A stylized, colorful illustration of a landscape. The foreground features rolling green hills with a brown path. On the left, there is a green tree, a purple flower, and an orange flower. A red bird is flying in the sky. The background consists of light blue and white wavy bands representing the sky.

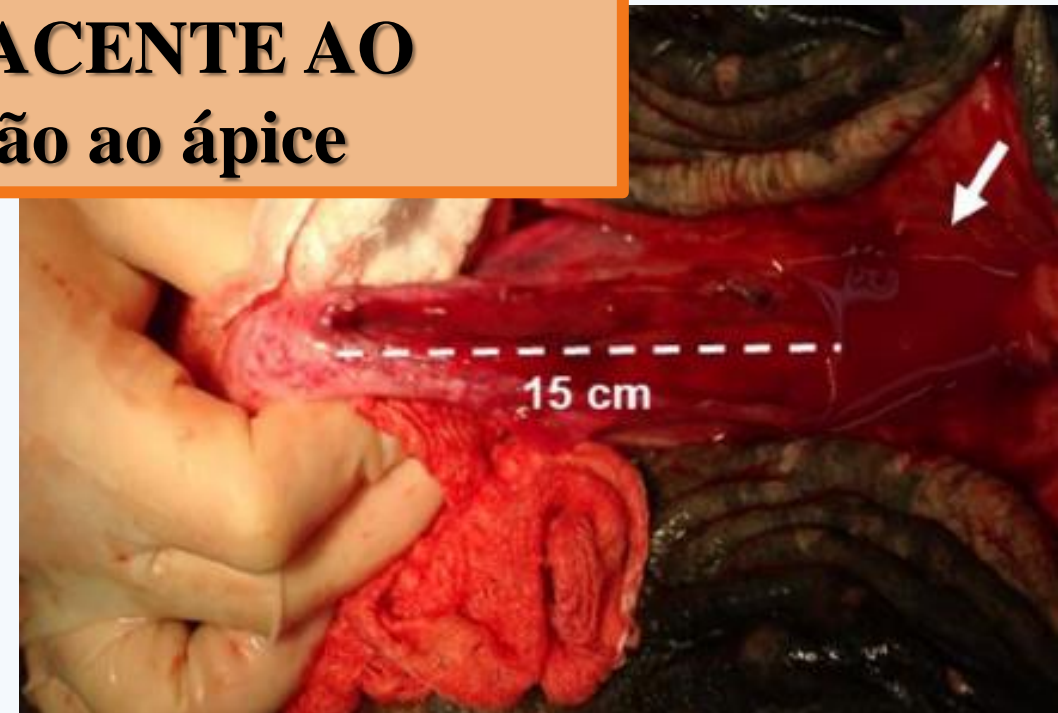
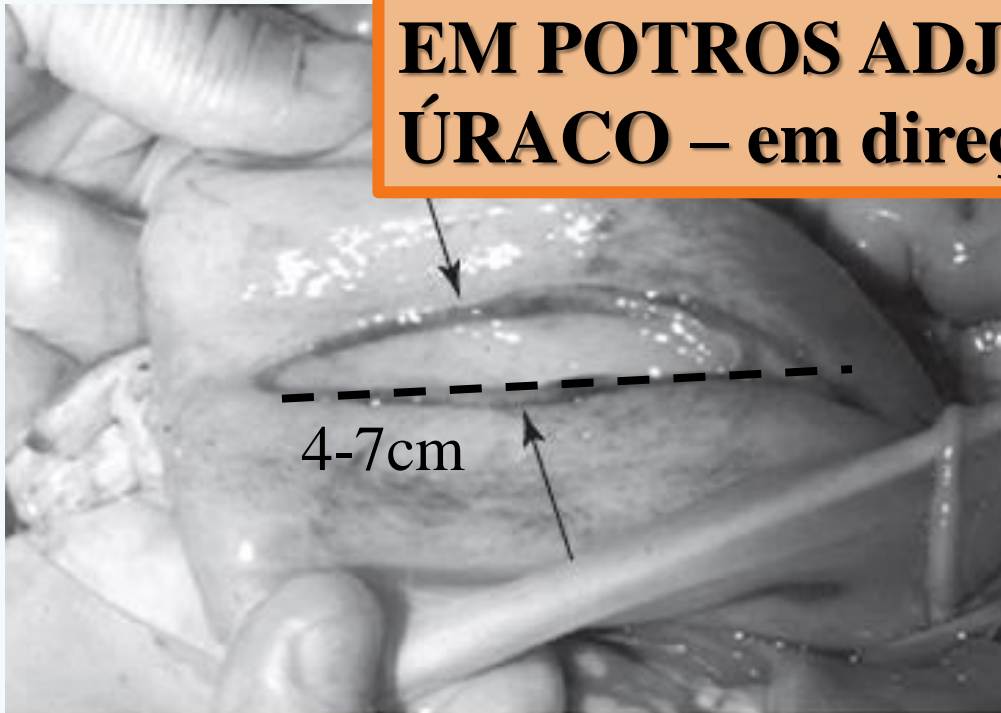
Anatomia Clínico-Cirúrgica do Aparelho Urogenital dos Equinos

Profa. Dra. Ana Lúcia Miluzzi Yamada
VC10209 – FMVZ USP

RUPTURA DE BEXIGA E UROPERITÔNIO

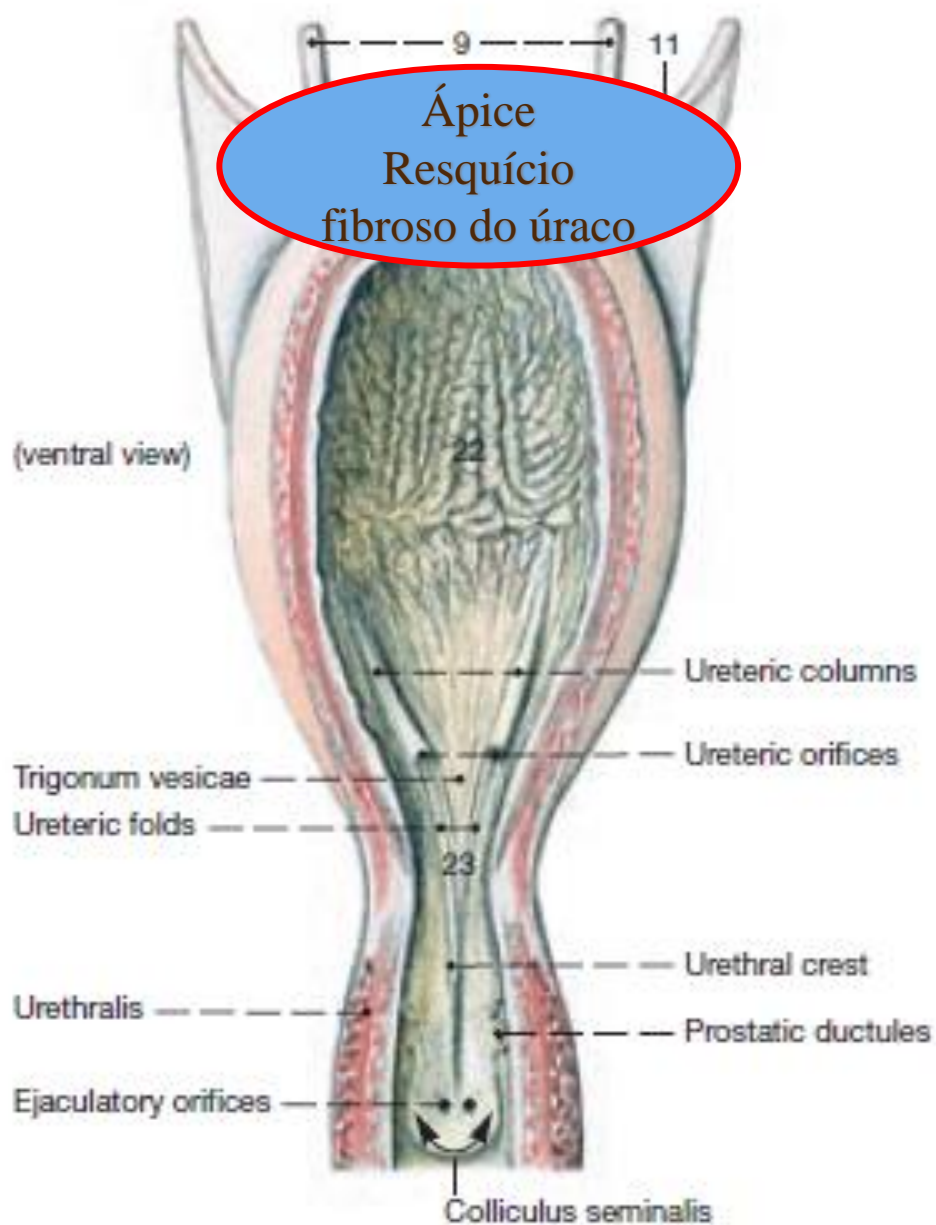
- Em potros – ↑ pressão vesical durante a passagem no canal pélvico + tensão do cordão umbilical
- Animais adultos

RUPTURA NO ASPECTO DORSAL EM POTROS ADJACENTE AO ÚRACO – em direção ao ápice



Auer, J. A., & Stick, J. A. (2018). Equine Surgery-E-Book. Elsevier Health Sciences.

Ruptura idiopática de bexiga urinária em duas éguas. Lavado et al., 2019



Duas Camadas Musculares – Musculatura Lisa

1. Externa

Longitudinais e oblíquas

2. Interna

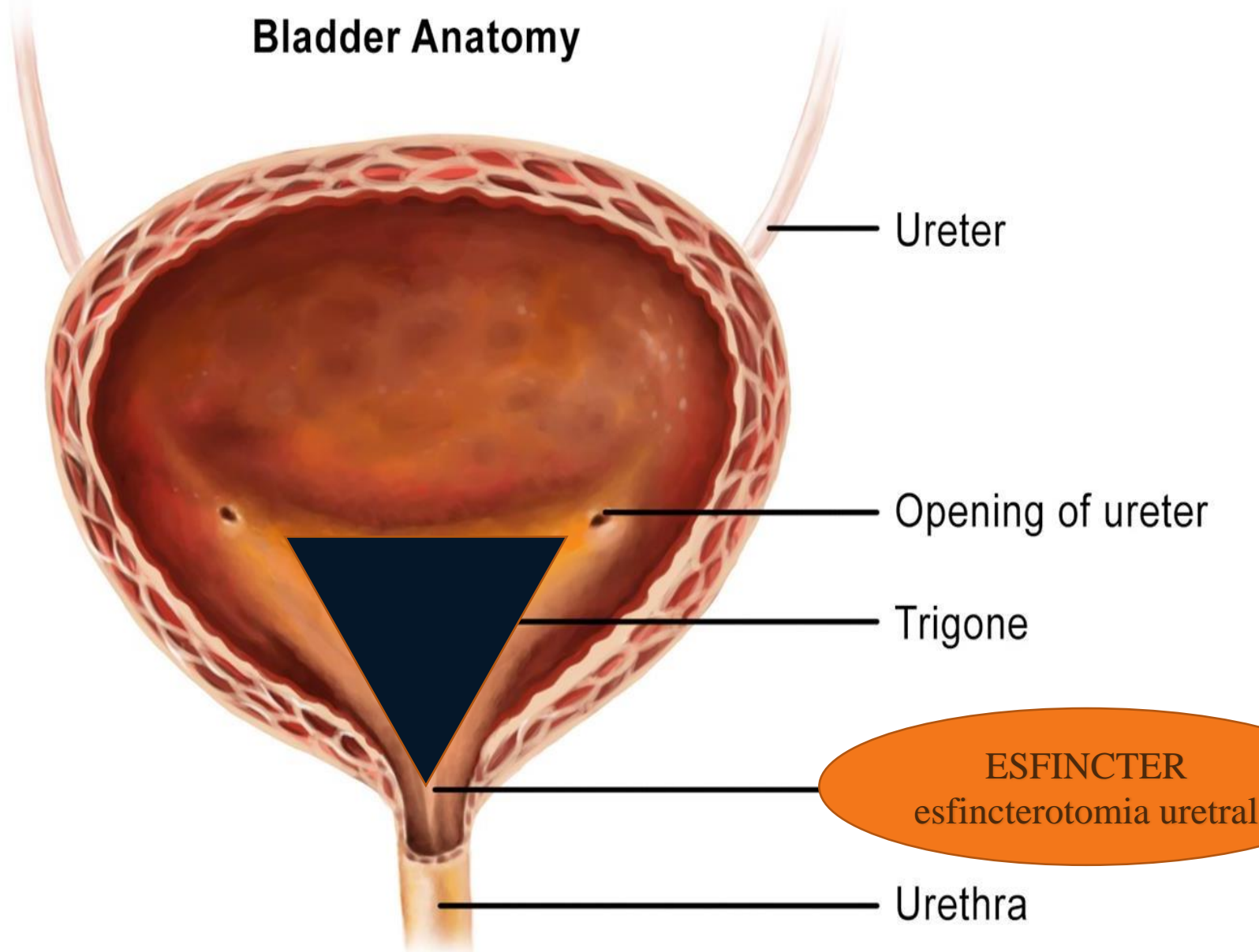
Transversal

Aspecto Dorsal - Inversão/Alteração
de sentido

↑ Fragilidade

Colo vesical – Disposição circular

Bladder Anatomy



- Trígono da bexiga (vesical)
- • Delimitado por três vértices: os pontos de entrada dos dois ureteres e o ponto de saída da uretra.
- Presença de pequenos cálculos
- Infecção
- Acesso pela uretra

