

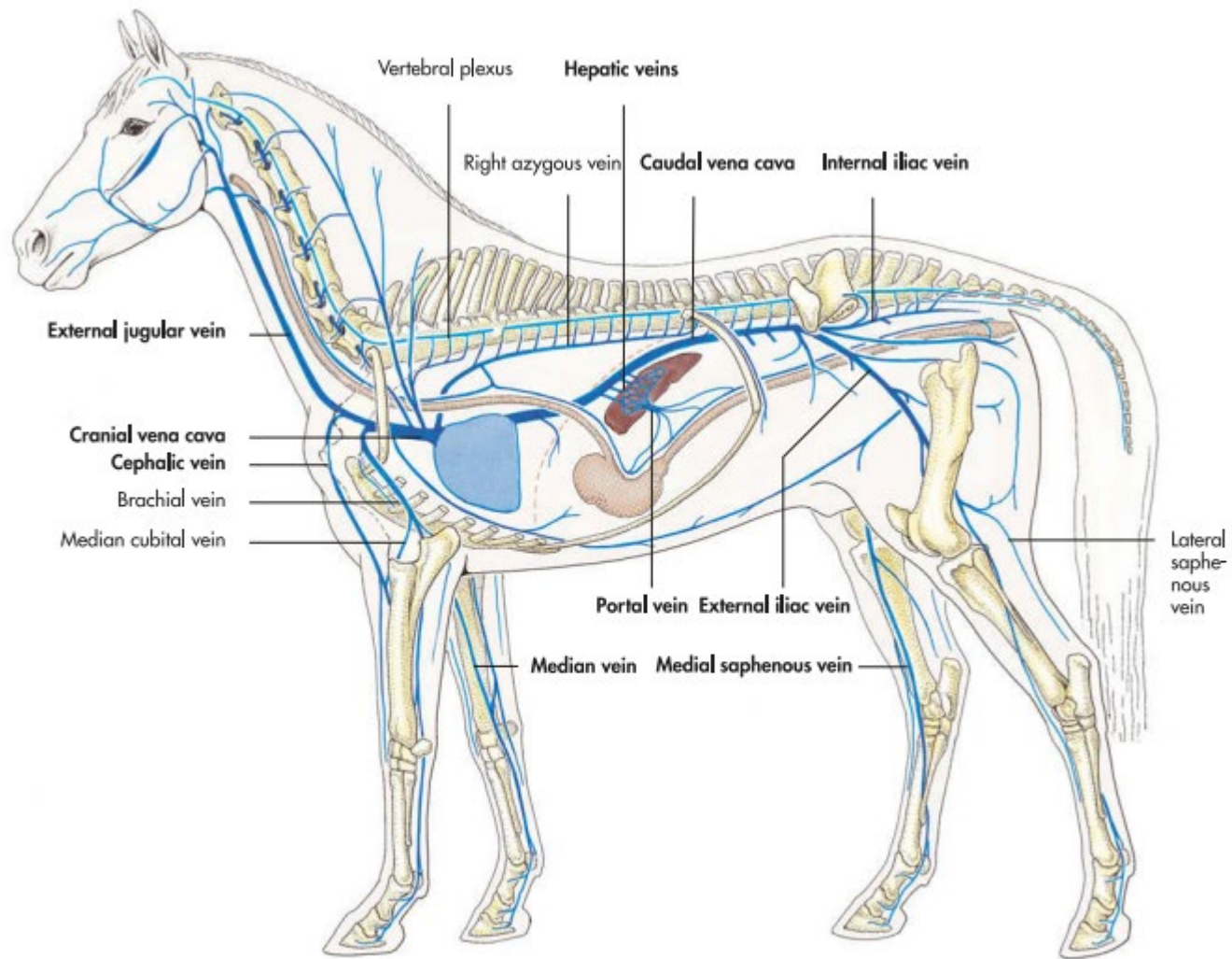
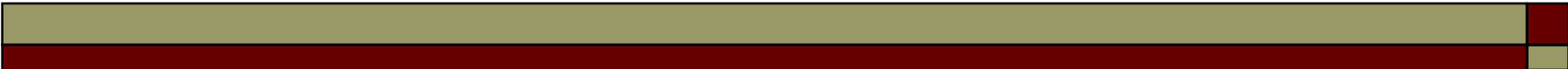


Fig. 13.28 Venous system of the horse (schematic).



