867) which was simplified by Ewald (1874).



Abraham Louis Levin in 1921 invented his homonymous nasogastric catheter initially for diagnostic uses as gallbladder disease but by his 1927 publication anticipated the modern use for gastric decompression, duodenal drainage and trauma patient.

150. Φαμπρίτσιο υἱὸ Ἀκουαπεντέ. Ελαιόγραφία τοῦ 17ου αἰῶνος, στὸ «Ἀνατομικὸ Ἰνστιτοῦτο Παδοῦας».

HILDEBRANDUS CAPIVACCUS PATAVINUS

Upper GI Feedings

- 1598 – Capivaccus
 - First to report esophageal feeds
- 1617 – Fabricius ab Aquapendente
 - Nasopharyngeal feeds with silver tube
- 1646 – Boerhaave
 - Leather tubes for gastric feeding
- 1790 – John Hunter
 - Catheter and syringe for gastric feeds

Levin of the Levin Nasogastric Tube

Abraham Louis Levin (1878-1940) was awarded his MD degree at Tulane University in New Orleans. After serving as a medical officer in World War I, he returned to his alma mater as Professor of Medicine and Chief of Gastroenterology at Charity Hospital, as well as serving as senior associate at the Tours Infirmary. In 1921, he devised a single-lumen rubber tube with multiple distal perforations that is still used for nasogastric aspiration, lavage, and gavage. His cousin Samuel Levine (1891-1966) was an eminent cardiologist at Harvard.

—Contributed by WILLIAM S. HAUBRICH, MD
The Scripps Clinic, La Jolla, California

Th. Miller and W. Abbott after a commencement of studies from 1934 introduced in 1939 the long biluminal catheter. Cantor invented in 1957 the homonymous tube for intestinal decompression.

CANTOR, M. O., and REYNOLDS, R. P. Gastro-intestinal Obstruction. Williams & Wilkins Company, Baltimore, 1957.

William Osler Abbott
American physician, gastroenterologist and professor at the University of Pennsylvania
Born: 26 July 1882
New Bedford, Massachusetts
Died: 10 September 1943 (Age 61)
Nationality: American
Alma mater: University of Pennsylvania
Known for: Miller-Abbott tube, Abbott-Rawson tube
Scientific career
Fields: Medicine

Miller Abbott Tube (Miller Abbott double lumen tube)

Passage of distal end of Cantor tube through duodenojejunal juncture into the proximal jejunum.

Concerning the study of the gastric fluid, firstly was in 1777 Stevens who studied the proteolytic activity of gastric secretion in man; follow Prout in 1824 who demonstrated and measured hydrochloric acid (HCL) in human gastric juice and von Leube in 1871 who devised the first clinical gastric secretion test, always via a naso-/orogastric catheter.

The Discovery of Gastric Acid

J. H. BARON, D.M., F.R.C.P.
Royal Postgraduate Medical School, London, England

Dr. Stevens was most probably the first to conduct digestion trials *in vitro*. Ripe mutton placed in gastric juice dissolved without putrefying, but the same placed in water gave off a terrible stench. He concluded that digestion is the result of a powerful ferment, which the vital principle keeps from digesting the stomach. (He was familiar with the observations of John Hunter.)

Leube researched the degree of digestion of the test meal, as well as the quantity and concentration of acid and pepsin in the patients' stomach.

Concerning the study of duodenal secretion, Einhorn was the first, who in 1909 passed a duodenal catheter along a thread attached to a radio-opaque metal bucket for the study of duodenal fluid.

A PRACTICAL METHOD OF OBTAINING THE DUODENAL CONTENTS IN MAN

BY MAX EINHORN, M.D.

THE importance of testing the duodenal contents is evidently great. Here we find the most important secretions for digestion. The duodenal bucket occasionally brings up the desired juice, but the same may be mixed with stomach contents, and its quantity is too small to make more detailed examinations. The aspiration catheter which I introduced later over the thread of the duodenal bucket beyond the pylorus, into the duodenum, has also not quite succeeded in solving this problem. The introduction of

Finally, concerning the gastric endoscopy, in 1868 again Kussmal first developed a long gastroscope fitted with a lamp; in 1879, the first report of a gastroscope fitted with electric lighting was made by Nitze.

Adolph Kussmal

Maximilian Carl Friedrich Nitze

In 1887 Nitze constructed an apparatus that no longer needed a cooling system. He is also credited with producing the first endoscopic photographs.

In 1932, Schindler and Wolf in Munich developed a flexible and bendable gastroscope. In 1950, Uji et al. in Japan developed the gastrocamera.

Gastroscope by Schindler

In 1957, a young 25-year-old doctor invented the fiberoptic endoscope and patented the development of a camera that could be used for the first time in the study of the upper gastrointestinal tract. He is also credited with producing the first endoscopic photographs.

In 1957, Hirshowitz in the USA developed the first fiberoptic endoscope, containing light-carrying bundles of glass fibres. In 1983, Welch Allyn Inc. in USA developed the video-endoscope.

Case Histories of Significant Medical Advances: Gastrointestinal Endoscopy

Amur Dhak
Srikant Datar
Kallistone Shetty

By January of 1957, Hirschowitz, Peters, and Curtis had developed and started testing a prototype fiber endoscope. That May, they showed that it transmitted undistorted images at the American Gastroscopic Club by letting attendees use a telephone directory through its eyepiece. Shortly thereafter, Hirschowitz persuaded American Cystoscope Makers, Inc., which had been producing rigid endoscopes since 1906, to develop a flexible glass fiber device for clinical use.

One of the most exciting and elegant innovations of fiber optic endoscopy was the cannulation of the ampulla of Vater. WC Watson of Glasgow in 1966 reported in the Lancet, his observations of the ampulla of Vater with a flexible duodenoscope and concluded that "endoscopic examination of the ampulla of Vater could be helpful in the diagnosis of biliary and pancreatic disorders". Mc

CONCLUSION

The intubation of upper gastrointestinal tract has a longstanding course initiating from Middle Ages until in nowadays contributing on the decrease of the morbidity and of mortality.