ADULTOS

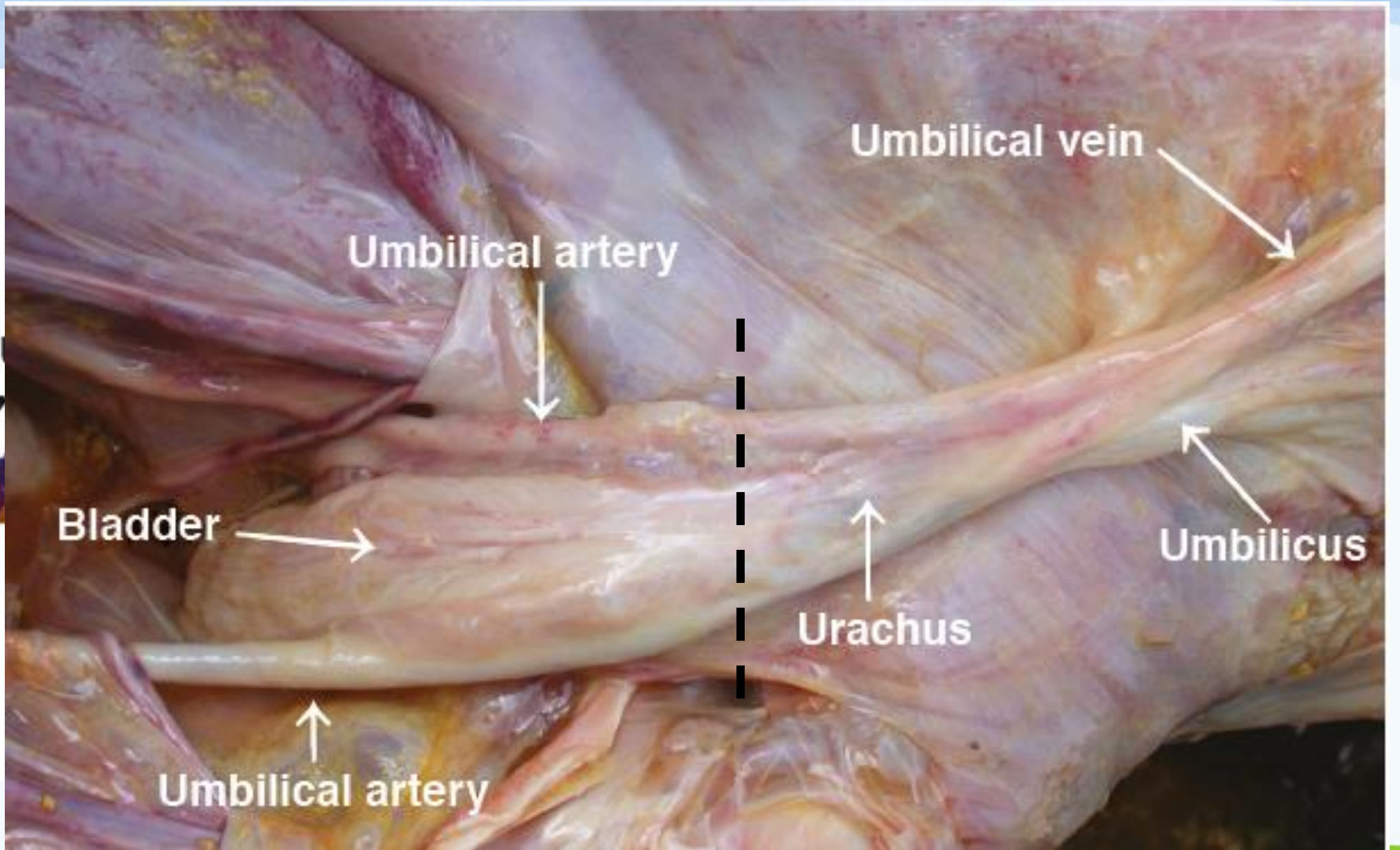


- 1 ureters
- 2 bladder, partially filled
- 3 deferent ducts
- 4 ampullae of the deferent ducts
- 5 vesicular glands (seminal vesicles)
- 6 left and right lobes of the prostate gland
- 7 pelvic part of the urethra surrounded by the urethral muscle
- 8 left and right bulbourethral glands
- 9 bulbospongiosus muscle surrounding the bulb of the penis

COBERTURA PERITONEAL PARCIAL
TÚNICA SEROSA = SUPERFÍCIE DORSAL (PREGA
GENITAL E VESICOGENITAL)
TÚNICA MUSCULAR
MUCOSA

MODIFICAÇÃO DA MUCOSA NO TRÍGONO
VESICAL

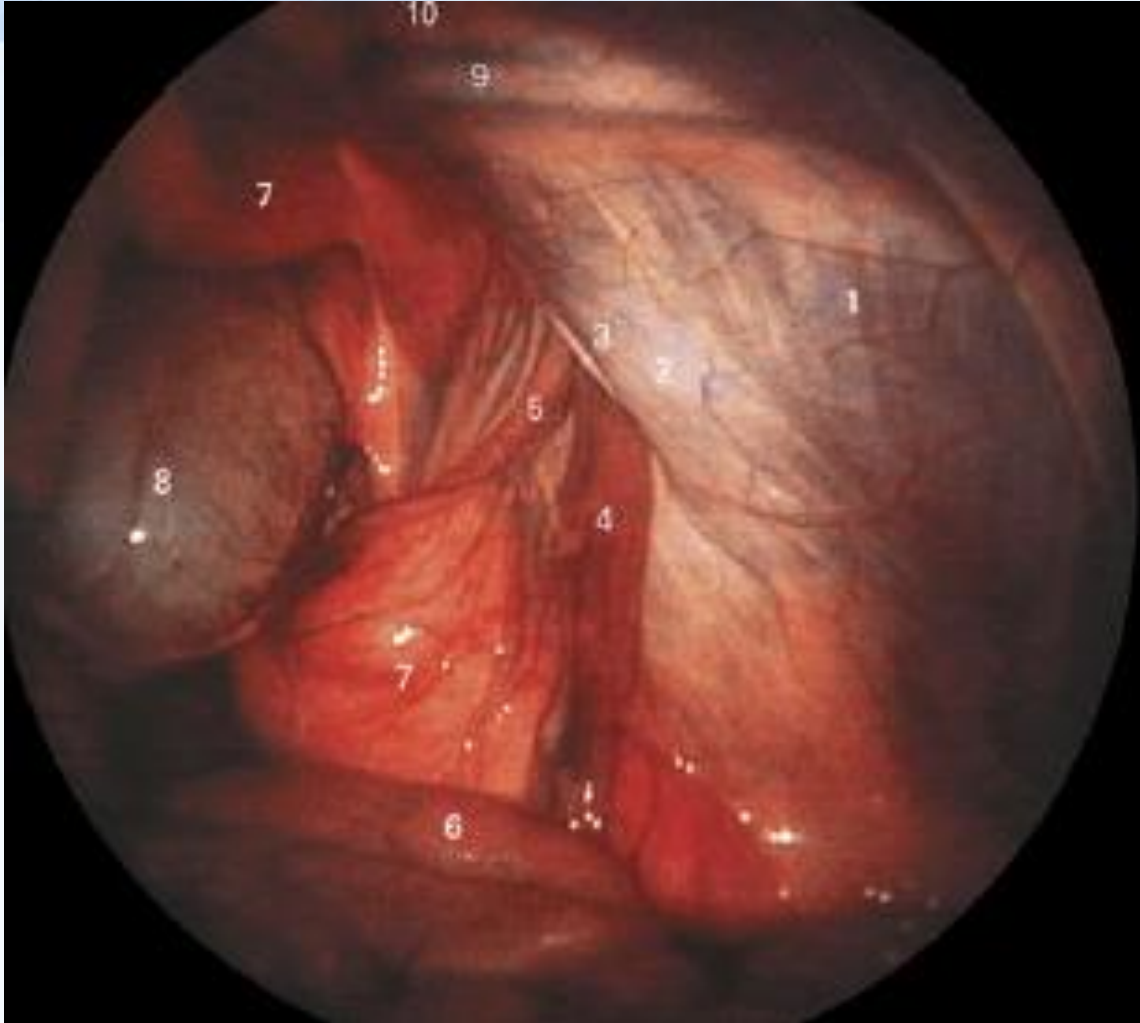
POTROS





- 2 Middle ligament of the bladder
- 3 M. obliquus internus abdominis
- 4 The ductus deferens together with the testicular vessels
- 5 The cranial border of the right lateral ligament of the bladder
- 6 Genital fold
- 7 Apex of the bladder
- 8 Rectum
- 10 Left deferent duct and the associated artery
- 11 Testicular vessels and nerves
- 12 Caudal epigastric vessels

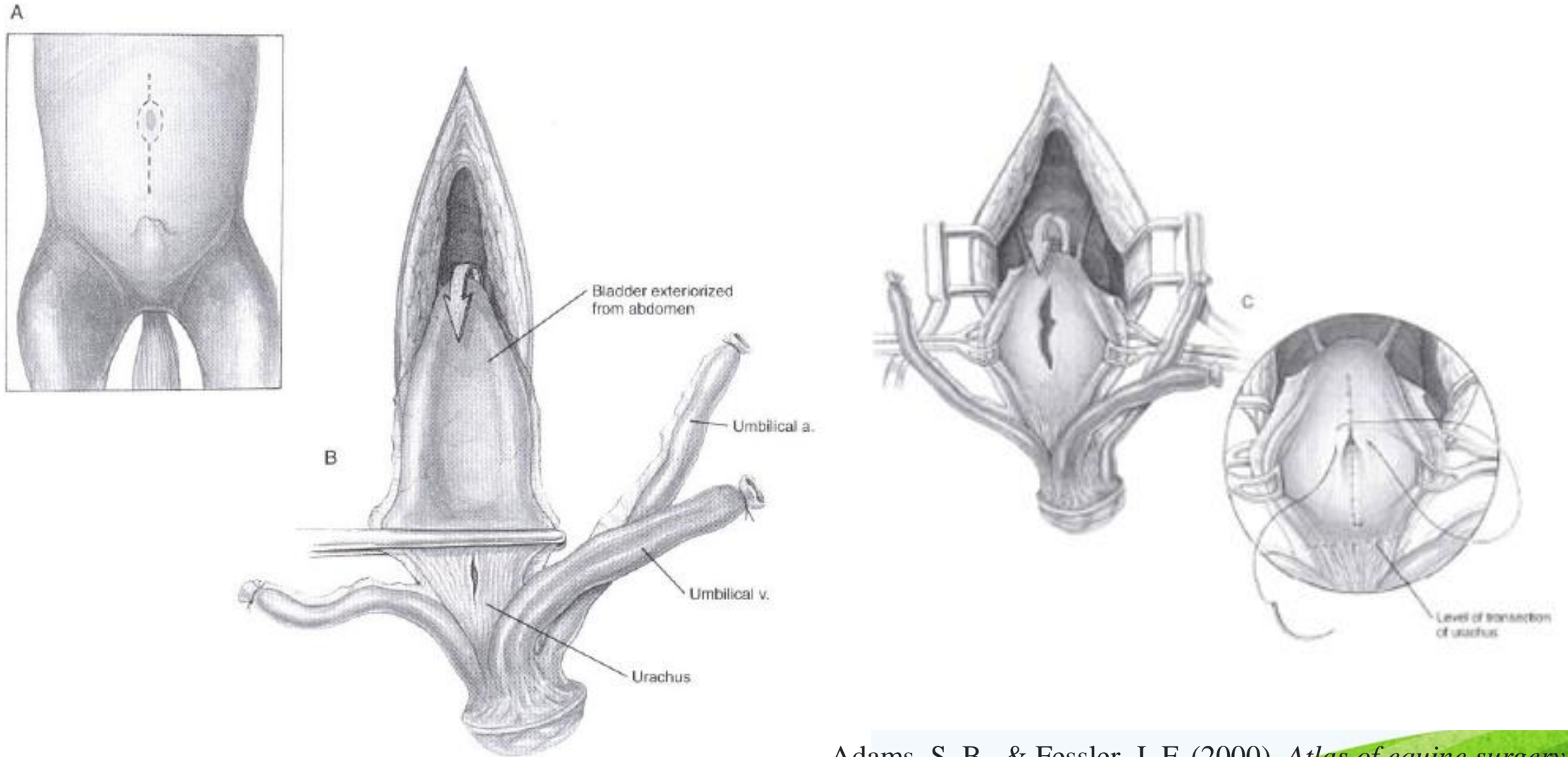
Clayton, H. M. (2005). *Clinical anatomy of the horse*.



- 2 Caudal edge of the M. obliquus internus abdominis
- 3 Craniomedial border of the deep inguinal ring
- 4 Testicular vessels
- 5 Ductus deferens
- 8 Bladder
- 9 Caudal epigastric vessels

Clayton, H. M. (2005). *Clinical anatomy of the horse*.

POTROS



Adams, S. B., & Fessler, J. F. (2000). *Atlas of equine surgery*. WB Saunders Company.



SUPRAPÚBICA

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Modified parainguinal approach for cystic calculus removal in five equids. A. E.WATTS* and S. L. FUBINI, 2012.



