

LARGE INTESTINE

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LARGE INTESTINE OF OX

- The length of large intestine is about 11 m most part of large intestine is situated at the dorsal aspect of the right side of the abdominal cavity, enclosed by the common mesentery.
- The diameter of large intestine is greater (about 10cm) at its first one to one and half meters and thereafter diminishes.

It comprises of -

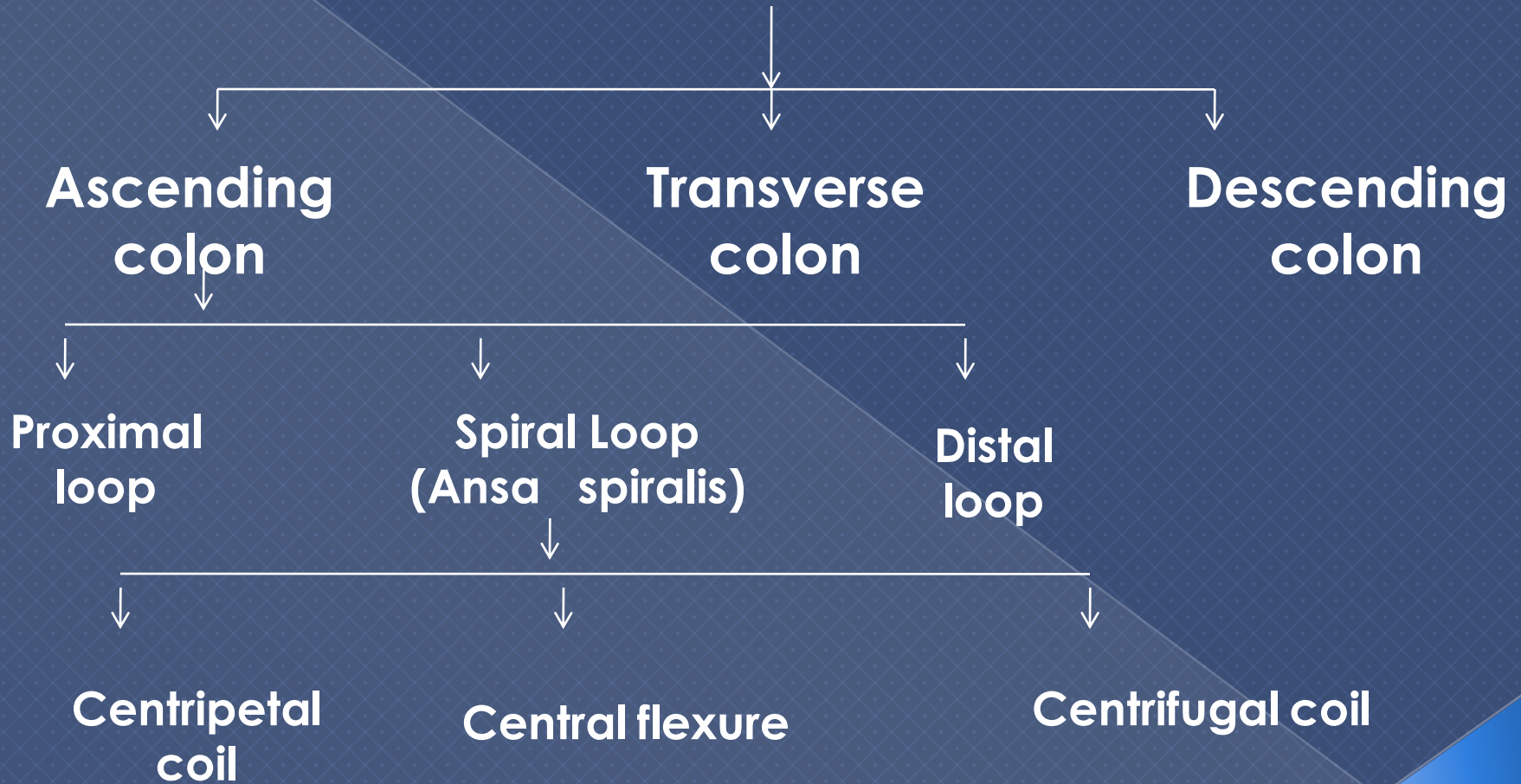
- (1) Cecum (0.75m)
- (2) Colon & (10m)
- (3) Rectum (0.25m)

CECUM

- ❖ It is a blind sac which has a length of about 0.75m. & the diameter of about 12cm.
- ❖ The capacity is about 7 to 8 liters.
- ❖ The cranial $\frac{2}{3}$ part of cecum adherent to right side of mesentery.
- ❖ It is attached to the proximal loop of colon at its dorsal aspect by ceco-colic fold & with ileum at the ventral aspect by ileo-cecal fold.
- ❖ The caudal blind end is known as apex ; which is extended up to the right side of the pelvic inlet.

