

the thoracic esophagus just within the rib cage. Dilation of the esophagus anterior to the diverticulum was quite evident on the radiogram.

The animal was made comfortable and surgery was planned for the following day. The puppy was found dead the next morning, January 24. The owner granted permission to perform a necropsy and these findings are outlined below.

There was an esophageal dilatation in the anterior thorax resulting from formation of the aorta from the left branch of the embryonic arch and trapping the esophagus and trachea between the heart and the sixth aortic arch connecting the pulmonary artery and the aorta. Also, a piece of ligamentum nuchae several inches square was trapped with the anterior thoracic esophagus. A posterior thoracic esophageal dilatation was also found.

Typical histories of this type case are quite true to form. Trouble begins at five to six weeks of age when solid foods are added to the diet. This results in vomiting and dilatation for the more solid foods are passed only with difficulty through the tight fibrous and vascular band of the congenital malformation. The abnormal lung sounds in this case were probably also caused by the pressure of the ligamentum arteriosum upon the trachea. This type patient does not retch excessively upon vomiting and the vomitus is not acid as it would be had it entered the stomach.

Positive diagnosis can be made with radiography following the administration of radiopaque suspensions.

Although difficult, surgical correction has been attempted. It would consist in this case of sectioning the ligamentum arteriosum and reduction of the esophageal diverticulum.

Charles Meshek '60

had been unable to eat and drink properly for the preceding five days. Four days prior to admittance, the animal was examined by a veterinarian and several unsuccessful attempts to pass a stomach tube were made. Several parasympathomimetic drugs were administered with no effect. A tentative diagnosis of esophageal obstruction was made at this time. The owner further stated that any attempts to eat or drink resulted in the food or water running out the nostrils of the animal.

Examination of the pony showed that it was severely dehydrated. The skin was very dry and had a canvas-like consistency when lifted, failing to return to normal position quickly. It was noted that the pony was quite thirsty and attempted to drink from pools of water on the clinic floor. The neck region was palpated to determine if there was a palpable occlusion of the cervical esophagus. Nothing definite was revealed, although a soft, gassy swelling just posterior to the rami of the mandibles was detected. It was decided to attempt to pass a one-half inch diameter stomach tube to locate an obstruction if one existed.



Surgery for Esophageal Foreign Body in pony.

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An Esophageal Foreign Body In A Pony. On January 15, 1960 a two year old black male pony of grade Shetland breeding was presented for treatment at Stange Memorial Clinic. The history obtained from the owner was that the animal

Passage of the stomach tube encountered resistance about three inches posterior to the pharyngo-esophageal junction. This was rather easily overcome, however, and the tube was passed the remaining distance to the stomach with no further difficulty. Two gallons of water were given to help offset the dehydration.

A lateral radiograph was taken of the anterior cervical region to attempt to define the involved area. The x-ray showed a foreign body present in the esophagus dorsal to the larynx and an area immediately anterior to this which appeared emphysematous. Since the halter had not been removed, another radiograph was taken with the halter removed to confirm the presence of a foreign body; it appeared as before. The object appeared to be a piece of light wire or a nail, transfixing the esophagus and on the right side of the esophageal wall.

The animal was prepared for surgery and operated the same evening. A longitudinal incision four inches long was made over the esophageal groove beginning just posterior to the foreign body. Blunt dissection was used to isolate the esophagus below the area involved, then the esophagus was followed cranially until the phlegmonous portion was found. The esophagus was found to have two penetrating wounds in the right wall surrounded by a necrotic area. A foul smelling, gaseous exudate was observed. The foreign body was located by digital palpation, expressed through the wall of the esophagus and pulled out. It was a stiff wire about two inches long. This had transfixed the esophagus dorso-ventrally trapping ingesta ahead of it. No attempt was made to suture the lacerations in the esophagus because of the friable condition of the tissue. The subcutaneous tissue was closed with interrupted sutures of #1 catgut. The skin was closed with interrupted braided nylon sutures. Immediately following surgery 1500 units of tetanus antitoxin were given intramuscularly and 1000 cc. of normal electrolytes were administered intravenously. The animal was also given

ten quarts of a reconstituted dehydrated milk solution by stomach tube.

The animal was placed in a scrubbed box stall free of bedding for three weeks to prevent attempts at eating and recurrence of the blockage or further injury to the esophagus. Water was withheld for seven days. Two liters of normal electrolyte were administered IV daily for a week following surgery. The skin sutures were removed on the third postoperative day. Saliva was observed to periodically flow from the incision for six days.

Postoperative treatment of the wound consisted of daily soaking with hot water, flushing with a 1:1000 solution of potassium permanganate and medication with sulfanilamide in oil. Atropine (0.03 mg) was administered subcutaneously three times daily to prevent salivation and drainage of saliva through the incision. Broad spectrum antibiotics were used for five days postoperatively. It was necessary to incise and drain a small abscess in the area three weeks following surgery.

The pony was fed daily through a stomach tube. Milk alone was administered for two days, then a mixture of flour, cornmeal, water soluble protein and vitamins were used. This regimen was continued for two weeks. After the tenth day the animal was allowed to eat a small quantity of cornmeal. Two weeks after surgery very fine alfalfa hay was fed in small quantities. Water was allowed at will after the seventh day postoperatively. The improvement continued until the animal was discharged, although a slight difficulty was still evident when the pony attempted to swallow large quantities of hay.

Penetrating foreign bodies occasionally occur in the cow, but are quite rare in occurrence in the horse. This is probably due to the horse masticating its food more thoroughly and the fact that the horse is more sensitive in prehension of food with the lips. Esophageal injuries in all species are difficult to repair since healing often results in formation of scar tissue and stricture.

Arthur Mally '61