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Vene malog krvotoka

- **VV. PULMONALES**
- **VV. CORDIS**

Vv. pulmonales

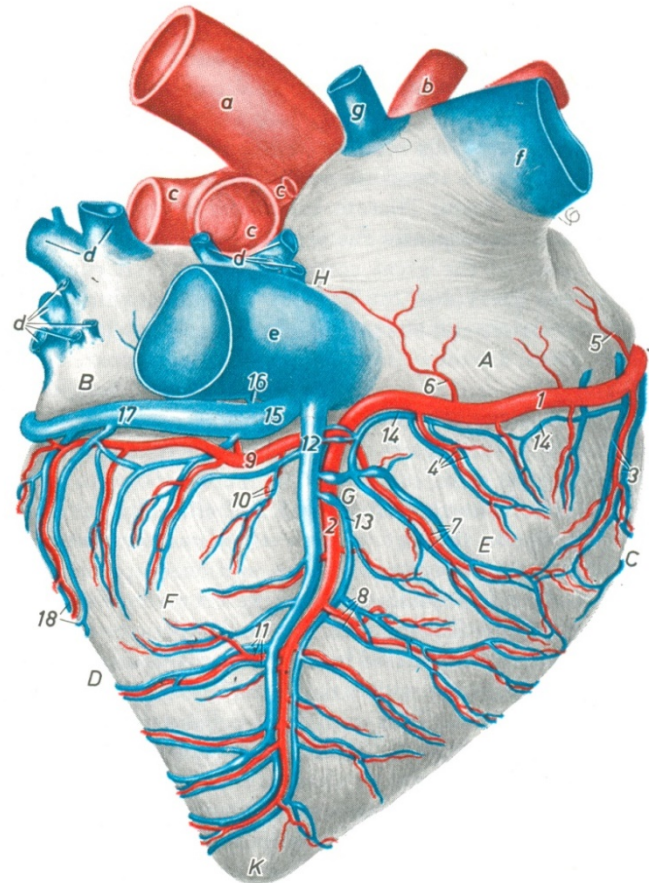
□ 5-8

Fig. 48. Arteries and veins of the facies atrialis of the heart of the horse. (After Hoffmann, Diss. med. vet., Giessen, 1960.)

A atrium dext.; *B* atrium sin.; *C* margo ventricularis dext.; *D* margo ventricularis sin.; *E* ventriculus dext.; *F* ventriculus sin.; *G* sulcus interventricularis subsinuus; *H* sinus venarum cavarum; *J* sulcus coronarius, pars dext.; *K* apex cordis

a arcus aortae; *b* truncus brachiocephalicus communis; *c, c* aa. pulmonales; *d* vv. pulmonales; *e* v. cava caud.; *f* v. cava cran.; *g* v. azygos dext.

1 r. circumflexus of the a. coronaria dext., *2* its r. interventricularis subsinuus; *3* r. marginis ventricularis dext. and vv. cordis parvae; *4* r. dist. ventriculi dext. and vv. cordis parvae; *5* r. intermed. atrii dext.; *6* r. dist. atrii dext.; *7* r. collateralis dext. prox. and branch of the v. cordis media; *8* r. collateralis dext. dist. and branch of the v. cordis media; *9* r. coronarius sin. and branch of the v. cordis media; *10* v. paracoronaria; *11* r. and v. collateralis ventriculi sin.; *12* v. cordis media, *13* its parallel branch; *14* bypass vein of the vv. cordis parvae; *15* sinus coronarius; *16* v. obliqua atrii sin.; *17* v. cordis magna and transition into its pars circumflexa; *18* v. dist. ventriculi sin.





Vv. cordis

- ☐ **V. cordis magna**
- ☐ **V. cordis media**
- ☐ **Vv. cordis parvae (dextrae)**
- ☐ **Vv. cordis minimae**

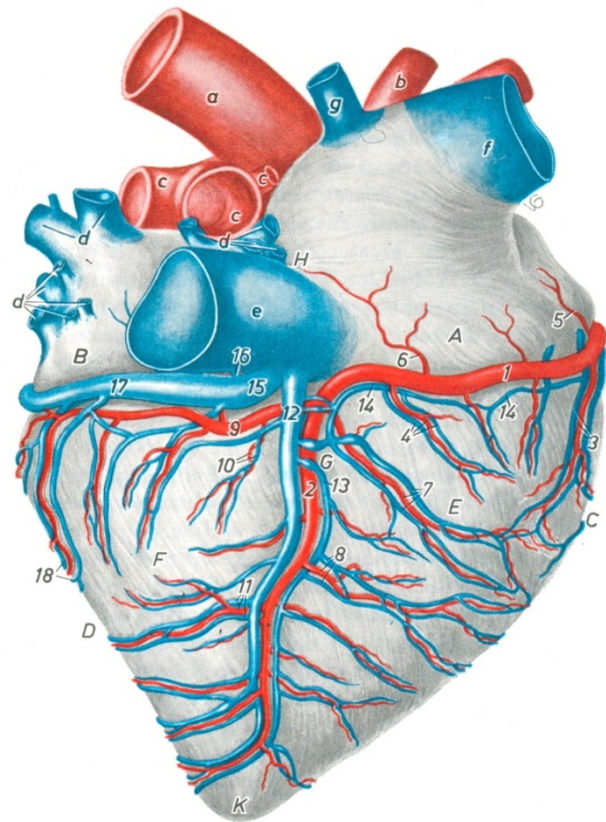
□ Odvode v. krv iz srca u DPK direktno ili preko **Sinus coronarius-a**.