COLON

Colon



(a)Ascending colon- It consists of proximal loop, spiral loop & distal loop.

The proximal loop-is situated at the caudo -dorsal portion of the right side of the abdominal cavity between the cecum & descending duodenum.

Spiral loop- is continuous with the proximal loop & consists of two centripetal coils, central flexure & two centrifugal coils.

Distal loop- continuous with transverse colon.

(b) Transverse colon- passes from the right to left around the cranial mesenteric artery.

(c)Descending colon- runs caudally, curves near the pelvic inlet & becomes continuous with the rectum.

Note:

- 1.The body of colon do not have any tenia & sacculatation.
2. Villi are absent in mucous membrane.
3. Few payer's patches are present in the mucosa close to ileum.

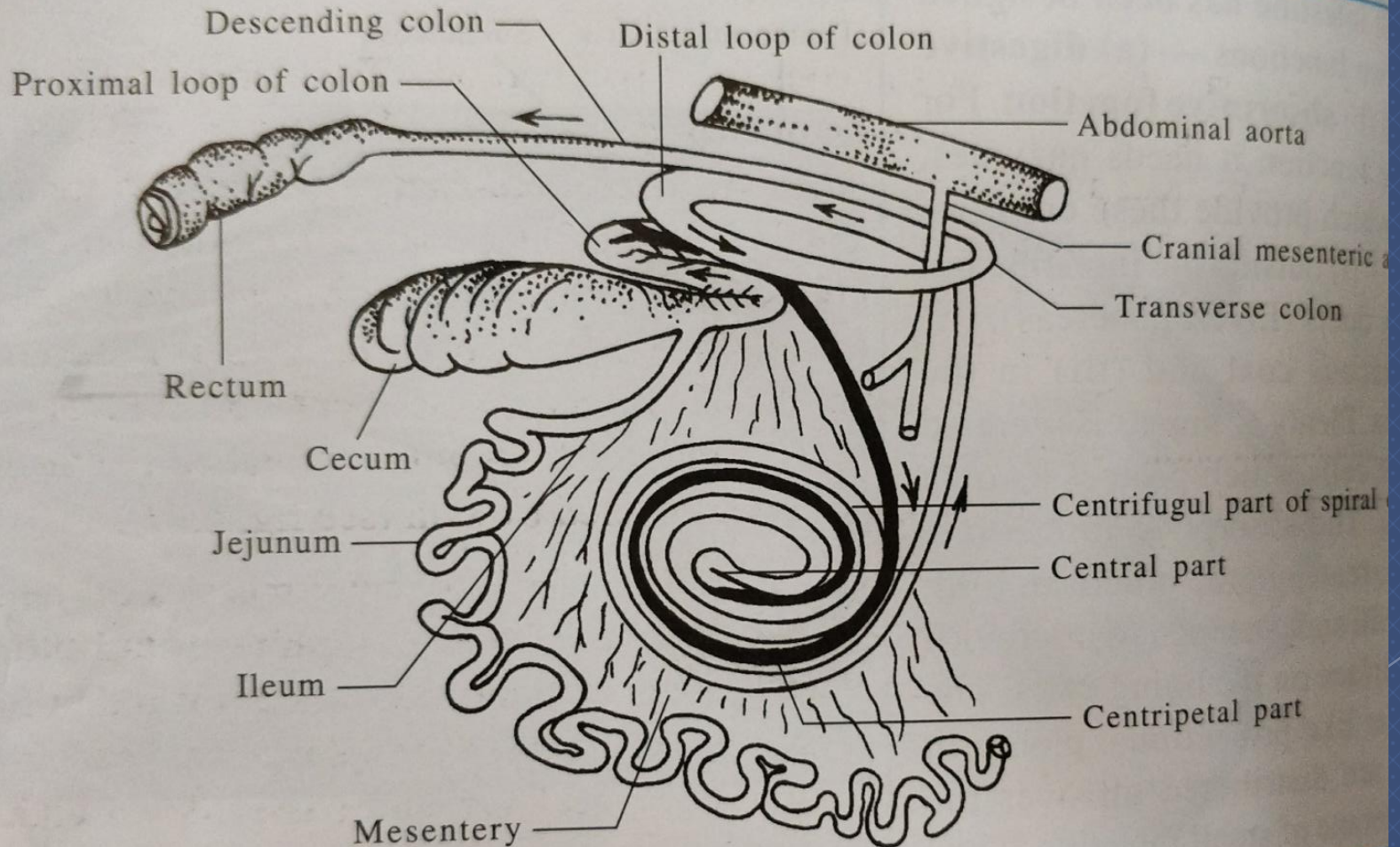