A



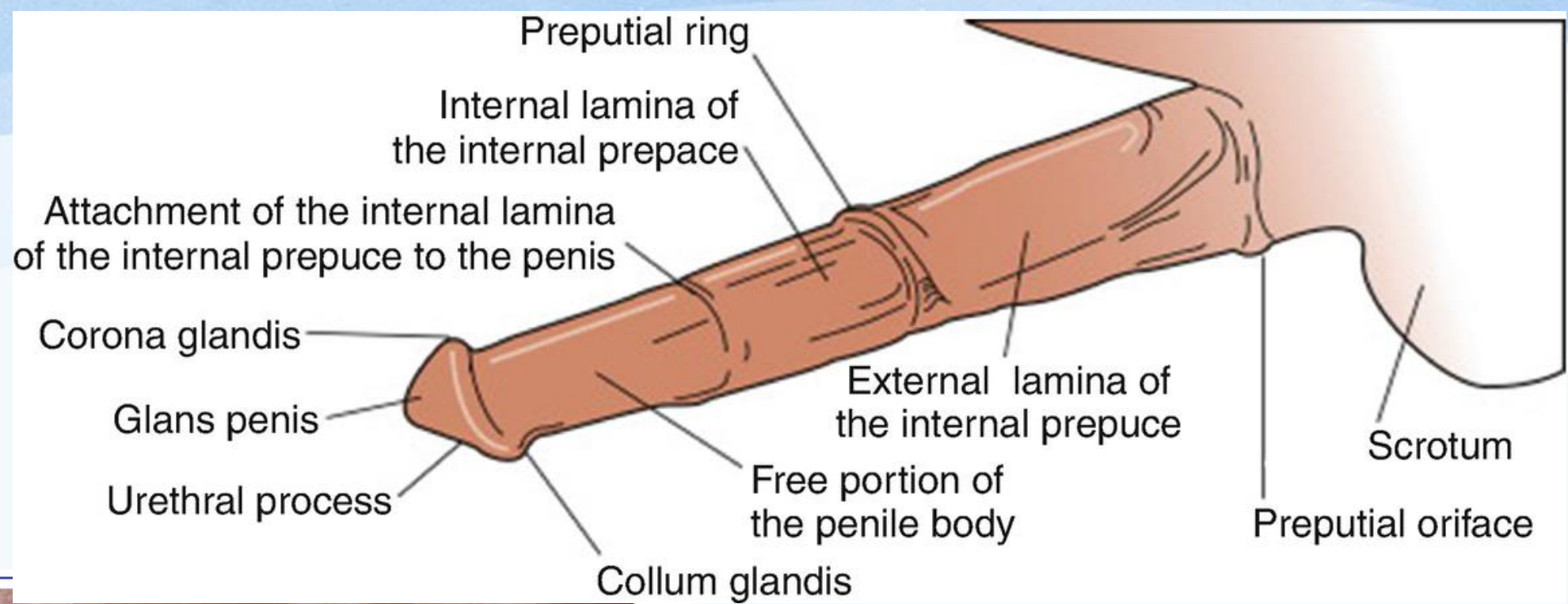
B

**ACESSO MEDIANO EM
MACHOS**

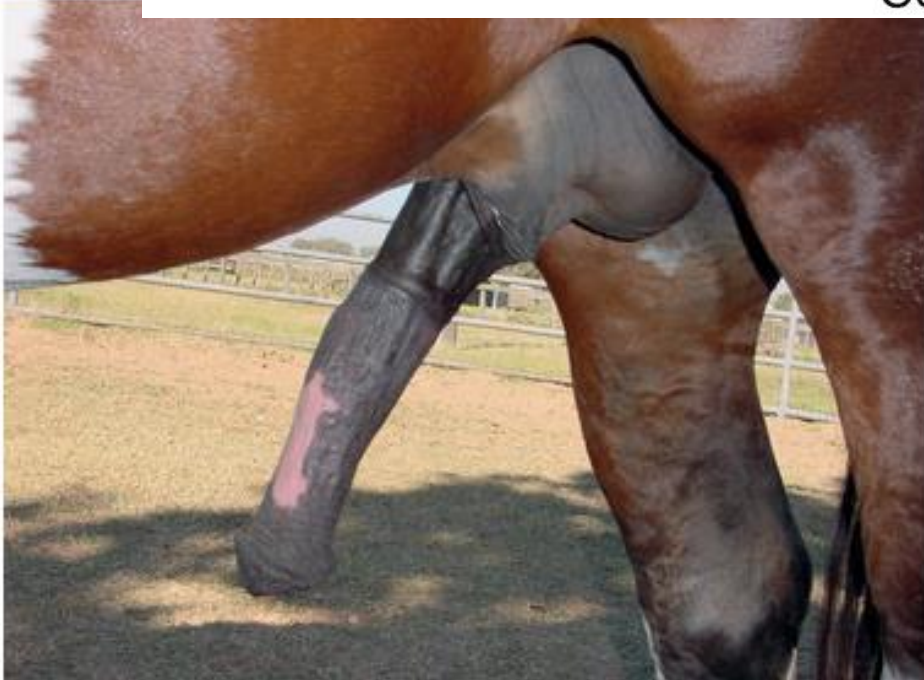
REBATER O PREPÚCIO

PREPÚCIO

- DUPLA INVAGINAÇÃO DA PELE
- DUAS LÂMINAS: INTERNA E EXTERNA
- ÓSTEO PREPUCIAL – Lâmina externa → Cavidade (L. interna)
- PREGA PREPUCIAL INTERNA – Invaginação tubular
 - Anulo prepucial
- RAFE MEDIANA
- VASOS EPIGÁSTRICOS
- ARTÉRIA E VEIA PUDENDA EXTERNA
- NERVO PUDENDO



<https://link.springer.com/>



<https://veteriankey.com/13-examination-of-the-stallion-for-breeding-soundness/>



*m. obliquus
externus
abdominis*

*m. rectus abdominis
covered by aponeurosis
of m. obliquus internus
abdominis*



v. pudenda externa
*medial scrotal/mammary
lamina*
*m. retractor penis,
pars penina*
vv. circumflexa penis
plexus dorsalis penis
m. bulbospongiosus
m. gracilis
*prepuce:
prepenile part*
preputial fold
preputial ring
n. saphenus
v. saphena medialis

free part of penis

glans penis

medial femoral fascia

Ashdown, R. R., & Done, S. H. (2011). *Color Atlas of Veterinary Anatomy, Volume 2, The Horse-E-BOOK* (Vol. 2). Elsevier Health Sciences.

NEOPLASIAS DE PREPÚCIO



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CARCINOMA DE CÉLULAS ESCAMOSAS BEM DIFERENCIADO, ULCERADO, NA LÂMINA INTERNA PREPUCIAL, ISOLADA DA CAVIDADE ABDOMINAL

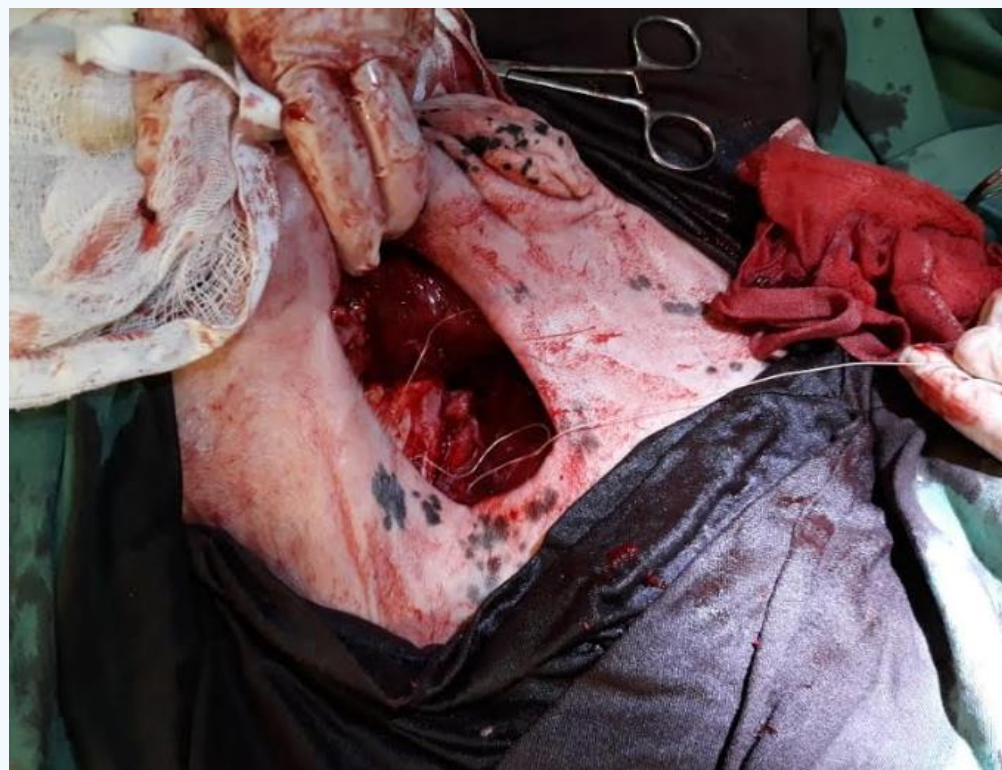
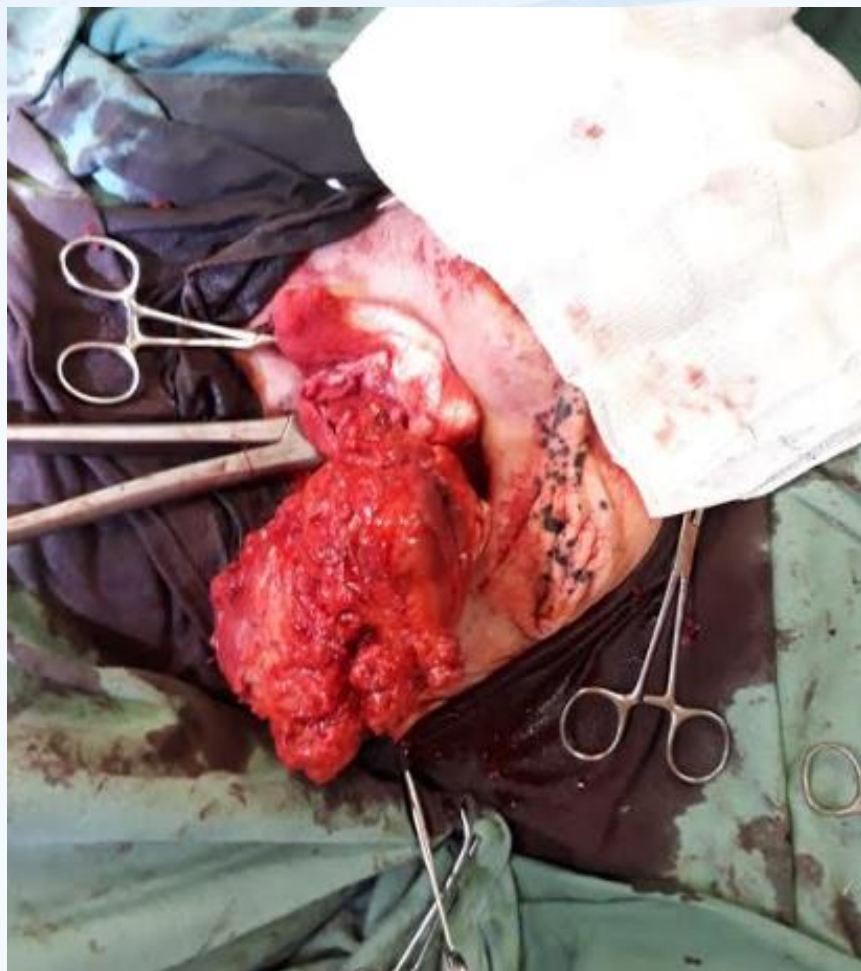
EDEMA

PROCEDIMENTO CIRÚRGICO = RETIRADA DA MASSA (LÂMINA PREPUCIAL INTERNA**) E CIRCUNCISÃO PENIANA**

CIRCUNCISÃO PENIANA

Ressecção cirúrgica de um segmento circular da lâmina interna do prepúcio

- Neoplasias/traumas
- **FIMOSE**
 - Incapacidade de expor o pênis a partir do prepúcio devido a estenose congênita ou adquirida do orifício prepucial



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USP





Fig.1 Important swelling in the prepuce area



Fig.2 Thin fistula with the urine at the level of cicatrizing lesion

Traumatic Phimosis in an Icelandic Pony: a Case Report. Veterinary Medicine. Oana et al., 2011

PENECTOMIA

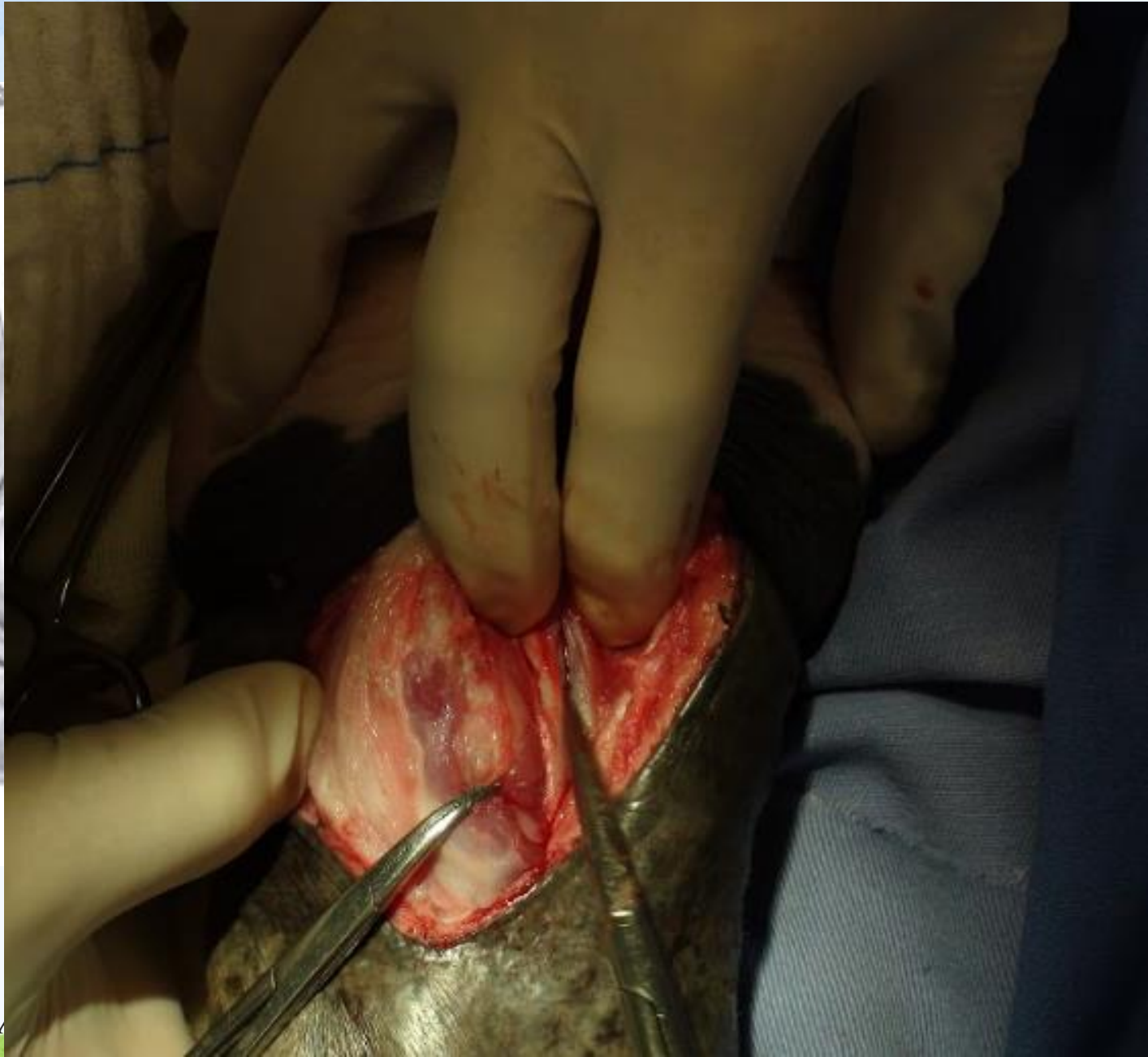
- Neoplasias
- Parafimose
- Traumas



- 1 Tunica albuginea
- 2 Corpus cavernosum
- 3 Bulbospongiosus muscle
- 4 Corpus spongiosum
- 5 Urethra