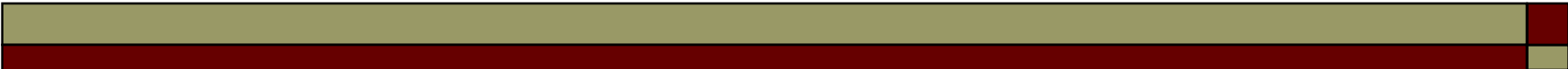
Fig. 48. Arteries and veins of the facies atrialis of the heart of the horse. (After Hoffmann, Diss. med. vet., Giessen, 1960.)

A atrium dext.; *B* atrium sin.; *C* margo ventricularis dext.; *D* margo ventricularis sin.; *E* ventriculus dext.; *F* ventriculus sin.; *G* sulcus interventricularis subsinuus; *H* sinus venarum cavarum; *J* sulcus coronarius, pars dext.; *K* apex cordis

a arcus aortae; *b* truncus brachiocephalicus communis; *c, c* aa. pulmonales; *d* vv. pulmonales; *e* v. cava caud.; *f* v. cava cran.; *g* v. azygos dext.

1 r. circumflexus of the a. coronaria dext., *2* its r. interventricularis subsinuus; *3* r. marginis ventricularis dext. and vv. cordis parvae; *4* r. dist. ventriculi dext. and vv. cordis parvae; *5* r. intermed. atrii dext.; *6* r. dist. atrii dext.; *7* r. collateralis dext. prox. and branch of the v. cordis media; *8* r. collateralis dext. dist. and branch of the v. cordis media; *9* r. coronarius sin. and branch of the v. cordis media; *10* v. paracoronaria; *11* r. and v. collateralis ventriculi sin.; *12* v. cordis media, *13* its parallel branch; *14* bypass vein of the vv. cordis parvae; *15* sinus coronarius; *16* v. obliqua atrii sin.; *17* v. cordis magna and transition into its pars circumflexa; *18* v. dist. ventriculi sin.





V. cordis magna

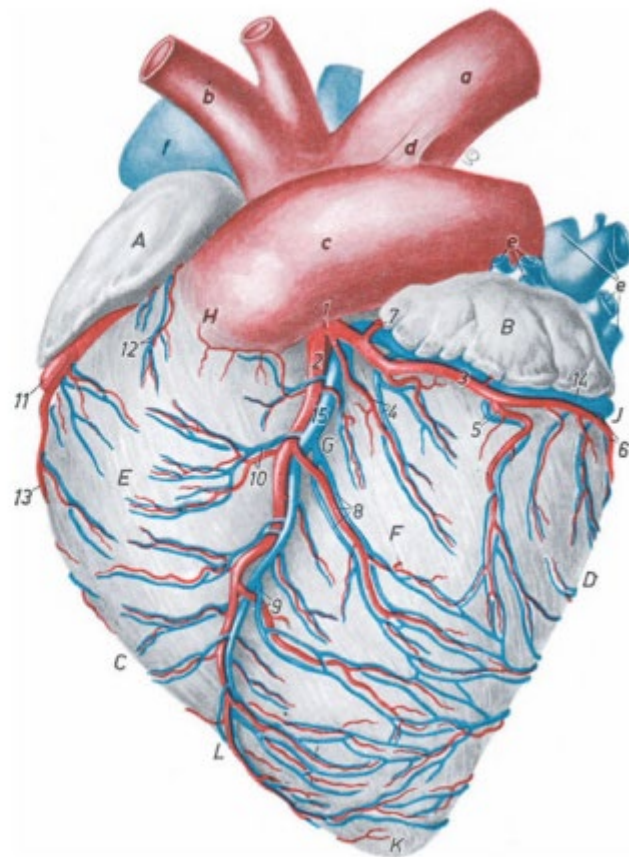
- ❑ Odvodi v. krv iz zida LK i DK.
- ❑ **Ramus circumflexus**
- ❑ **Ramus interventricularis paraconalis**

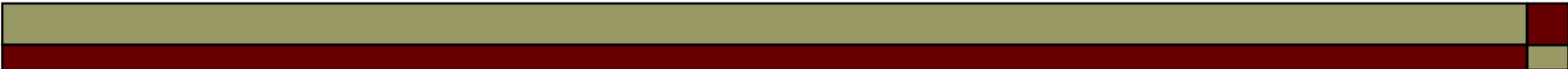
Fig. 47. Arteries and veins of the auricular surface of the heart of the horse. (After Hoffmann, Diss. med. vet., Giessen, 1960.)