RECTUM

- The length of rectum is 0.25m. it is the terminal portion of the intestine & consists of two portions.
- The cranial part is covered by peritoneum & the caudal part which is little dilated is not covered by peritoneum.
- Its walls is thicker and presents constrictions & dilatations.
- Retro peritoneal part of rectum is wider known as 'Ampula-recti ' which is devoid of peritoneum.

ANUS

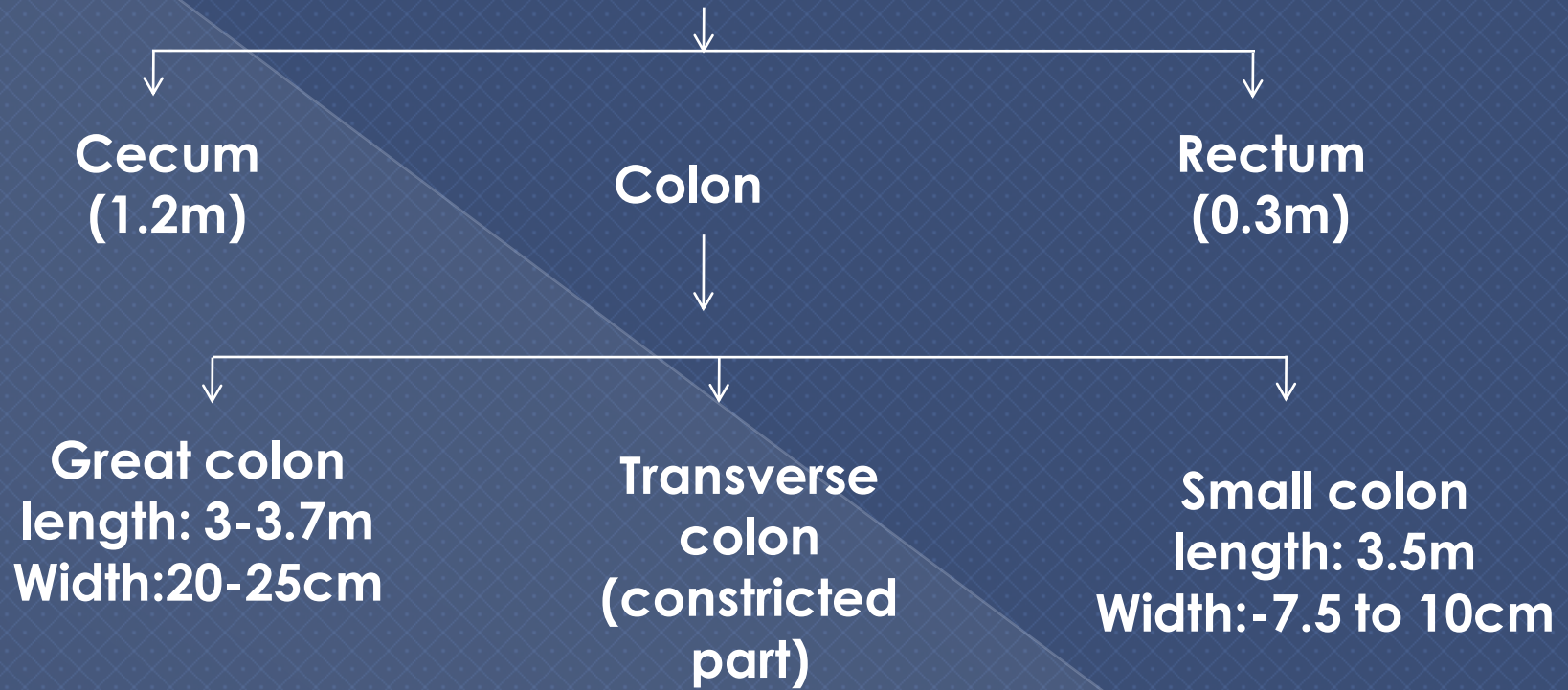
- It is the terminal opening of the G.I tract situated below the root of the tail.
- Anal canal is about 2.5cm in length and the mucous membrane is continuous with the skin.
- The mucous folds at the cranial part in the lumen are known as “anal columns”.
- Caudal part of the lumen is covered by skin.
- Area around the anus or either side around anus is known as ‘perineum’.