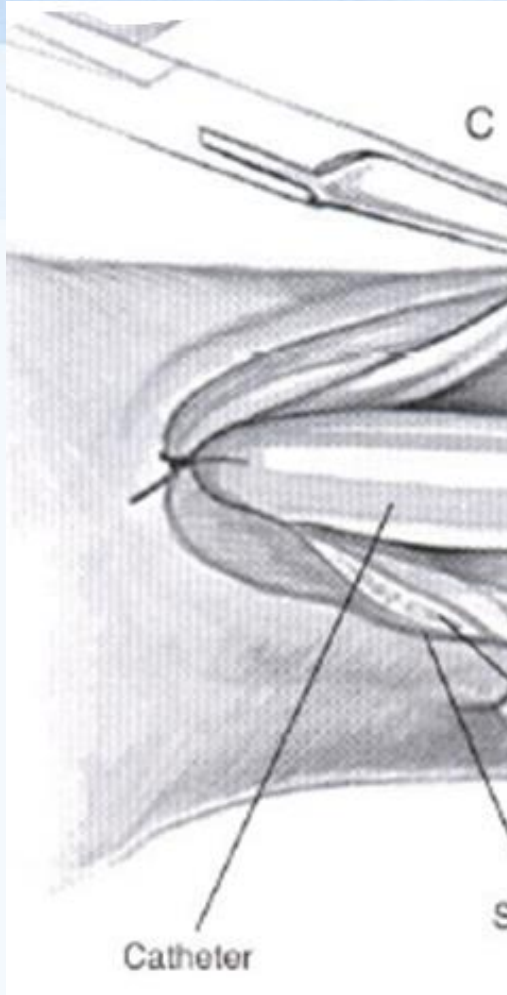


- 1 Skin overlying the glans
- 2 Tunica albuginea covering the corpus cavernosum
- 3 Bulbospongiosus muscle
- 4 Ischiocavernosus muscle
- 5 Retractor penis muscle



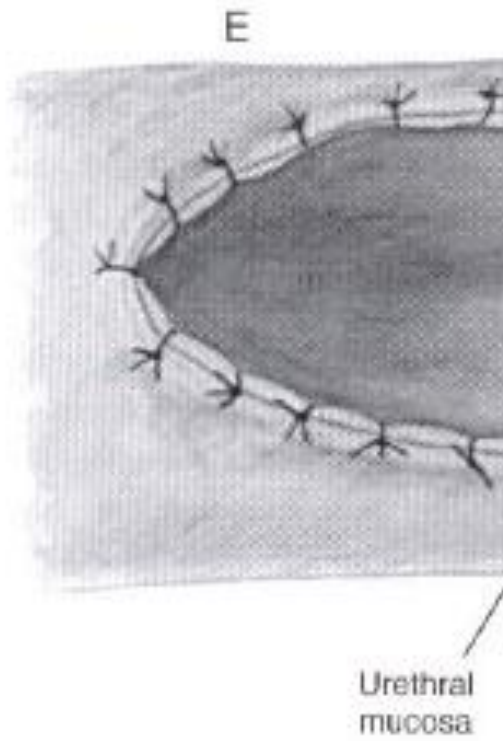
Adams, S. B., & Fessler, J. F. (2000). *Arthroscopy of the Knee*. Saunders Company.

, FMVZ - USP



Adams, S. B., & Fessler, J. F. (2000).
Saunders Company.

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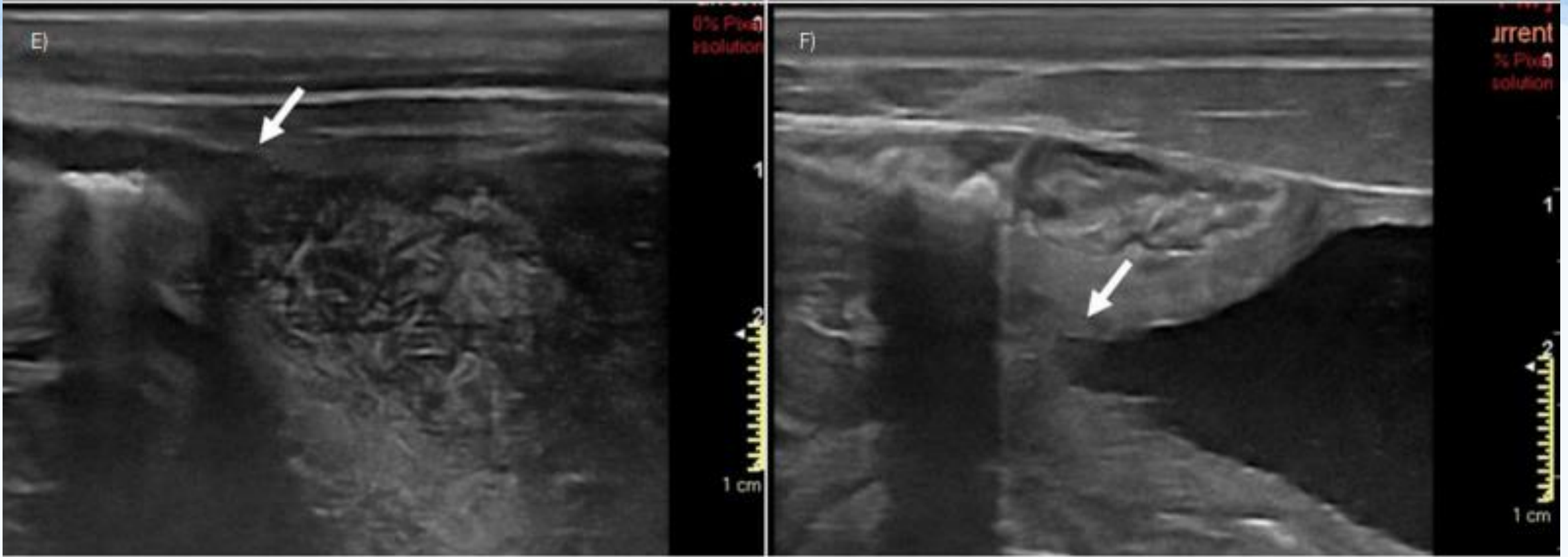


Adams, S. B., & Fessler, J. F. (2000).
Saunders Company.

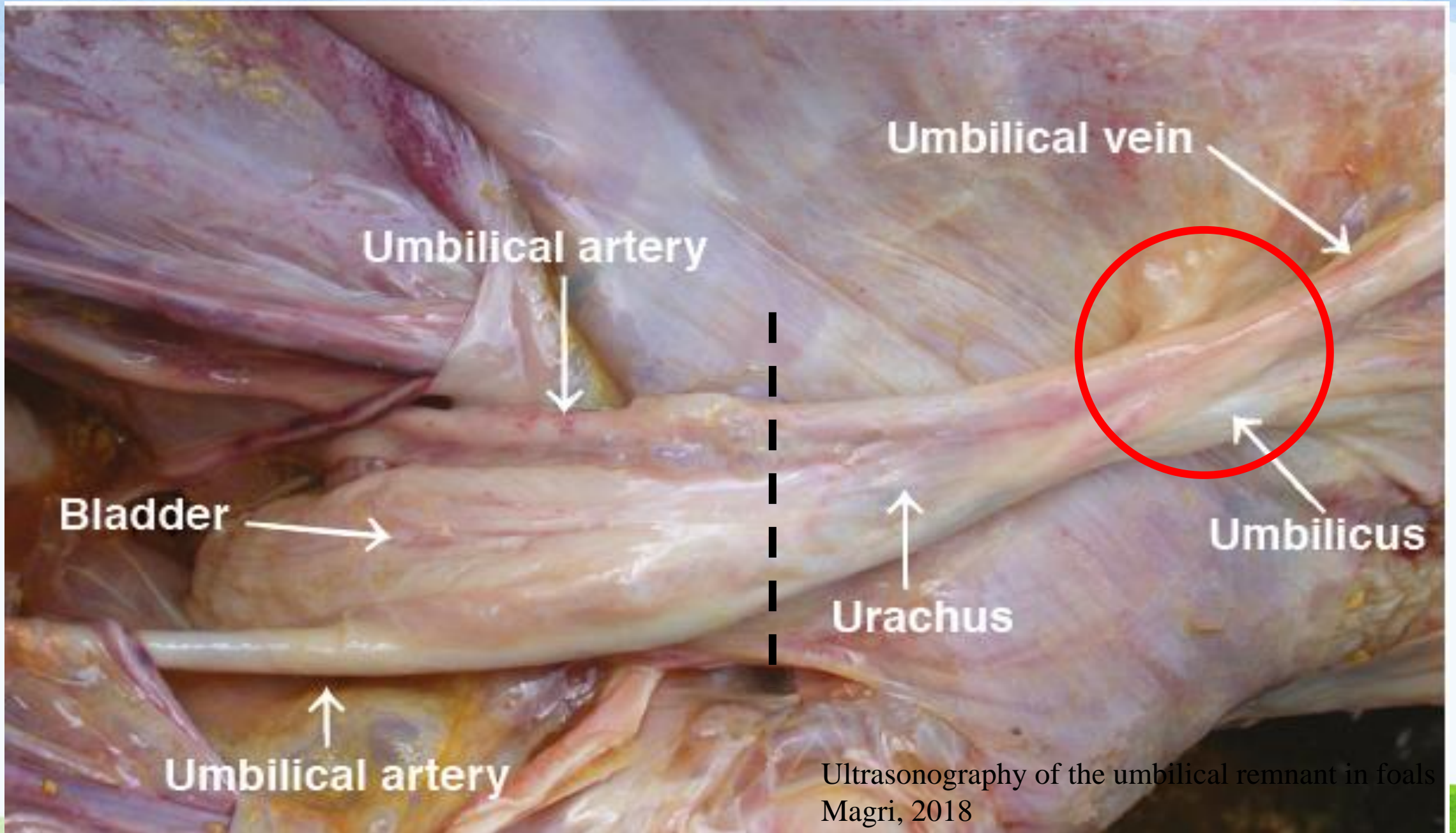
PERSISTÊNCIA DE ÚRACO

(Enfermidades do remanescente umbilical)

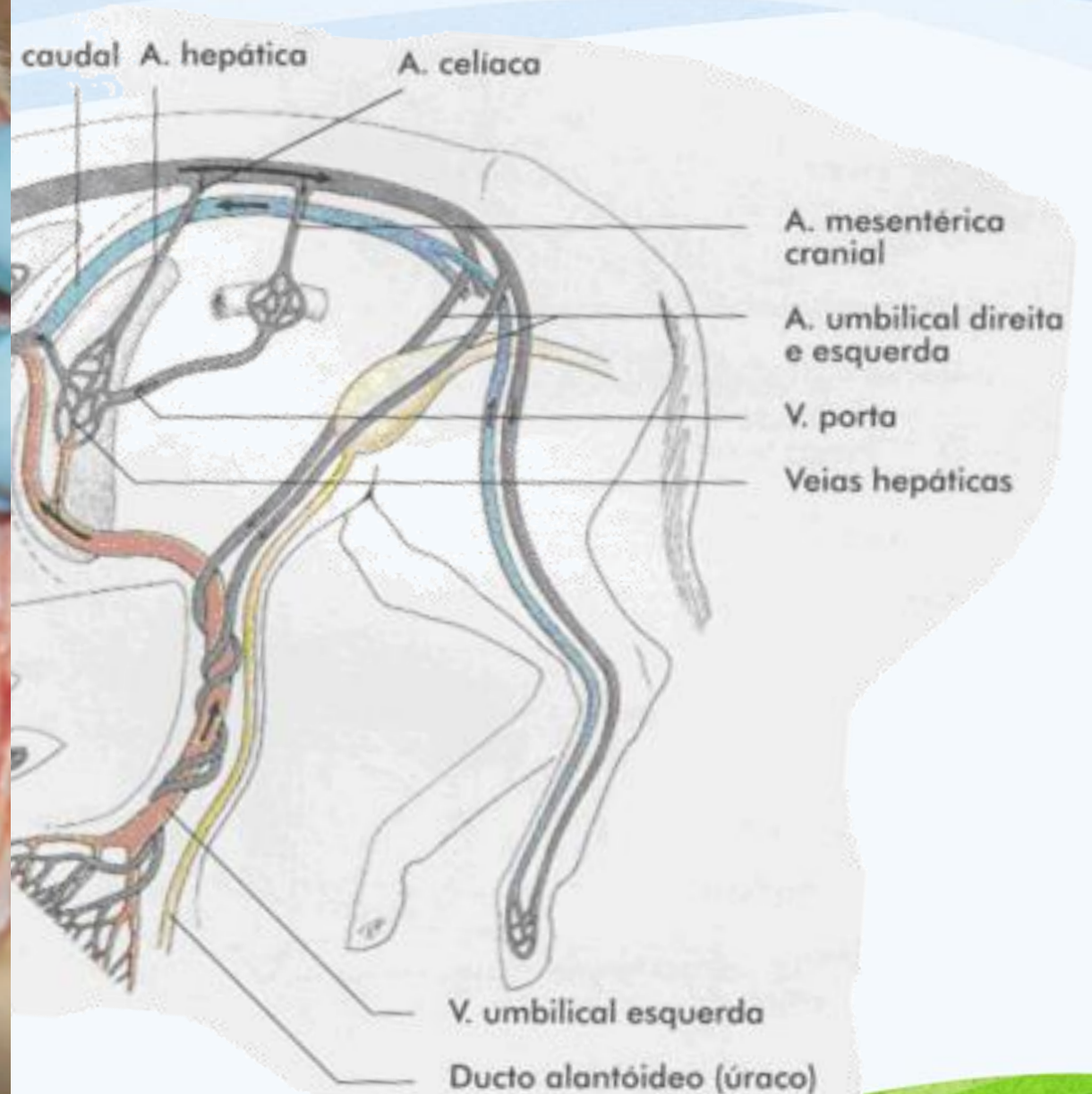
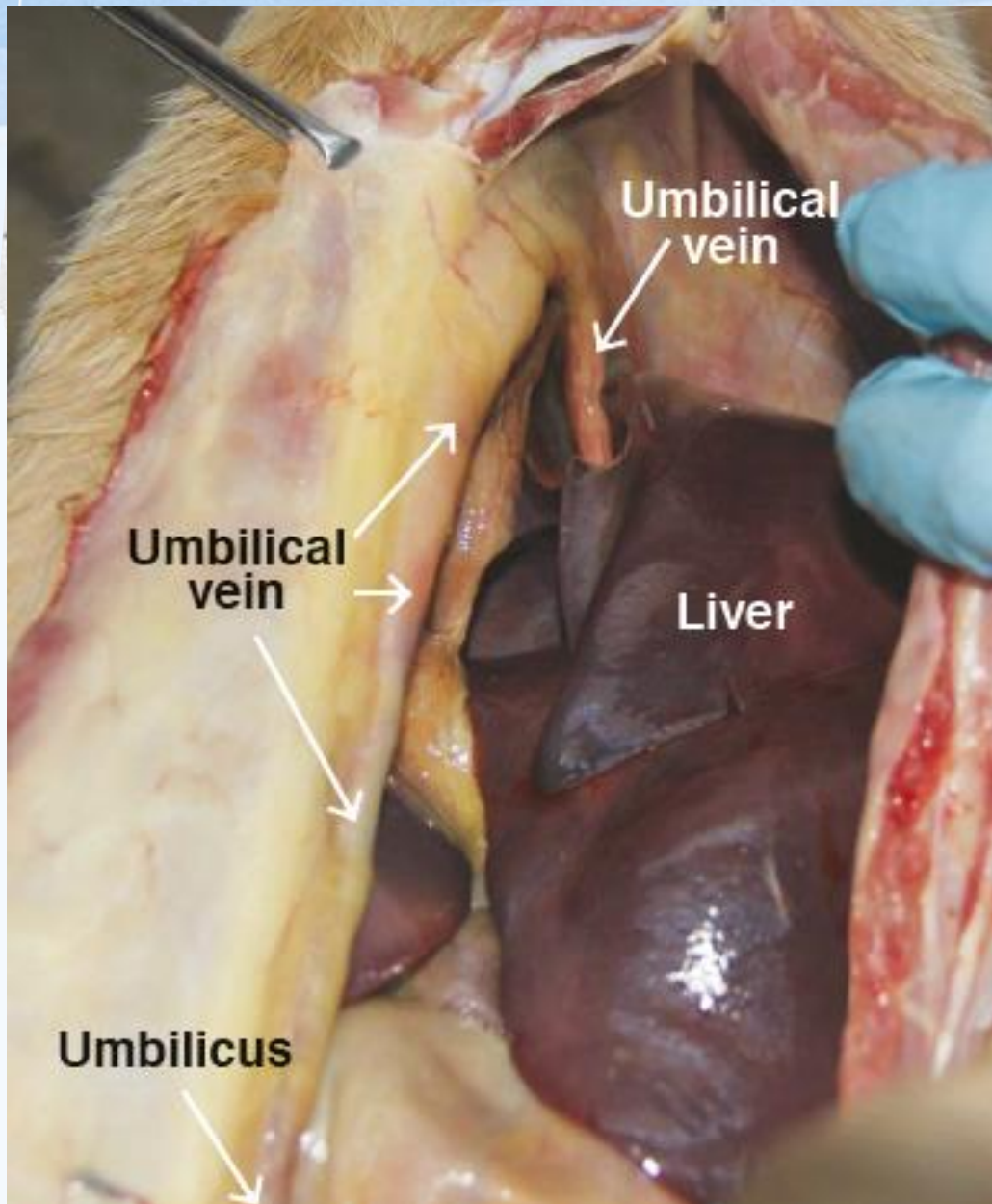
- Úraco – canal do alantoide para eliminação da urina fetal
- Deve obliterar completamente após o nascimento
- Não obliteração – urina eliminada pelo umbigo
- Processo infeccioso concomitante
- Hérnia umbilical, onfaloflebite