A right auricle; *B* left auricle; *C* margo ventricularis dext.; *D* margo ventricularis sin.; *E* ventriculus dext.; *F* ventriculus sin.; *G* sulcus interventricularis paraconalis; *H* conus arteriosus; *I* sulcus coronarius, pars sin.; *K* apex cordis; *L* incisura apicis

a arcus aortae; *b* truncus brachiocephalicus communis; *c* truncus pulmonalis; *d* lig. arteriosum; *e* vv. pulmonales; *f* v. cava cran.

1 a. coronaria sin.; *2* its r. interventricularis paraconalis, *3* its r. circumflexus; *4* r. and v. angularis; *5* r. prox. ventriculi sin. and branch of the v. cordis magna; *6* r. marginis ventricularis sin. and branch of the v. cordis magna; *7* r. prox. atrii sin.; *8* r. collateralis sin. prox.; *9* r. collateralis sin. dist.; *10* r. and v. coni arteriosi; *11* r. circumflexus of the a. coronaria dext.; *12* r. coni arteriosi and v. cordis parva; *13* r. prox. ventriculi dext.; *14* r. circumflexus of the v. cordis magna; *15* v. interventricularis paraconalis





V. cordis media

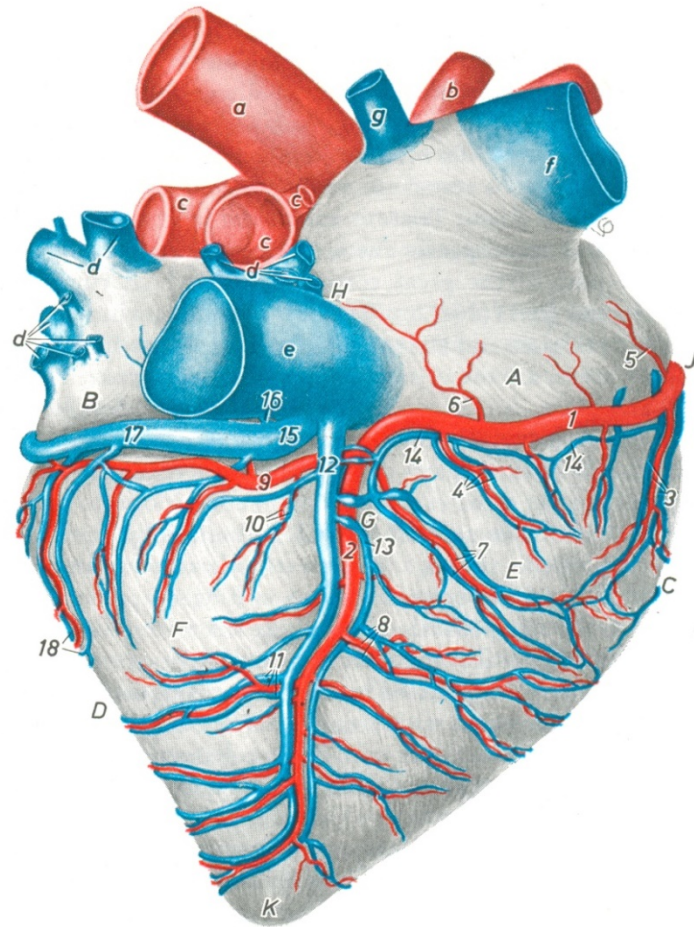
- Izlazi iz Sinus coronarius-a, a kod **eq** direktno iz DPK.
- Odvodi v. krv iz zida DK, LK i septum interventriculare.

Fig. 48. Arteries and veins of the facies atrialis of the heart of the horse. (After Hoffmann, Diss. med. vet., Giessen, 1960.)

A atrium dext.; *B* atrium sin.; *C* margo ventricularis dext.; *D* margo ventricularis sin.; *E* ventriculus dext.; *F* ventriculus sin.; *G* sulcus interventricularis subsinuosus; *H* sinus venarum cavarum; *J* sulcus coronarius, pars dext.; *K* apex cordis

a arcus aortae; *b* truncus brachiocephalicus communis; *c, c* aa. pulmonales; *d* vv. pulmonales; *e* v. cava caud.; *f* v. cava cran.; *g* v. azygos dext.