LARGE INTESTINE OF OX



LARGE INTESTINE OF HORSE

(7-8 Meters)



(1) CECUM

It is a great cul-de-sac or big comma shaped sac, Present between small intestine & colon. its capacity is about 25-30 litres & length is about 1.2 meter. It extends in a curved manner from right iliac sublumbar region to the xiphoid cartilage along the abdominal floor.

Both extremities are blind & two orifices are placed 5 to 7.5 cm apart at concave curvature.

For description it has base ,body & apex.

(a) Base- It extends cranially on right side as far as 14-15th ribs . It is strongly curved hence, greater curvature is being dorsal & lesser curvature is ventral. Both ileocecal & cecocolic orifices are situated in the lesser curvature at the base.

CECUMcontinued

(b) Body- it extends ventrally & cranially from base & rest largely on the ventral wall of the abdomen. It has Parietal and Visceral surfaces

it has 4 longitudinal bands named as –

- (1) Medial
- (2) Lateral
- (3) Cranial
- (4) Caudal

and 4 rows of sacculations.

(c) Apex – is directed forward & present or placed close to the xiphoid cartilage i.e., one hand length away from the xiphoid.

CECUM OF HORSE

FIGURE 18-44. Abdominal viscera of horse; ventral view.

The ventral wall and part of the lateral walls of the abdomen are removed. C, Cecum; D, small intestine, M, small colon; l.v.C., left ventral part of colon; d.Q., diaphragmatic flexure of colon; r.v.C., right ventral part of colon; v.Q., sternal flexure of colon; a, ventral band of cecum; b, medial band of cecum; c, lateral band of ventral part of colon; d, ventral band of ventral part of colon; e, point of elbow; f, cranial end of sternal region; g, xiphoid cartilage; h, teats. (From Ellenberger and Baum, 1914.)

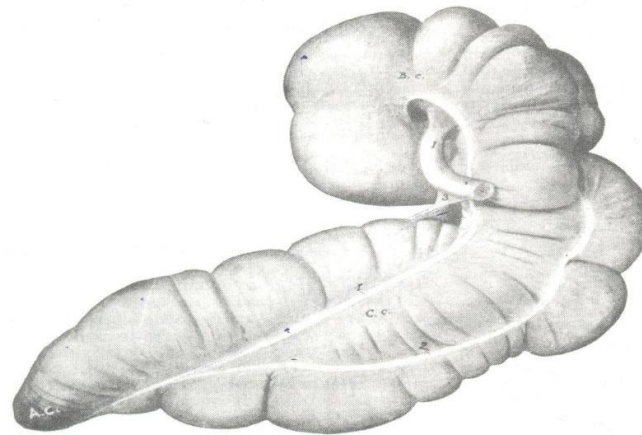
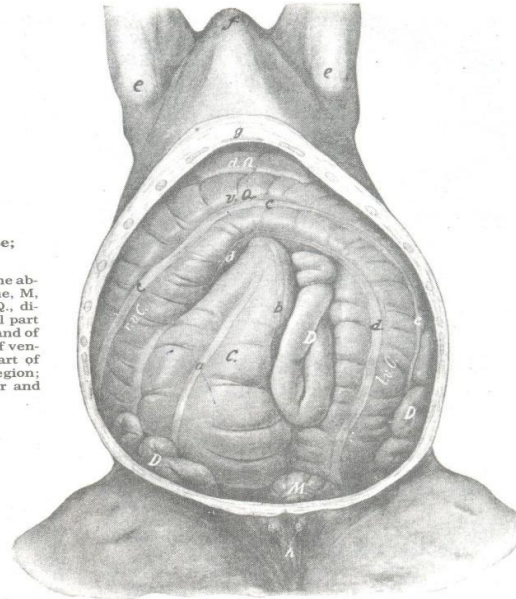


FIGURE 18-45. Cecum of horse; left view.

A.c., apex; B.c., base; C.c., body; I, ileum; 1, medial band; 2, ventral band; 3, ileocecal fold. The cecal vessels and lymph nodes have been removed to expose the medial band (1).

(2) COLON-

a) Great colon- Its capacity is more than double of cecum, In situ it is folded, so it consists of 4 parts which are designated according to their positions. The three bent connecting parts are termed the flexures.

These are right ventral colon (RVC), sternal flexure, left ventral colon (LVC), pelvic flexure, left dorsal colon(LDC), , diaphragmatic flexure & right dorsal colon (RDC), from beginning to end respectively. The wall has bands called teniae coli & sacculations (haustra) .