Normal regression of the internal umbilical remnant structures in Standardbred foals. McCoy et al., 2019

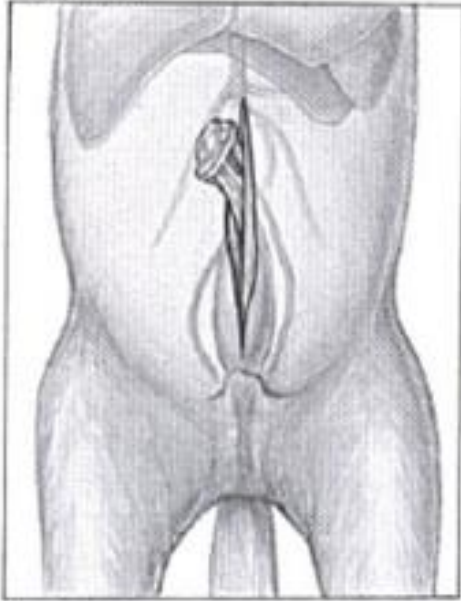


Ultrasonography of the umbilical remnant in foals
Magri, 2018

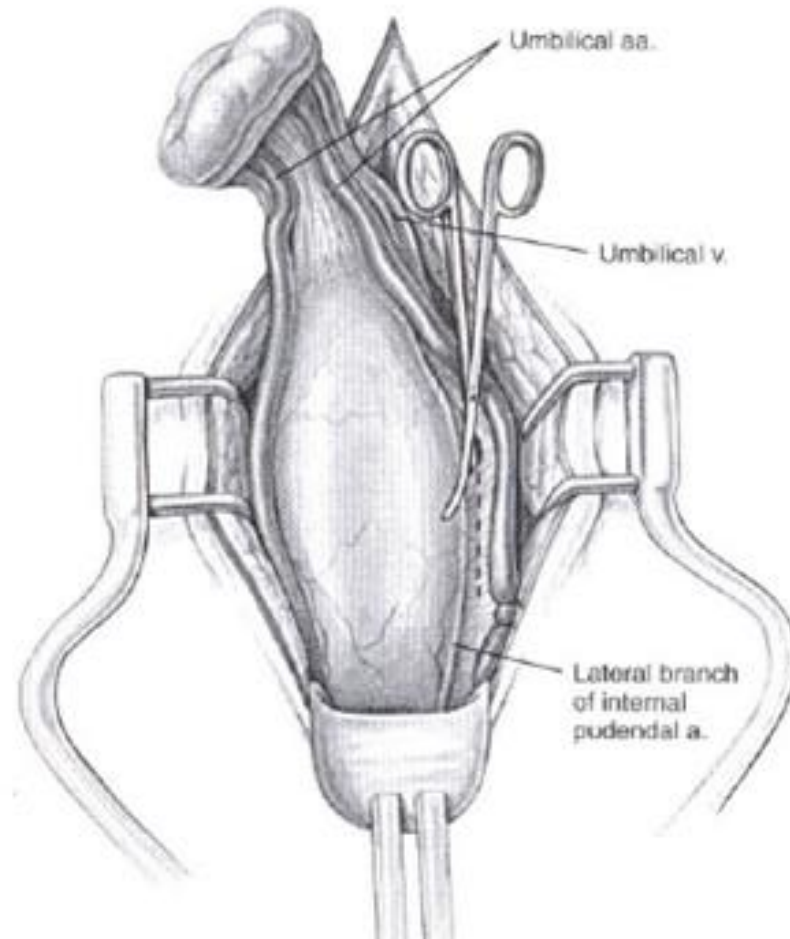


Ultrasonography of the umbilical remnant in foals
Magri, 2018

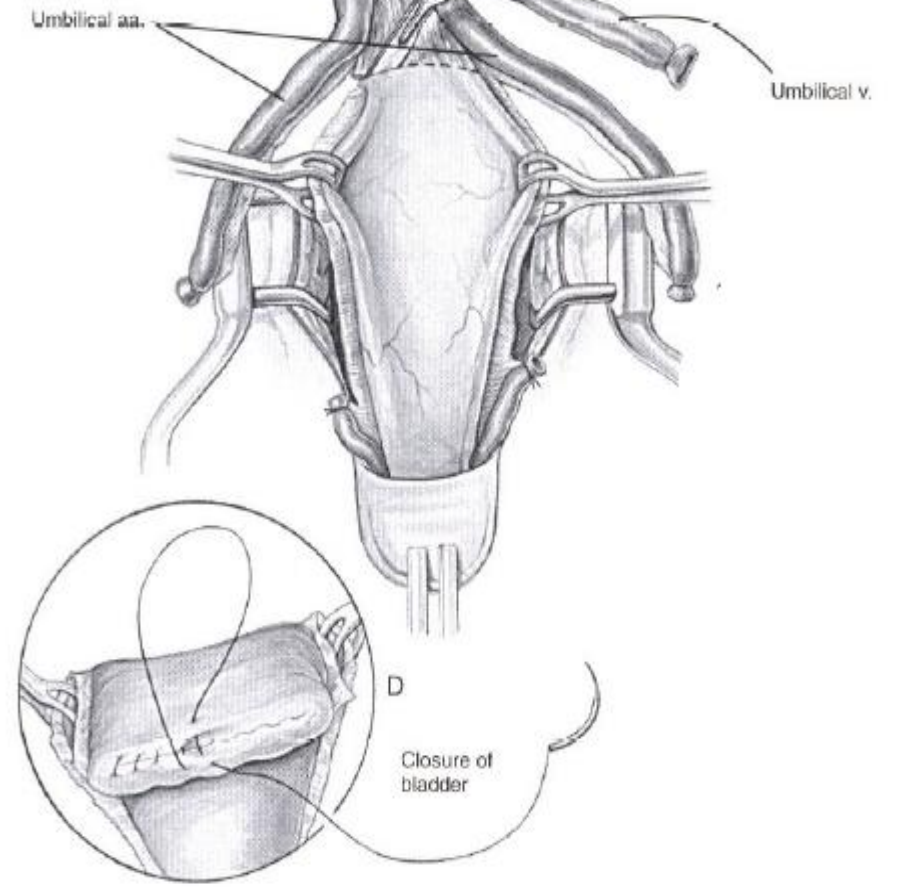
A Incision



B Cutting lateral ligament of bladder



C Cutting urachus

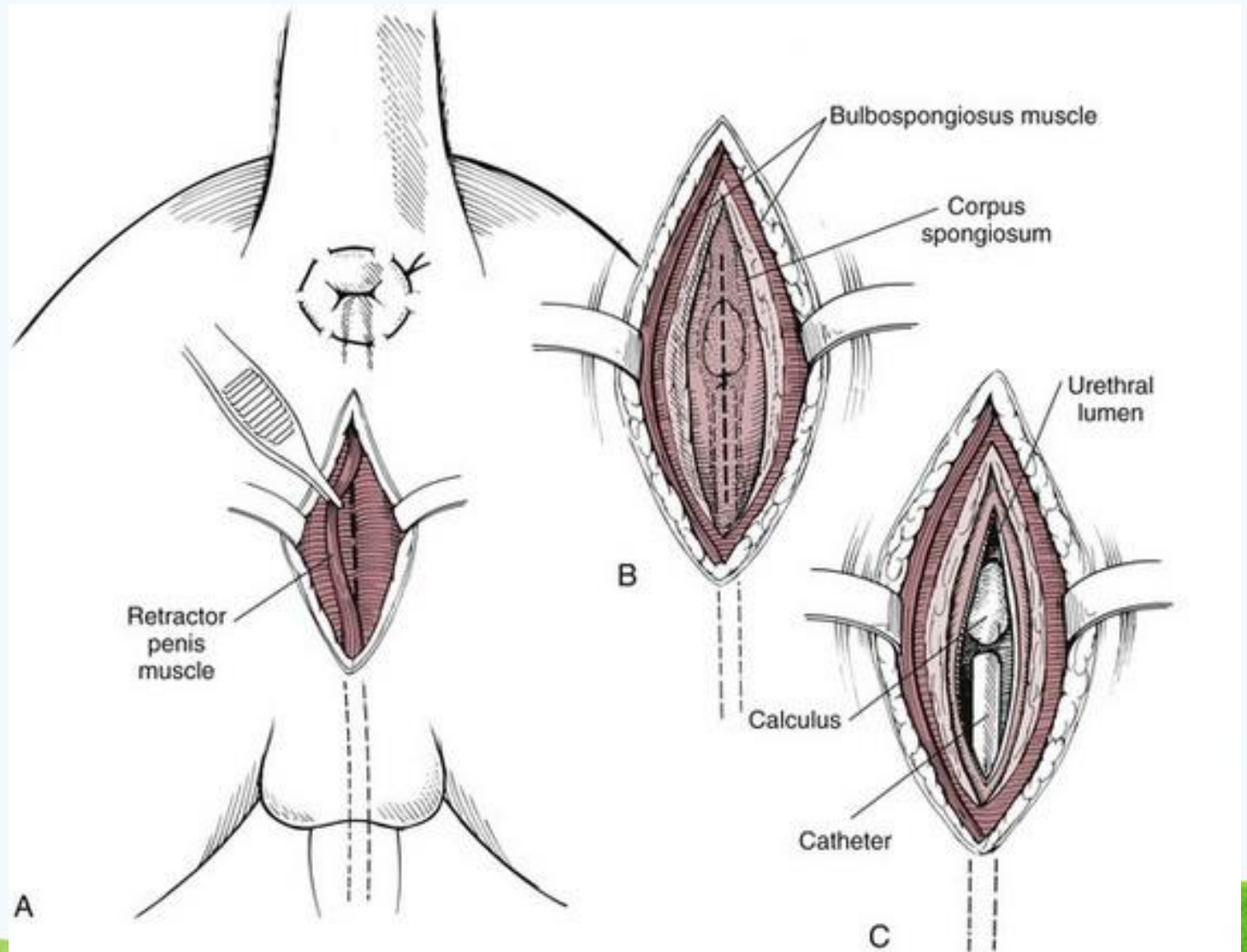


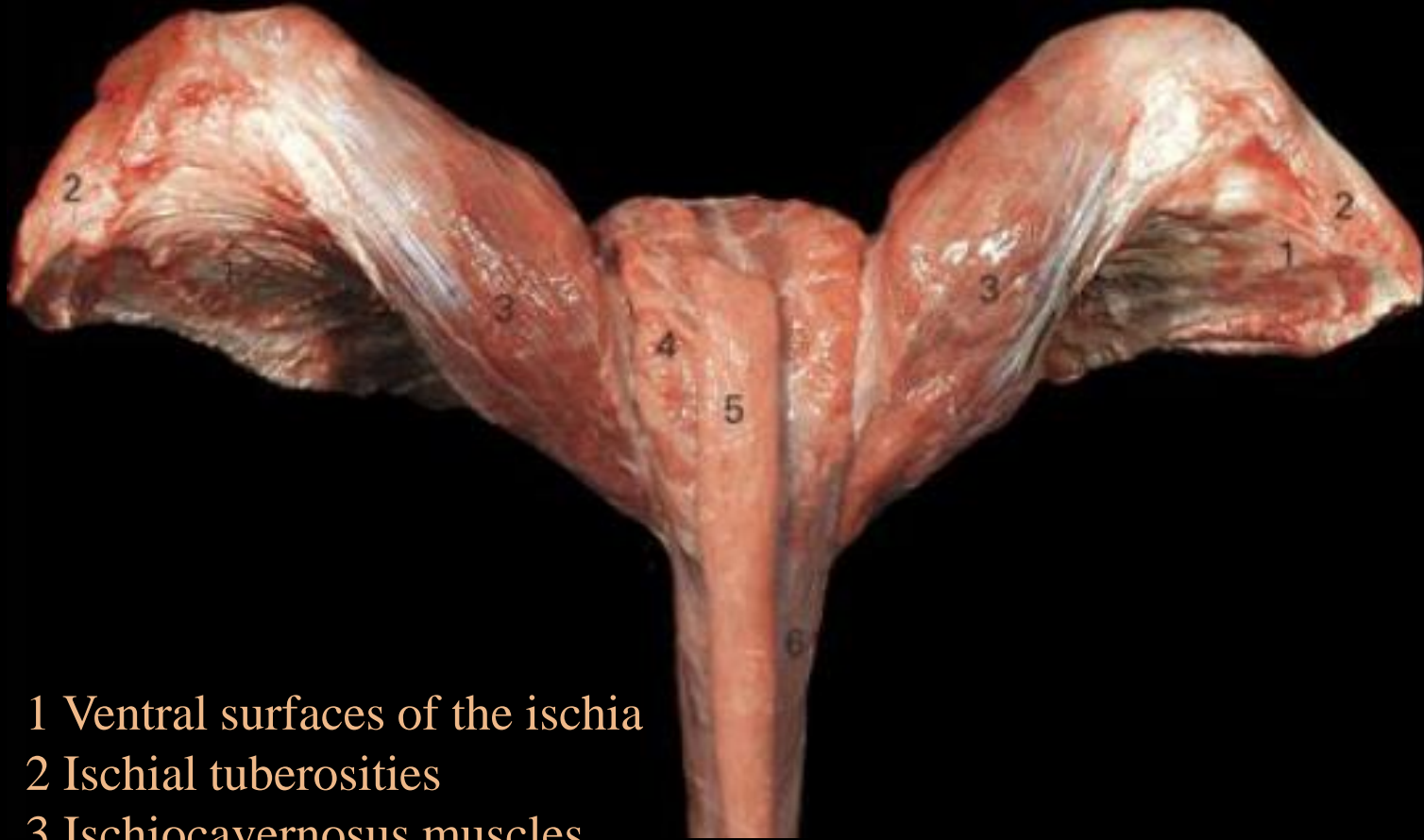
D Closure of bladder

Adams, S. B., & Fessler, J. F. (2000). *Atlas of equine surgery*. WB Saunders Company.