1 r. circumflexus of the a. coronaria dext., 2 its r. interventricularis subsinuosus; 3 r. marginis ventricularis dext. and vv. cordis parvae; 4 r. dist. ventriculi dext. and vv. cordis parvae; 5 r. intermed. atrii dext.; 6 r. dist. atrii dext.; 7 r. collateralis dext. prox. and branch of the v. cordis media; 8 r. collateralis dext. dist. and branch of the v. cordis media; 9 r. coronarius sin. and branch of the v. cordis media; 10 v. paracoronaria; 11 r. and v. collateralis ventriculi sin.; 12 v. cordis media, 13 its parallel branch; 14 bypass vein of the vv. cordis parvae; 15 sinus coronarius; 16 v. obliqua atrii sin.; 17 v. cordis magna and transition into its pars circumflexa; 18 v. dist. ventriculi sin.



V. cordis parvae seu dextrae

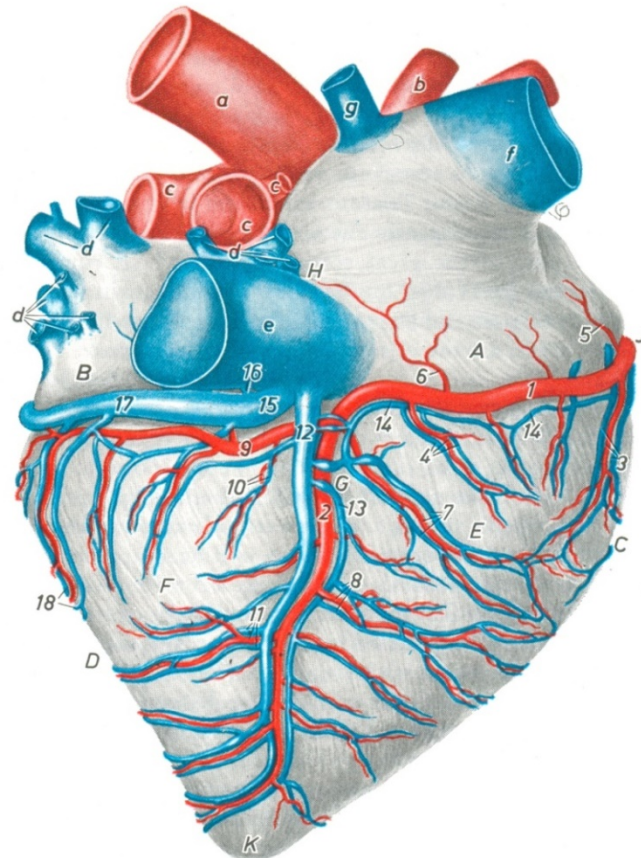
- Nose v. krv iz DK direktno u DPK.

Fig. 48. Arteries and veins of the facies atrialis of the heart of the horse. (After Hoffmann, Diss. med. vet., Giessen, 1960.)

A atrium dext.; *B* atrium sin.; *C* margo ventricularis dext.; *D* margo ventricularis sin.; *E* ventriculus dext.; *F* ventriculus sin.; *G* sulcus interventricularis subsinuus; *H* sinus venarum cavarum; *J* sulcus coronarius, pars dext.; *K* apex cordis

a arcus aortae; *b* truncus brachiocephalicus communis; *c, c* aa. pulmonales; *d* vv. pulmonales; *e* v. cava caud.; *f* v. cava cran.; *g* v. azygos dext.

1 r. circumflexus of the a. coronaria dext., *2* its r. interventricularis subsinuus; *3* r. marginis ventricularis dext. and vv. cordis parvae; *4* r. dist. ventriculi dext. and vv. cordis parvae; *5* r. intermed. atrii dext.; *6* r. dist. atrii dext.; *7* r. collateralis dext. prox. and branch of the v. cordis media; *8* r. collateralis dext. dist. and branch of the v. cordis media; *9* r. coronarius sin. and branch of the v. cordis media; *10* v. paracoronaria; *11* r. and v. collateralis ventriculi sin.; *12* v. cordis media, *13* its parallel branch; *14* bypass vein of the vv. cordis parvae; *15* sinus coronarius; *16* v. obliqua atrii sin.; *17* v. cordis magna and transition into its pars circumflexa; *18* v. dist. ventriculi sin.



V. cordis minimae

- Nose v. krv direktno u pretkomore i komore kroz Foramina venarum minimarum.