- RVC& LVC has 4 teniae & 4 haustra.
- One tenia is present in pelvic flexure & LDC.
- 3 Bands (Teniae) are present in RDC.

Colon.... Continued

(b) Transverse colon - is the constricted part between great colon & small colon.

(c) Small colon- is placed between the stomach & pelvic inlet. Small colon has 2 teniae & 2 haustra.

It is attached to sublumbar region by colic mesentery and to the termination of duodenum by duodeno-colic fold of peritoneum

(3) Rectum-length of rectum is about 0.3m. the caudal part is dilated only the cranial part is peritoneal. The Retroperitoneal part forms a flask shaped dilatation termed ampulla recti.

The structure of anus is similar to that of ox.

LARGE INTESTINE OF HORSE

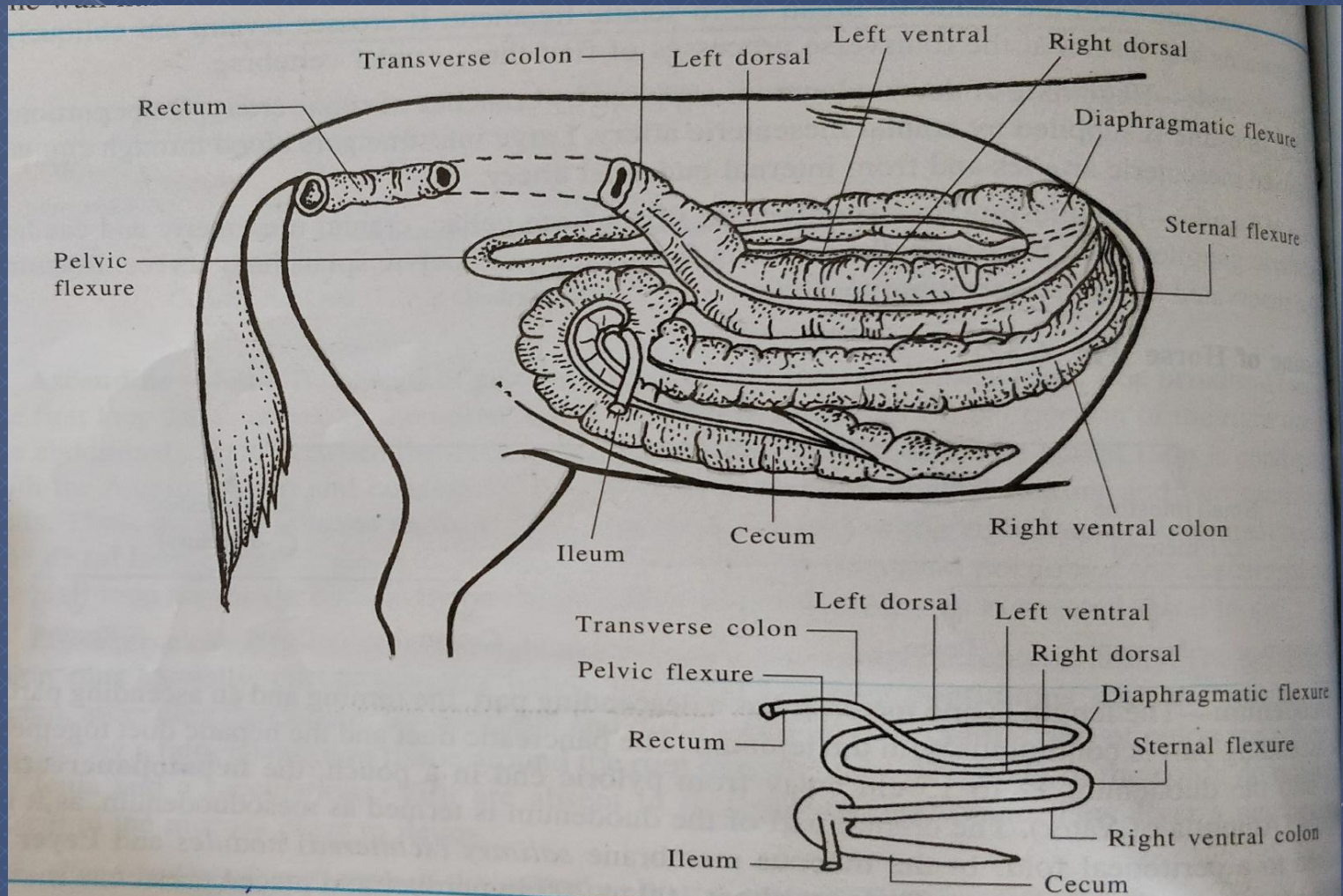


Fig. 6.32 Large intestine of horse (In situ and diagrammatic).