URETOSTOMIA - Urolitísases

- Laparocistotomia
- Uretrostomia Perineal

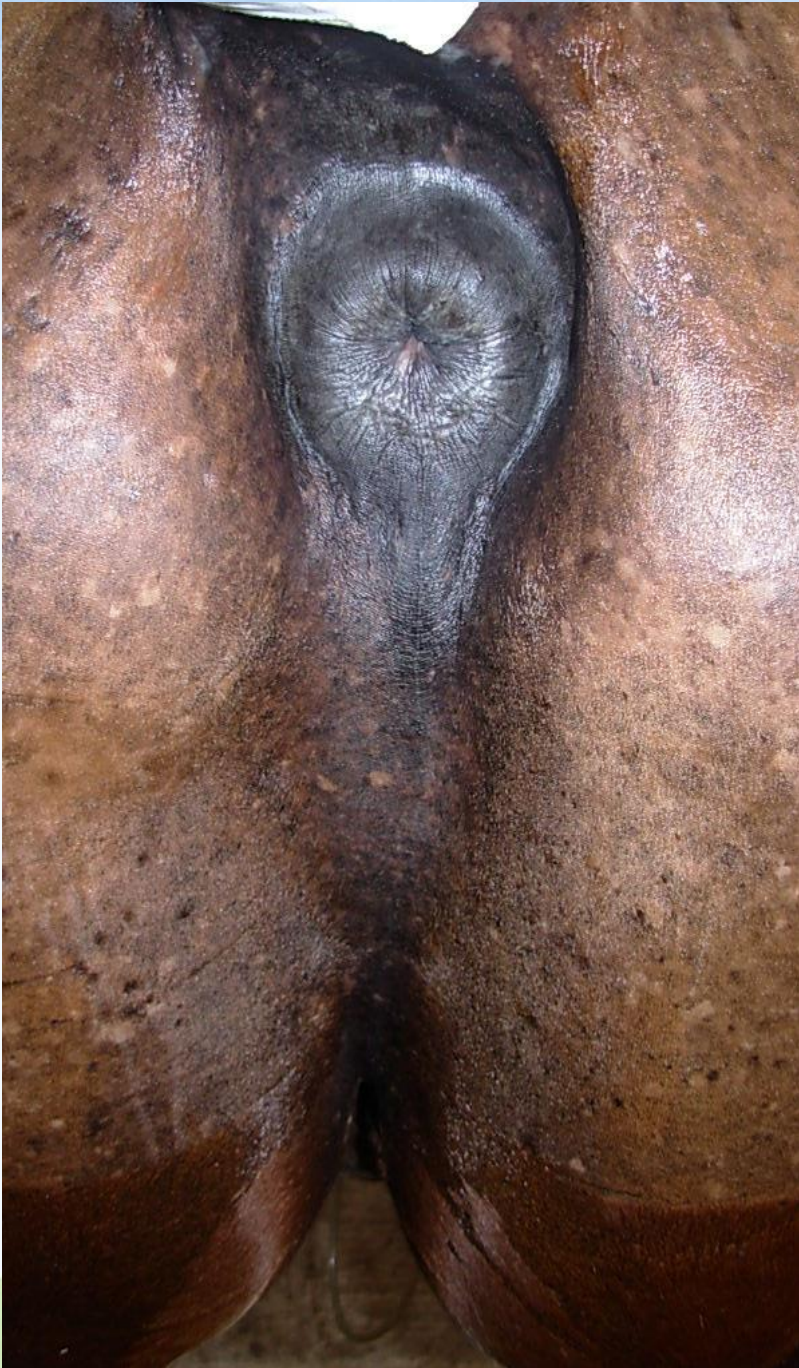




- 1 Ventral surfaces of the ischia
- 2 Ischial tuberosities
- 3 Ischiocavernosus muscles
- 4 Bulbospongiosus muscle
- 5 Retractor penis muscle
- 6 Body of the penis composed of the tunica albuginea enclosing the corpus cavernosum



- 1 Ischiocavernosus muscle
- 2 Tunica albuginea
- 3 Corpus cavernosum
- 4 Fibrous trabeculae/corpus cavernosum
- 5 Bulbospongiosus muscle
- 6 Corpus spongiosum
- 7 Urethra

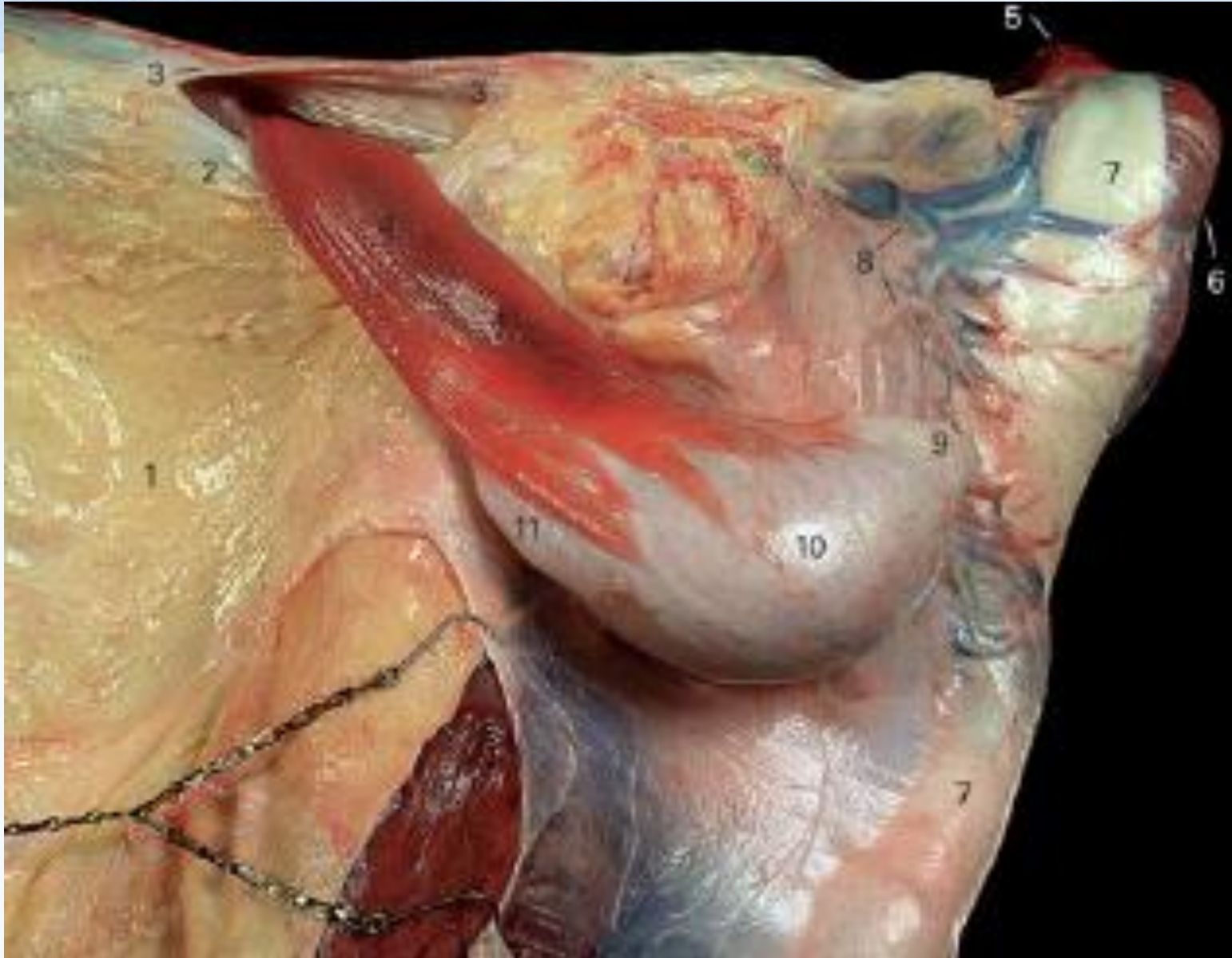


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Prof. Romero

CASTRACÃO - CRIPTORQUIDIA



- 10 Hemiscroto do lado esquerdo normal
- 11 Cauda epidídimo visível através da fáscia espermática
- 12 Testículo
- 13 M. obliquus externus abdominis
- 14 Músculo Cremaster visto emergindo do anel inguinal



**Musculo obliquo
abdominal interno –
Anel inguinal interno**

**Musculo obliquo
abdominal externo –
Anel inguinal externo**

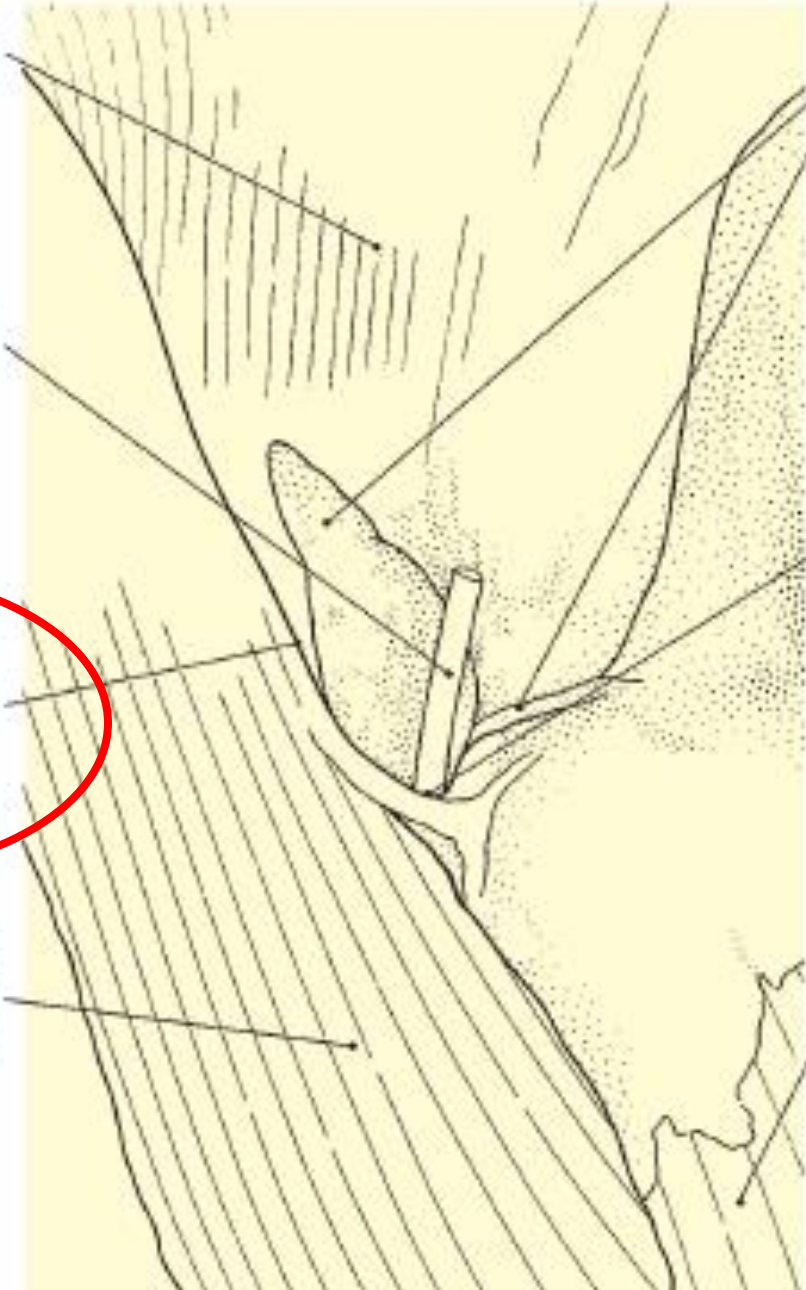


m. cremaster covered by peritoneum and transverse fascia

probe in cavity of vaginal process

*caudal border of *m. obliquus internus abdominis*, forming cranial boundary of deep inguinal ring*

m. obliquus internus abdominis, covered by peritoneum and transverse fascia



remains of the spermatic cord: vascular duct (ductus deferens and genital fold)

orifice of cavity of vaginal process

m. rectus abdominis exposed by partial removal of overlying adipose tissue

Ashdown, R. R., & Done, S. H. (2011). *Color Atlas of Veterinary Anatomy, Volume 2, The Horse-E-BOOK* (Vol. 2). Elsevier Health Sciences.