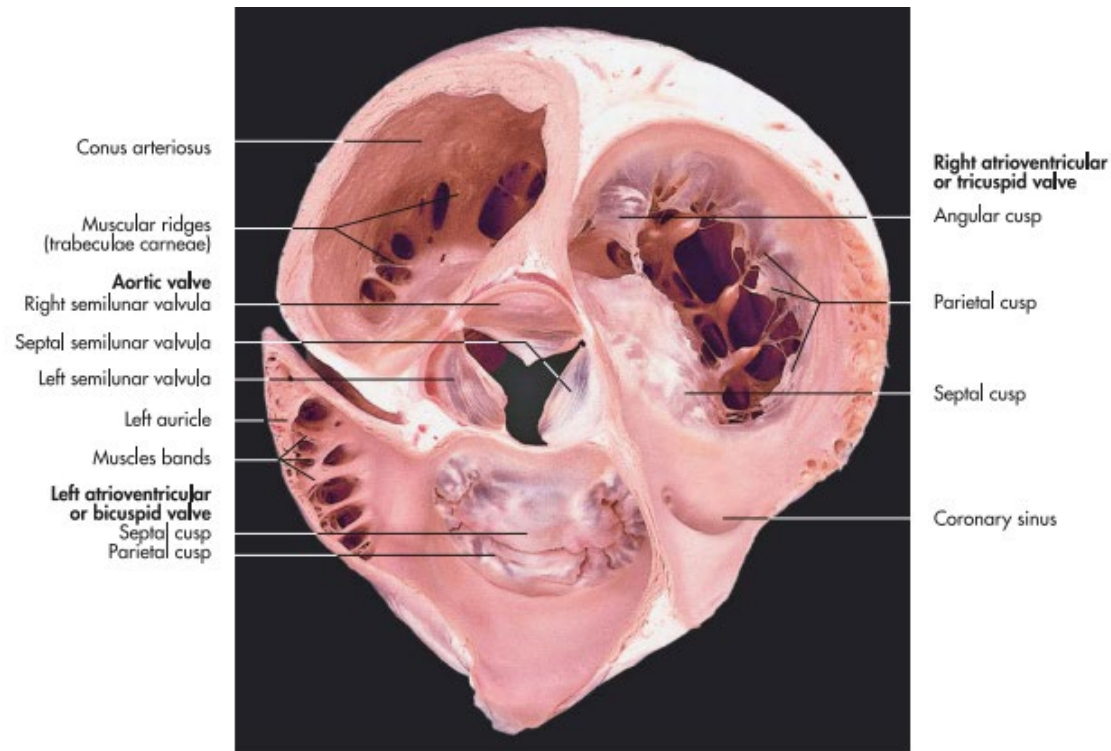


Fig. 13.7 Interior of the heart of a horse (transverse section through the atrias). (source: courtesy of Prof. Dr. J. Maierl, Munich)