LARGE INTESTINE OF DOG

The length of large intestine is about 0.5-1 meter.

Cecum-is 12-15cm long closed tubular & curved structure.

Colon- has 3 parts-

- (1) Ascending
- (2) Transverse and
- (3) Descending

Ascending colon is short & extends cranially upto pyloric part of stomach & turns caudally & continuous as transverse as well as descending colon.

Rectum – mostly peritoneal.

- Anal glands are situated at the submucous layer of recto anal junction.
- Two lateral anal sacs are present; which contain grey coloured fatty substance.

LARGE INTESTINE OF DOG

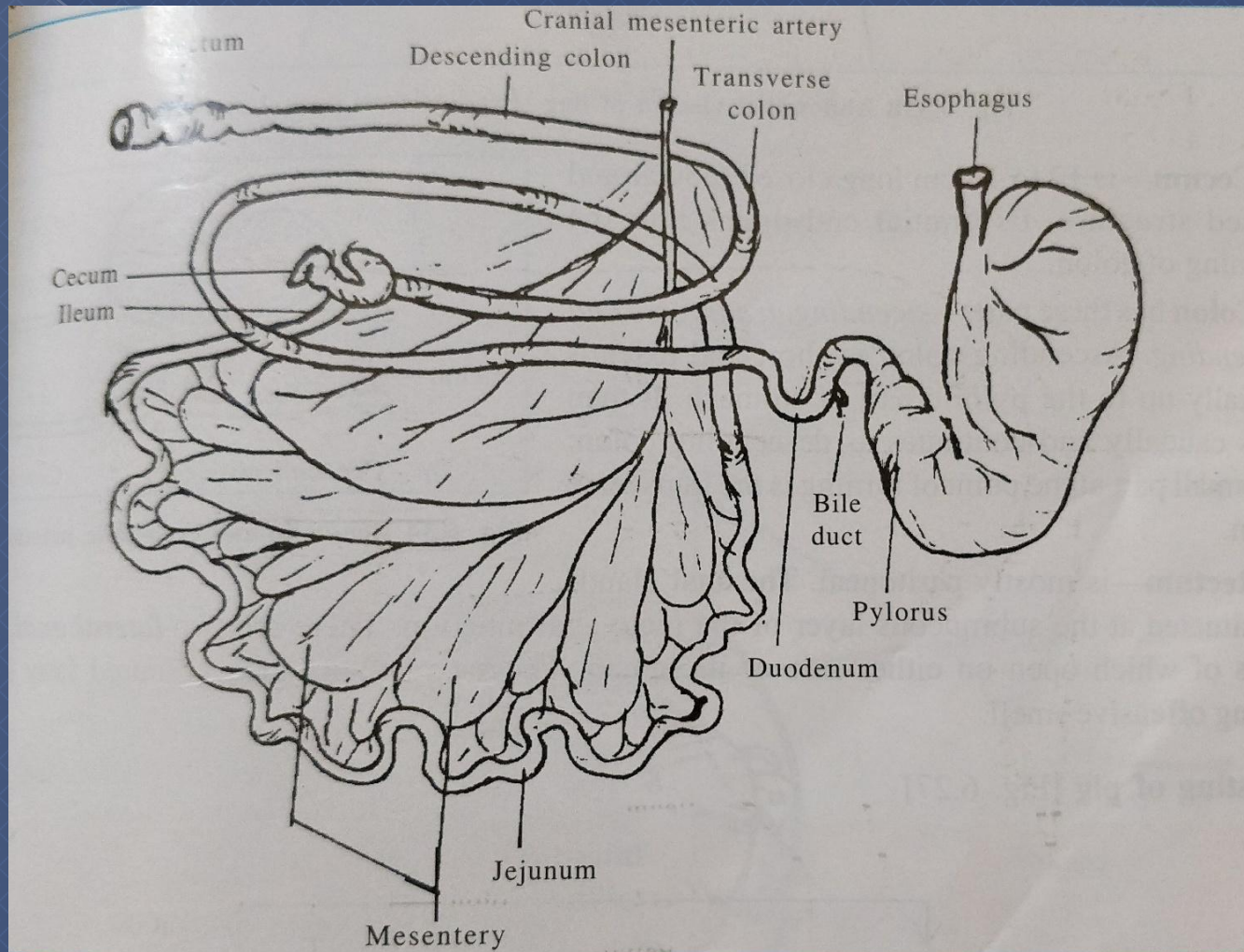


Fig. 6.33A Stomach and intestine of dog (Diagramatic).