- a Linea alba
- b Vaginal process
- c Cremaster and ilioinguinal nerve

- d Transverse fascia
- e Pudendoepigastric vessels
- f Deep femoral vessels

- g Deep circumflex iliac vessels and lateral cut. femoral nerve
- h Iliacofemoral vessels

- i Tensor fasciae latae
- j Rectus femoris
- k Vastus medialis

1 Abdominal tunic

(Caudoventral view)

2 Internal abdominal oblique muscle

3 Accessory external pudendal veins

4 Symphyseal tendon fossa

5 Femoral ring

6 Pectineus (and adductor longus)

7 Femoral canal

8 Gracilis

9 Saphenous nerve

10 External abdominal oblique muscle

11 External pudendal vessels and genitofemoral nerve

12 Supf. inguinal ring

13 Vascular lacuna

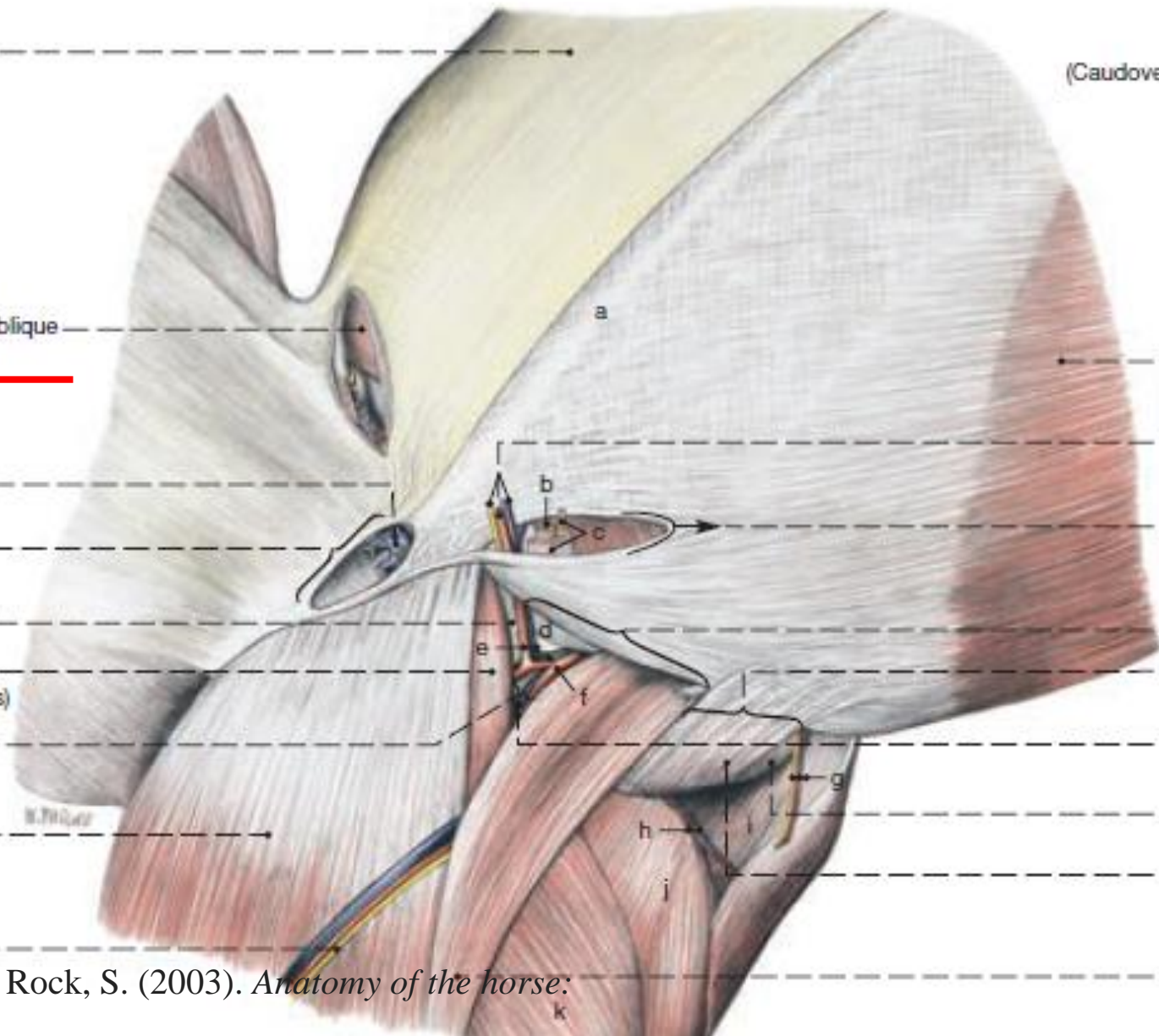
14 Muscular lacuna

15 Femoral vessels

16 Iliospoas

17 Tendinous femoral lamina

18 Sartorius



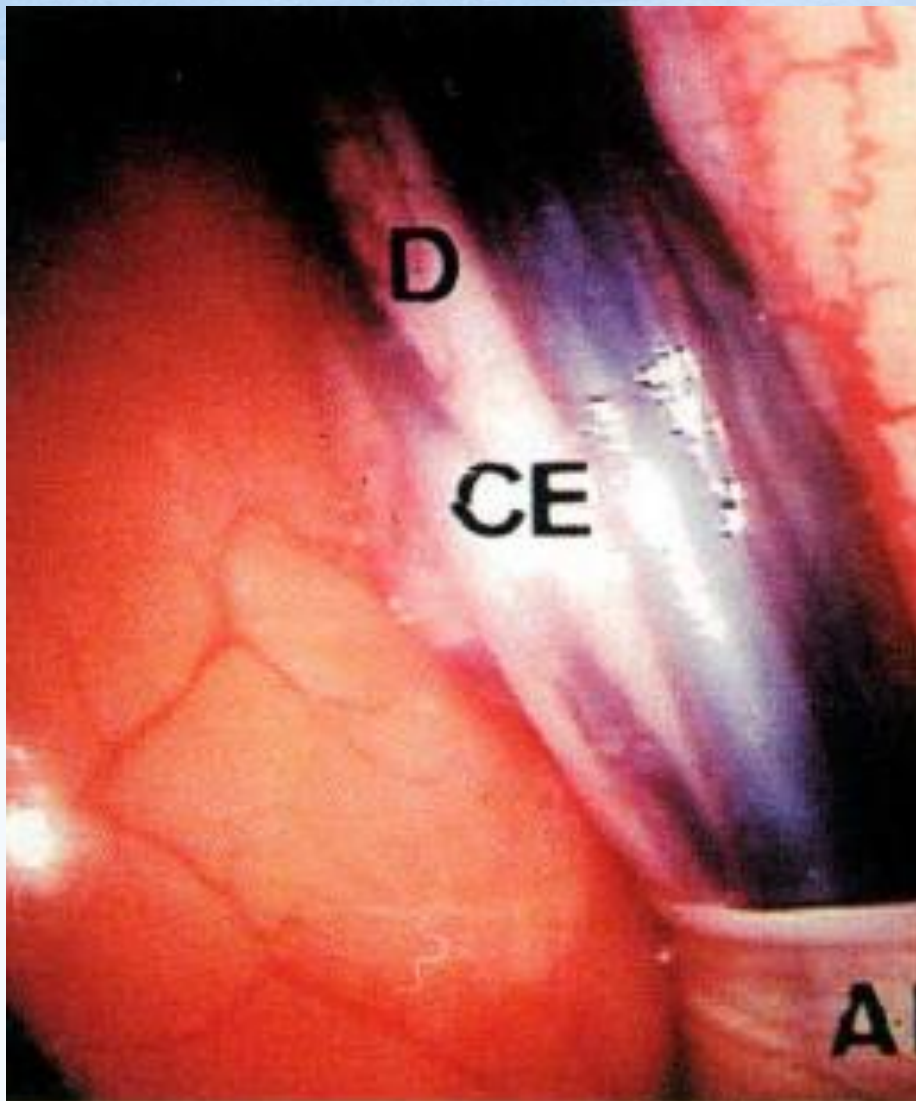


Figura 6. Imagem laparoscópica de equiflumen, suspenso por pinça de apreensão, em cavalo criptorquidagem pelo flanco esquerdo, em posição quíldico. Abordagem pelo flanco direito, em posição quadrupedal esquerdo, D-ducto deferente, CE-claustrum. T-testículo, CM-cólon menor.

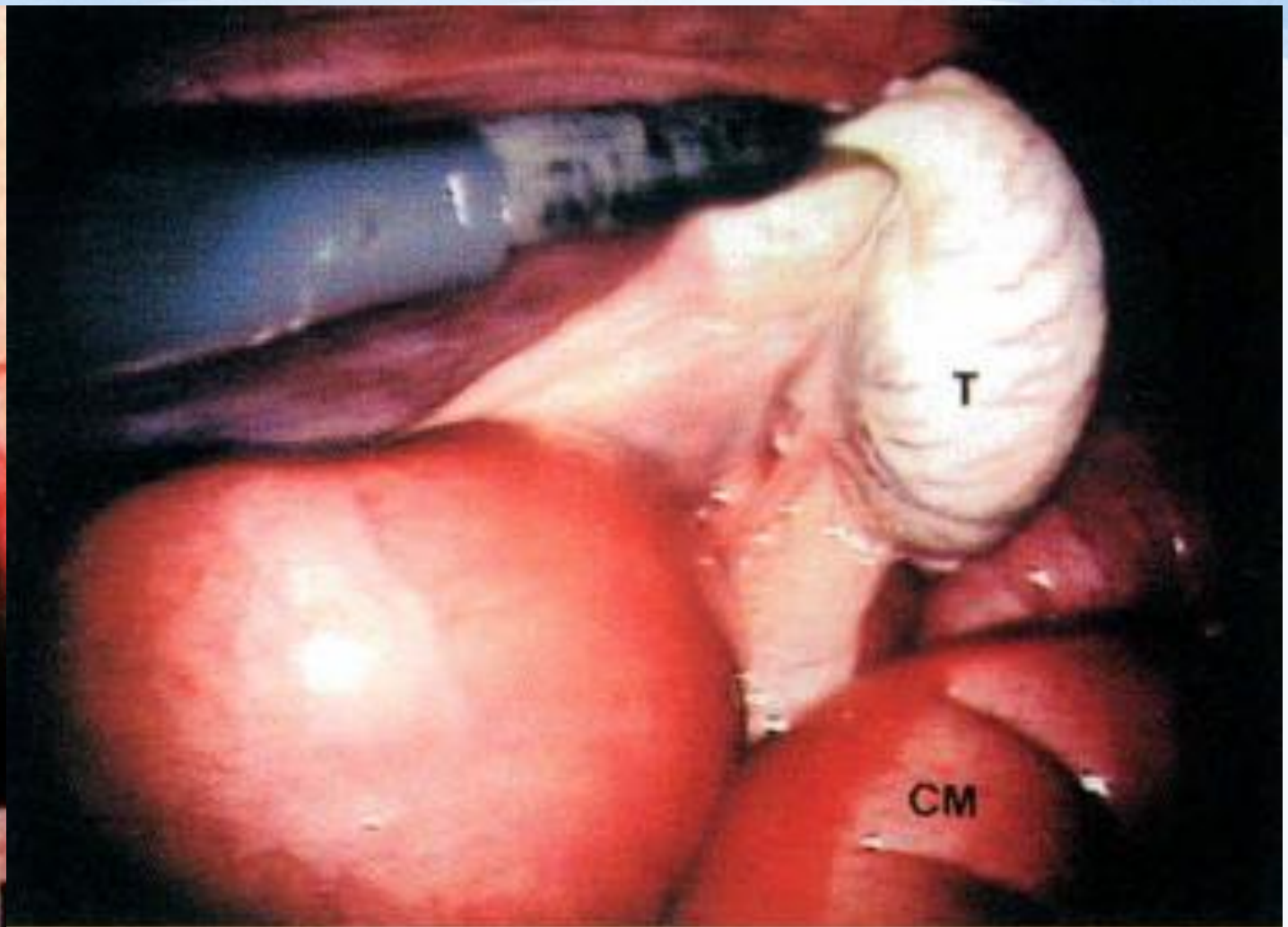
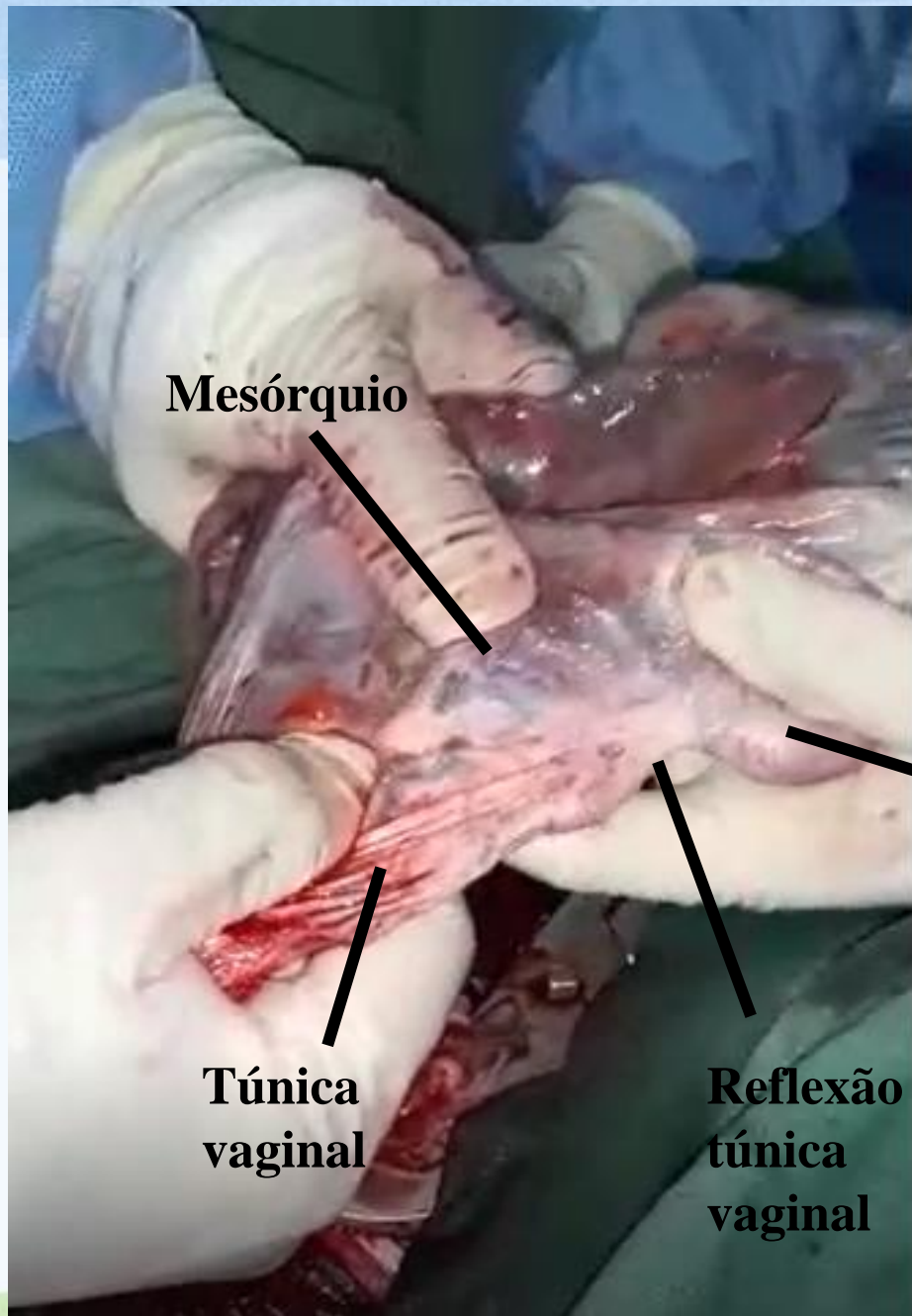


Figura 8. Imagem laparoscópica de testículo direito intra-abdominal, suspenso por pinça de apreensão, em cavalo criptorquidagem pelo flanco esquerdo, em posição quíldico. Abordagem pelo flanco direito, em posição quadrupedal esquerdo, D-ducto deferente, CE-claustrum. T-testículo, CM-cólon menor.