Vene velikog krvotoka

- **V. CAVA CRANIALIS**
- **V. CAVA CAUDALIS**

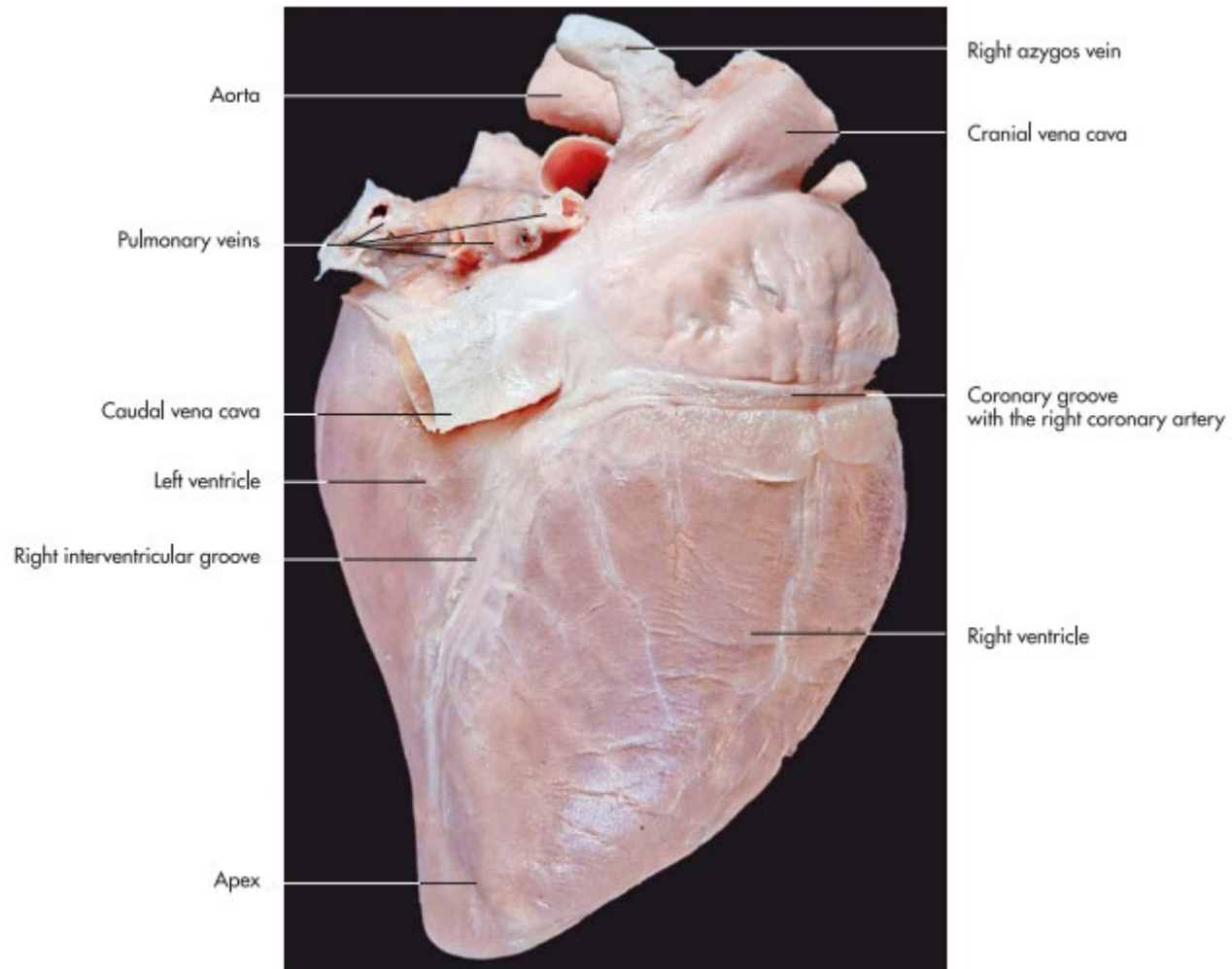


Fig. 13.3 Heart of a horse (arterial surface); preparation H. Dier, Vienna.