LARGE INTESTINE OF PIG

Length is about 4 meters consists of- (1) Cecum (2) Colon (3) Rectum

Cecum- This is about 20cm long & 8cm wide

- Caudal end is blind & cranial end is continuous with the colon.
- The wall has bands & sacculations.

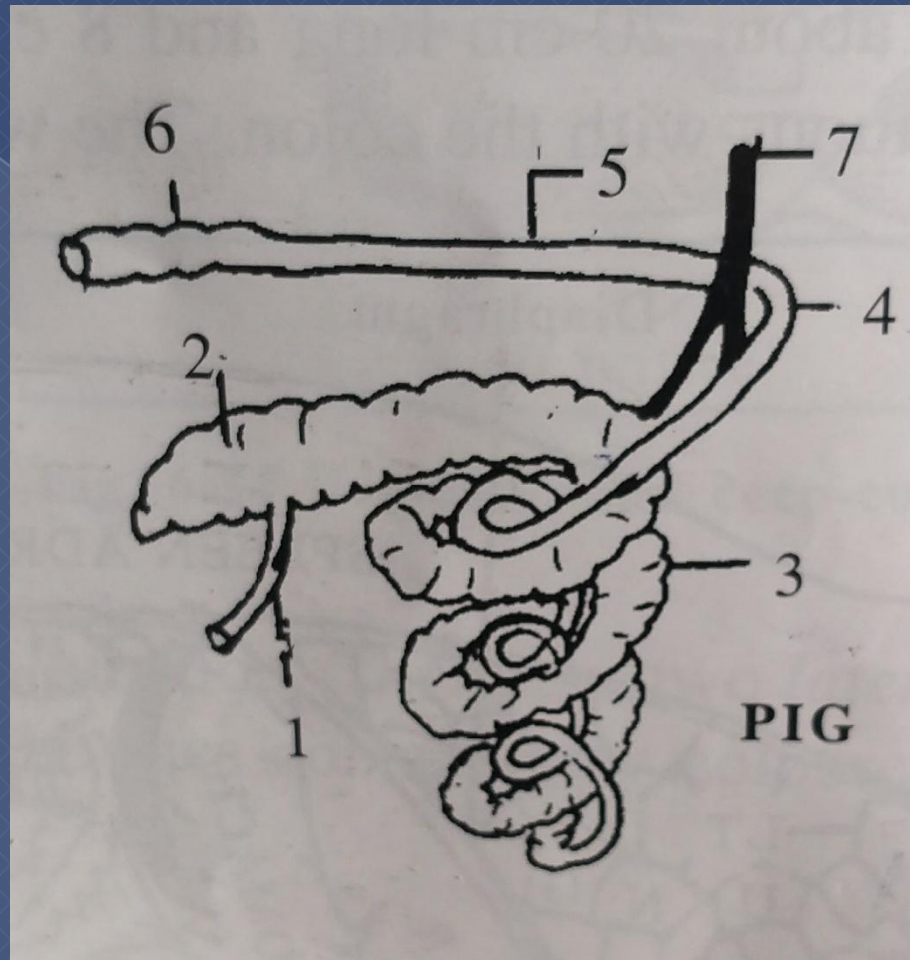
Colon- presents

- Ascending
- Transverse and
- Descending parts.

Ascending colon has three wide centripetal coils, a central flexure & 3 narrow centrifugal coils.

Rectum- The terminal part of the descending colon dilates to form the rectum & remains surrounded by fat.

LARGE INTESTINE OF PIG



1. Ileum 2. Cecum 3. Ascending colon 4. Transverse colon 5. Descending colon 6. rectum

LARGE INTESTINE OF FOWL

(1)Ceca-there are two intestinal ceca are present; right and left.

- The line of demarcation between the ileum & colon is known as cecum.
- Each ceca has length of about 15cm.
- Each cecum has 3 parts- proximal;middle & distal.
- The proximal part is narrow; middle part is wide & distal part is expanded.
- At the proximal part lymphoid tissue is present which is known as CECAL TONSIL.

(2) Colo-rectum- It is the straight portion of the intestine which extend from ileum to the cloaca.

- It is placed dorsally in the left part of the abdominal cavity.
- It has length of about 10cm.

(3)Cloaca-

It comprises of coprodeum;urodeum & proctodeum.