Mesórquio





Mesórquio

Cauda do epidídimo

Túnica vaginal

Reflexão da túnica vaginal



Cordão espermático

Túnica vaginal







Laceração perineal Retovaginal em éguas

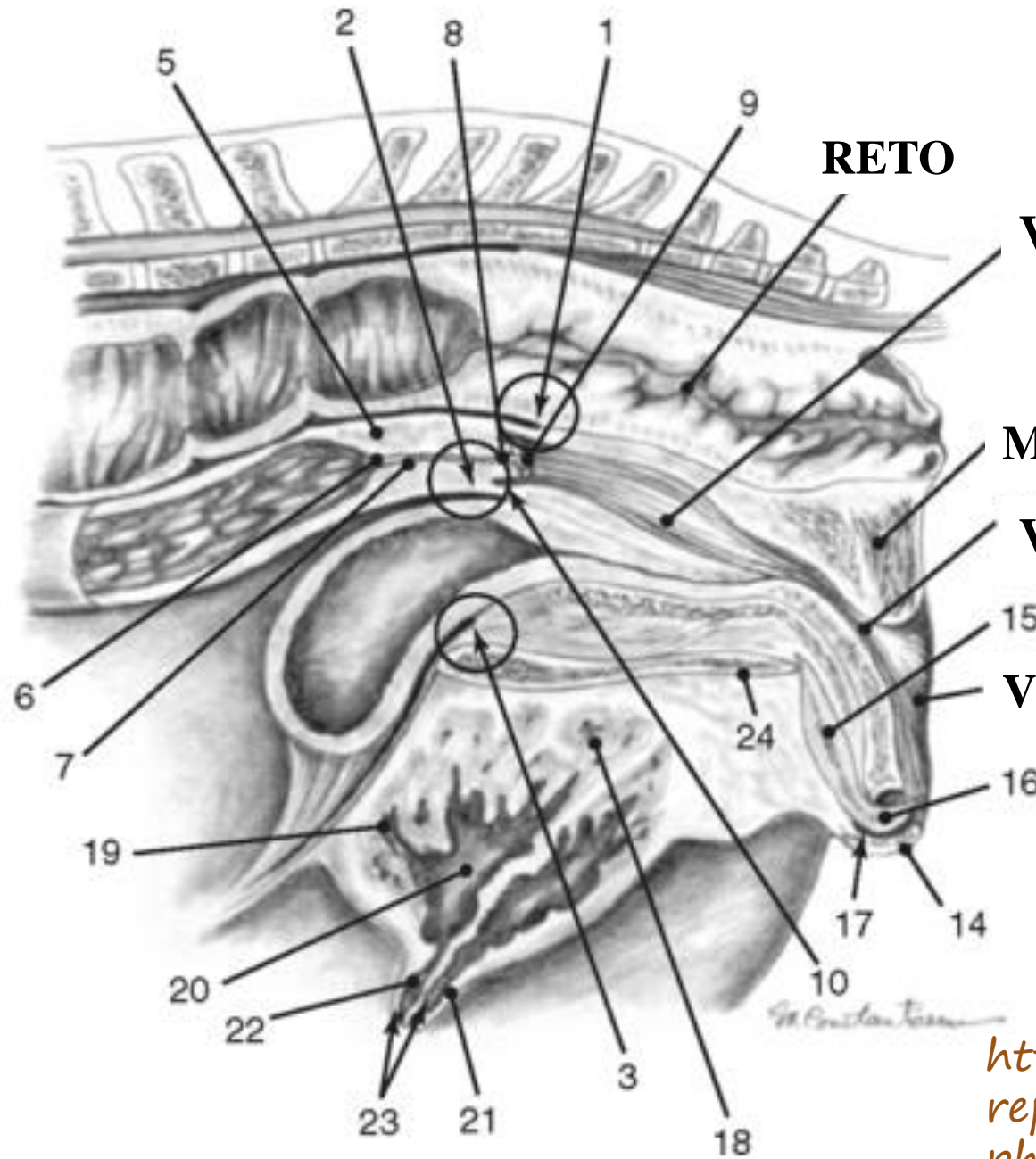


Lesão na dobra anular do hímen, entre a vagina e o vestíbulo, penetrando assim no vestíbulo dorsal e/ou no reto

1º Mucosa do vestíbulo e a pele da comissura dorsal da vulva.

2º Mucosa, a submucosa e músculos do períneo

3º Lesão completa entre o reto e o vestíbulo, desde a parede dorsal da vagina até o assoalho retal, incluindo reto, corpo perineal e esfíncter anal.



RETO

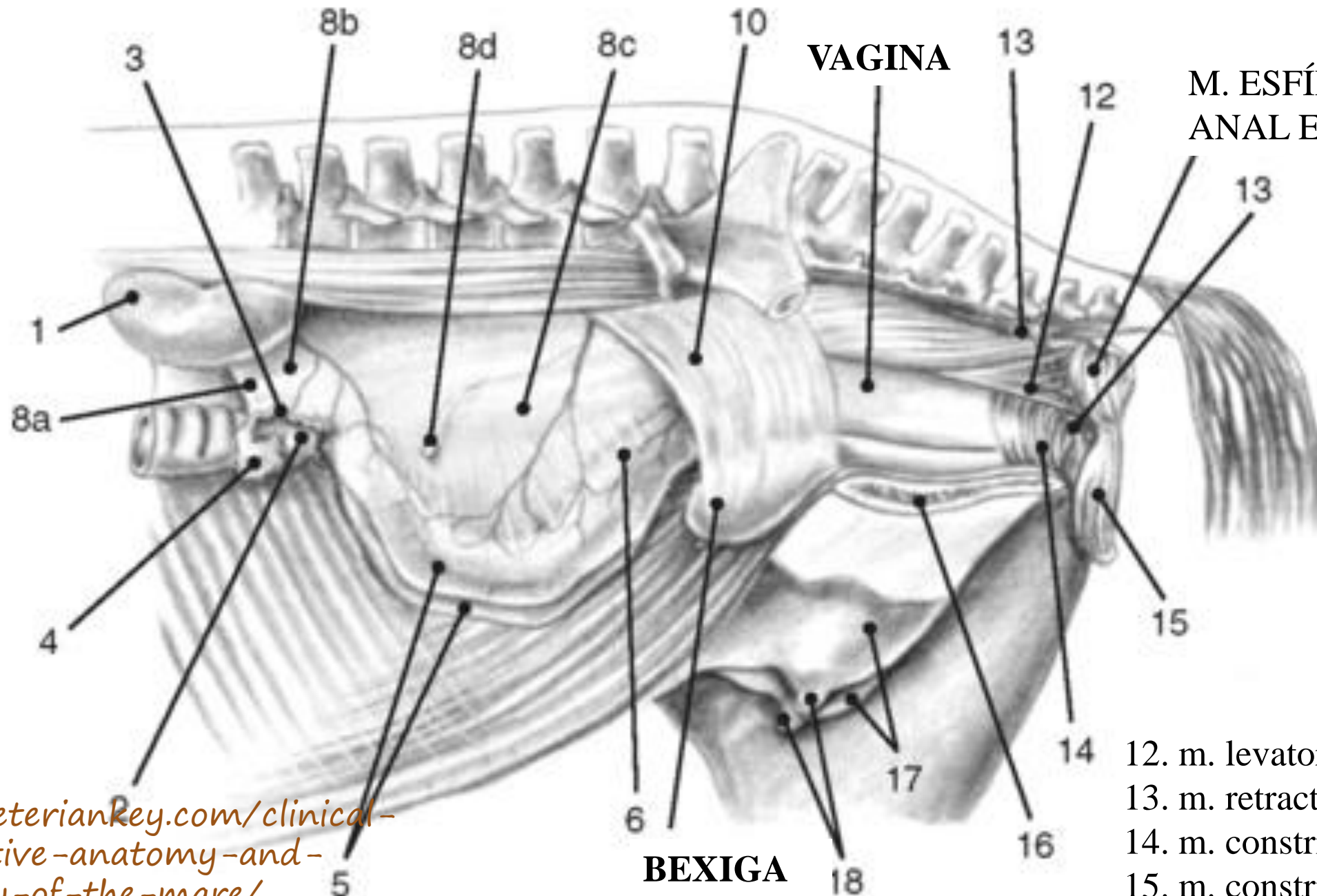
VAGINA

M. CONSTRICTOR VULVAR

VESTÍBULO

VULVA

<https://veteriankey.com/clinical-reproductive-anatomy-and-physiology-of-the-mare/>



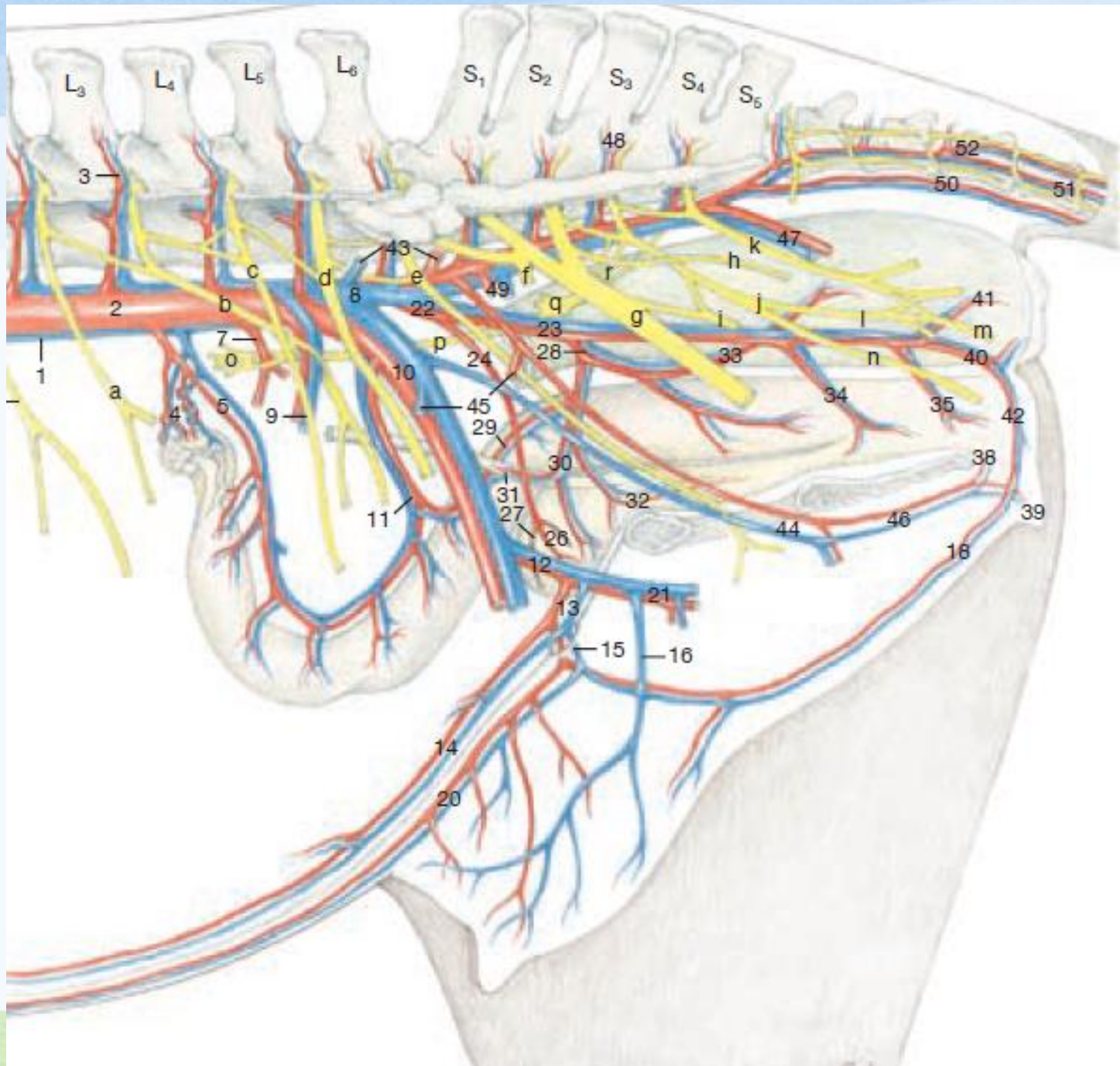
VAGINA

**M. ESFÍNCTER
ANAL EXTERNO**

BEXIGA

- 12. m. levator ani
- 13. m. retractor clitoridis;
- 14. m. constrictor vestibuli;
- 15. m. constrictor vulvae

<https://veteriankey.com/clinical-reproductive-anatomy-and-physiology-of-the-mare/>



- 34 Vestibular branch
- 35 Vessels of the vestibular bulb
- 40 Ventral perineal vessels
- 41 Caudal rectal vessels
- 42 Dorsal labial branches



(caudal view)

-
- 1 Caudal rectal n.,
Caudal gluteal a./v.
- Broad sacrotuberous ligament
- 2 Coccygeus m.
- 3 Levator ani m.
- Internal pudendal a./v.
- 4 Obturator internus
- 5 Retractor clitoridis m.
- 6 Constrictor vulvae m.
- 7 Rectococcygeus m.
- 8 External anal sphincter
- 9 Deep perineal nerve
Ventral perineal a./v.

d

a

e

f

g

