



HOUR GLASS STOMACH- A CASE REPORT ON A CADAVER

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ABSTRACT

Hourglass, an early device for measuring intervals of time. It is also known as a sandglass or a log glass when used in conjunction with the common log for ascertaining the speed of a ship. It consists of two pear-shaped bulbs of glass, united at their apexes and having a minute passage formed between them. A quantity of sand (or occasionally mercury) is enclosed in the bulbs, and the size of the passage is so proportioned that this media will completely run through from one bulb to another in the time it is desired to measure—e.g., an hour or a minute. Here we are reporting a case on stomach which is shaped f a sand glass. Stomach is a muscular bag like structure of alimentary canal lies between the esophagus and the small intestine. Shape and position of the stomach may vary without any pathological or physiological disturbance. Variant shapes may be congenital or acquired in later stage of life. In the present case the stomach exhibited distinct pouches. The two pouches were formed due to the presence of an unusually deep notch at the greater curvature. Both the pouches communicated with the distal end of the esophagus. This variation is possibly of congenital origin and may lead to radiological misinterpretations.

Stomach is a muscular bag like structure of alimentary canal lies between the esophagus and the small intestine. Shape and position of the stomach may vary without any pathological or physiological disturbance. Variant shapes may be congenital or acquired in later stage of life. We report here atypical case of hourglass stomach. In the present case the stomach exhibited distinct pouches. The two pouches were formed due to the presence of an unusually deep notch at the greater curvature. Both the pouches communicated with the distal end of the esophagus. This variation is possibly of congenital origin and may lead to radiological misinterpretations.

Keywords: Stomach, Hourglass, Congenital, Vivek college.

INTRODUCTION:

According to Medical dictionary stomach is the the curved, muscular, saclike structure that is an enlargement of the alimentary canal and lies between the esophagus and t he small intestine also called also gaster which is the most dilated part of the digestive tube and acts as a reservoir of food. It occupies the epigastric, left hypochondriac and umbilical regions of the abdomen. In the living individual it is ‘J’ shaped. Both the shape and position of the stomach vary greatly according to the status of its contents, position of the body and phase of respiration. Clinically three types of stomachs may persist; sthenic, hypersthenic and hyposthenic. Sthenic type is considered as normal type with a proper ‘J’ shape. The hypersthenic type; also known as “steer-horn” stomach is prone to be affected by duodenal ulcer. The hyposthenic or asthenic type lies mostly vertical and people with this type are at a high risk of getting gastric ulcers.¹ Among the variant shapes of the stomach, the hourglass stomach is

one of the wellknown shapes. The hourglass stomach was first described by the Italian Anatomist Morgagni in the 18th century and the condition commonly results due to the contracture of the stomach wall in response to a gastric ulcer.² The “cascade” variety of the stomach is one of the subtypes of the hourglass stomach. In both the cases stomach is incompletely divided into two or more parts. In the cascade stomach, the food usually enters the upper chamber first and only when the upper chamber is filled, it gets entry to lower chamber.³ Here, we report a rare type of hourglass stomach, probably of congenital origin because of the absence of any signs of ulcers on its mucous membrane at the site of constriction in its wall.

PREVALANCE: The frequency of the cascaded stomach is estimated to be 3%.¹⁰

TREATMENT: The following procedures were used to treat Hour glass

- i. Gastroplasty
- ii. Gastro-gastrostomy
- iii. Posterior gastro-enterostomy in proximal pouch
- iv. Double posterior gastro-enterostomy
- v. Retrocolic anterior gastro-enterostomy
- vi. Anterior gastro-enterostomy
- vii. Gastro-duodenostomy in proximal pouch
- viii. Retrocolic anterior gastro-enterostomy in proximal and posterior gastroenterostomy in distal
- ix. Partial gastrectomy

PROCEDURE:

The abdomen was opened as per Cunnigham’s dissection manual. Anterior abdominal wall is reflected. The stomach is removed by cutting through the oesophagus and left gastric vessels close to the diaphragm and distal end was cut nearer the beginning of duodenum along with right gastric vessels⁴.

CASE REPORT:

During conducting a routine dissection for UG (B.A.M.S) in the Guru Gorakshnath Institute of Medical Sciences, Arogya Dham, Balapar Road, Gorakhpur we found an atypical type of hourglass stomach. This was found in an adult male cadaver aged approximately 60 years. There were no other notable anomalies in the abdomen. The stomach was 25 cm long and had 2 prominent pouches connected to each other by a narrow canal. The upper pouch was smaller and was formed by the fundus. It measured 8x11 cm vertically and transversely. The lower pouch was smaller and measured 10x14cm vertically and transversely.

(Figure 01- Stomach)



(Figure 02: Showing Constriction of Hour Glass Stomch)



(Figure 03: Showing Internal Structure of Hour Glass Stomch)

DISCUSSION:

Variations in the shape of the stomach are encountered very frequently without any clinical symptoms. One of the studies on the shape and topography of the stomach has classified the anatomical variants of stomach as malrotated, herniated and congenital variations.⁵ Munteanu has reported a rare case of upside-down stomach associated with hiatal hernia representing a special form of organo axial volvulus of the entire stomach.⁶ A rare case of developmental anomaly showcasing the inverted stomach has been reported by Rhinerhart.⁷ Bi-loculation of the gastric cavity into a ventral and a dorsal recess may be a part of congenital, functional or secondary to organic disorders with the most probable case of peritoneal adhesions.⁸ In 18th century, hourglass stomach was thought to be of two types; congenital or acquired. However the recent reports suggest that it results as a consequence of gastric ulcer in the postnatal life.⁹ The frequency of the cascaded stomach is estimated to be 3%.¹⁰ It is believed to be formed by the sling of oblique fibers encircling the greater curvature of the stomach.¹¹ A cascade stomach is liable to get kinked on itself to form volvulus of the stomach, which is also termed as Hinge volvulus or Jack-knife stomach.¹² The case being reported here is an atypical type of hourglass stomach and we feel that it was a congenital anomaly because of the absence of evidence of any ulcers at the constriction. It was not caused because of any abnormal peritoneal band since there were no abnormal peritoneal bands attached to the stomach. It is not a cascade stomach as explained in the literature because in cascade stomach, the esophagus opens into the upper chamber. But in the current case the esophagus opened into both upper and lower pouches equally.

This type of stomach may go unnoticed throughout life without any complication. However, knowledge of this case may be of importance to radiologist in interpretation of a barium meal radiograph. The double pouched appearance may result in misinterpretation of the case as a constriction resulted due to a gastric ulcer. The gastroscopic examination may help in seeing the normal mucosa but it might keep the clinicians intrigued about the exact cause of the condition.

CONCLUSION:

A stomach divided into two communicating cavities by a circular constriction is hour glass stomach usually caused by the scar tissue around an ulcer. This case is an atypical type of hourglass stomach and we feel that it was a congenital anomaly because of the absence of evidence of any ulcers at the constriction. Knowledge of this case may be of

importance to radiologist in interpretation of a barium meal radiograph. The double pouched appearance may result in misinterpretation of the case as a constriction resulted due to a gastric ulcer.

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