COPRODEUM-

- * Is 1st compartment.**
- * separated from colo-rectum by mucous fold.**

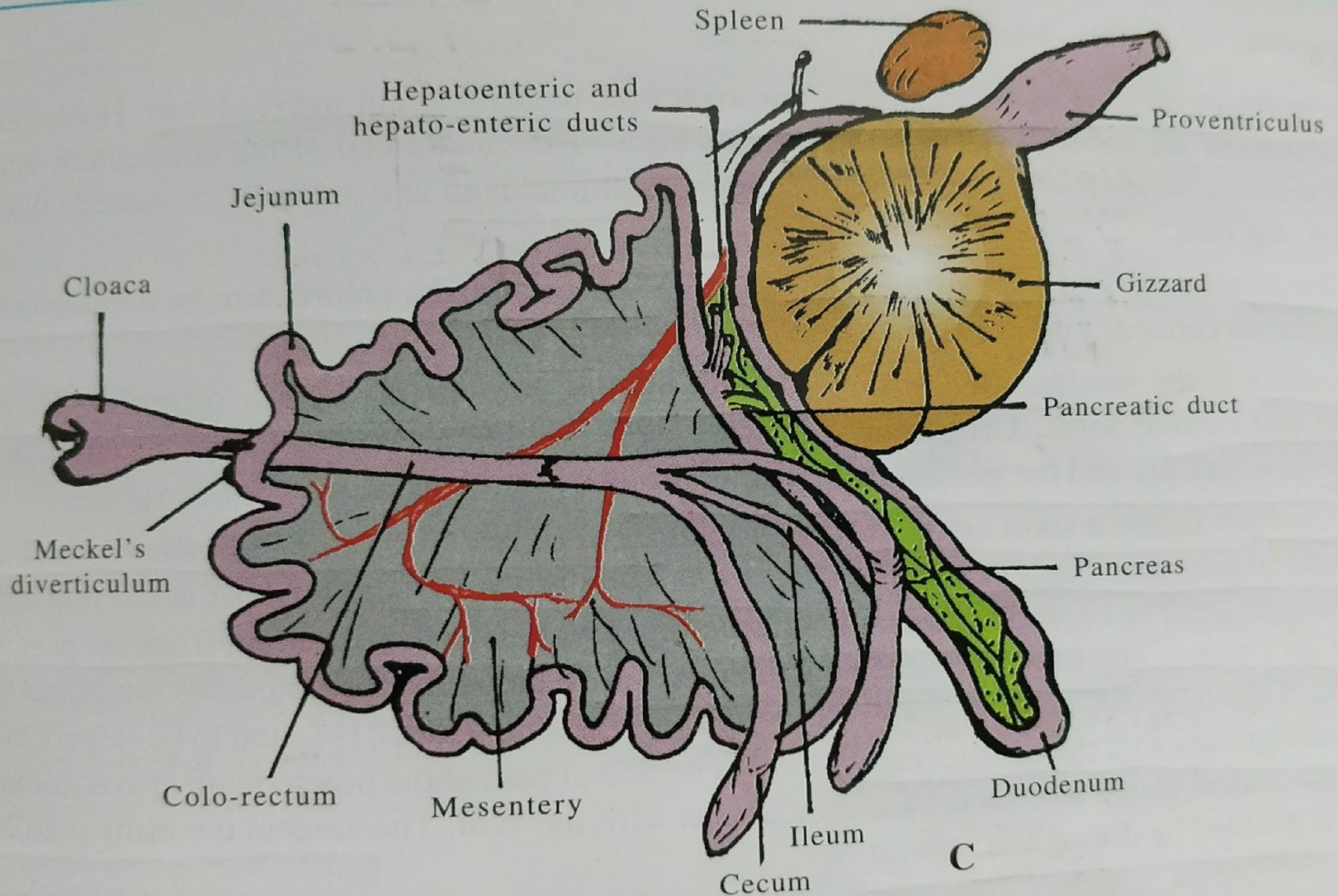
URODEUM-

- * Is the smallest of 3 compartment.**
- * Marked from others by the internal folds(cranial & caudal).**
- * In this the ureters open dorsally & genital ducts open laterally.**

PROCTODEUM-

- Is also a short compartment.
- The cloacal bursa (bursa of fabricius) which is well developed in immature birds situated at the dorsal aspect of the cloaca.
- This gland regresses with the advancement of age.
- The organ is globular in shape & presents a narrow & irregular lumen & a thick wall.
- The wall accommodates dorsal proctodeal gland & lymphoid tissue in the form of small lobules in 10-12 folds.
- The anus in the birds is called vent which is guarded by dorsal & ventral lips.

LARGE INTESTINE OF FOWL





THANKYOU