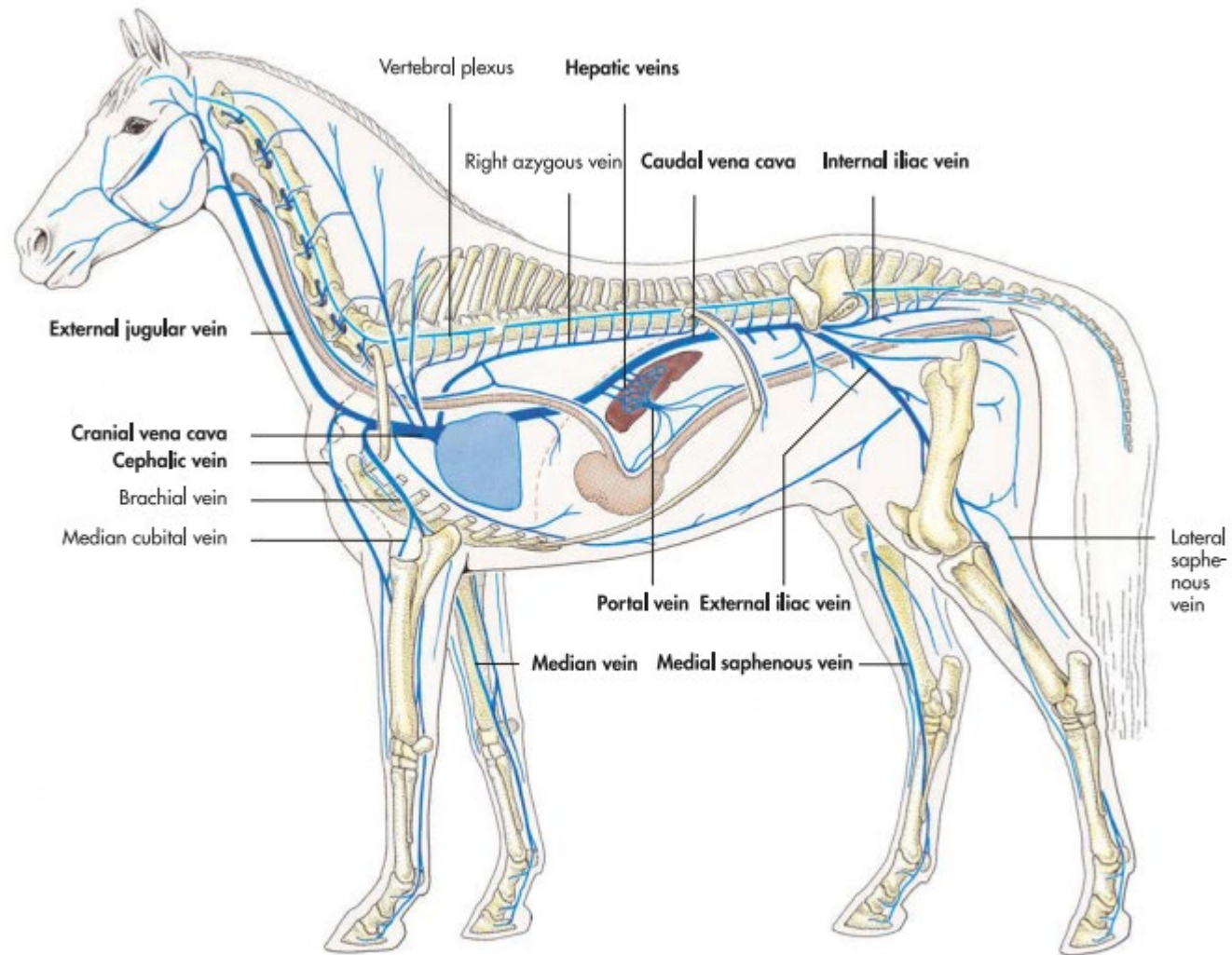


Fig. 13.28 Venous system of the horse (schematic).

V. cava cranialis

- Odvodi v. krv iz predela glave, vrata, prednjih ekstremiteta i grudne duplje. Neparan krvni sud.

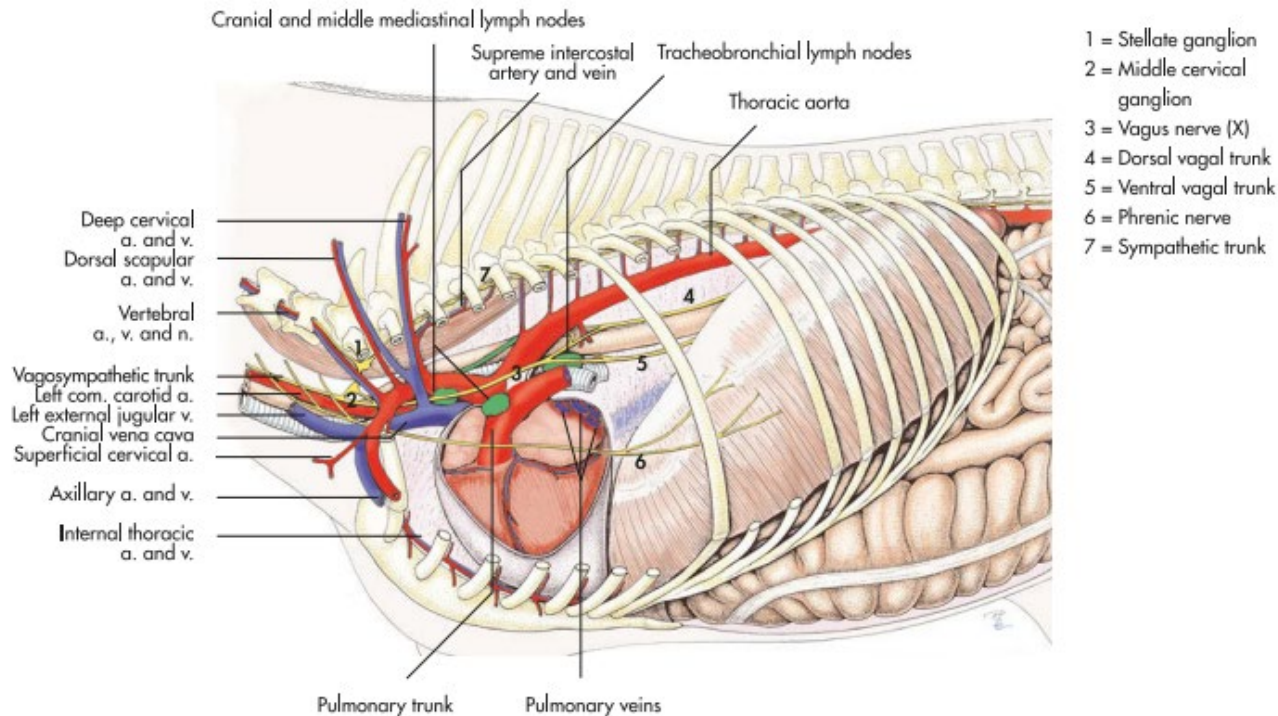


Fig. 20.26 Topography of the organs and structures of the opened thorax in the horse (schematic, view from the left).

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-
- Apertura thoracis cranialis
 - 12-15 cm

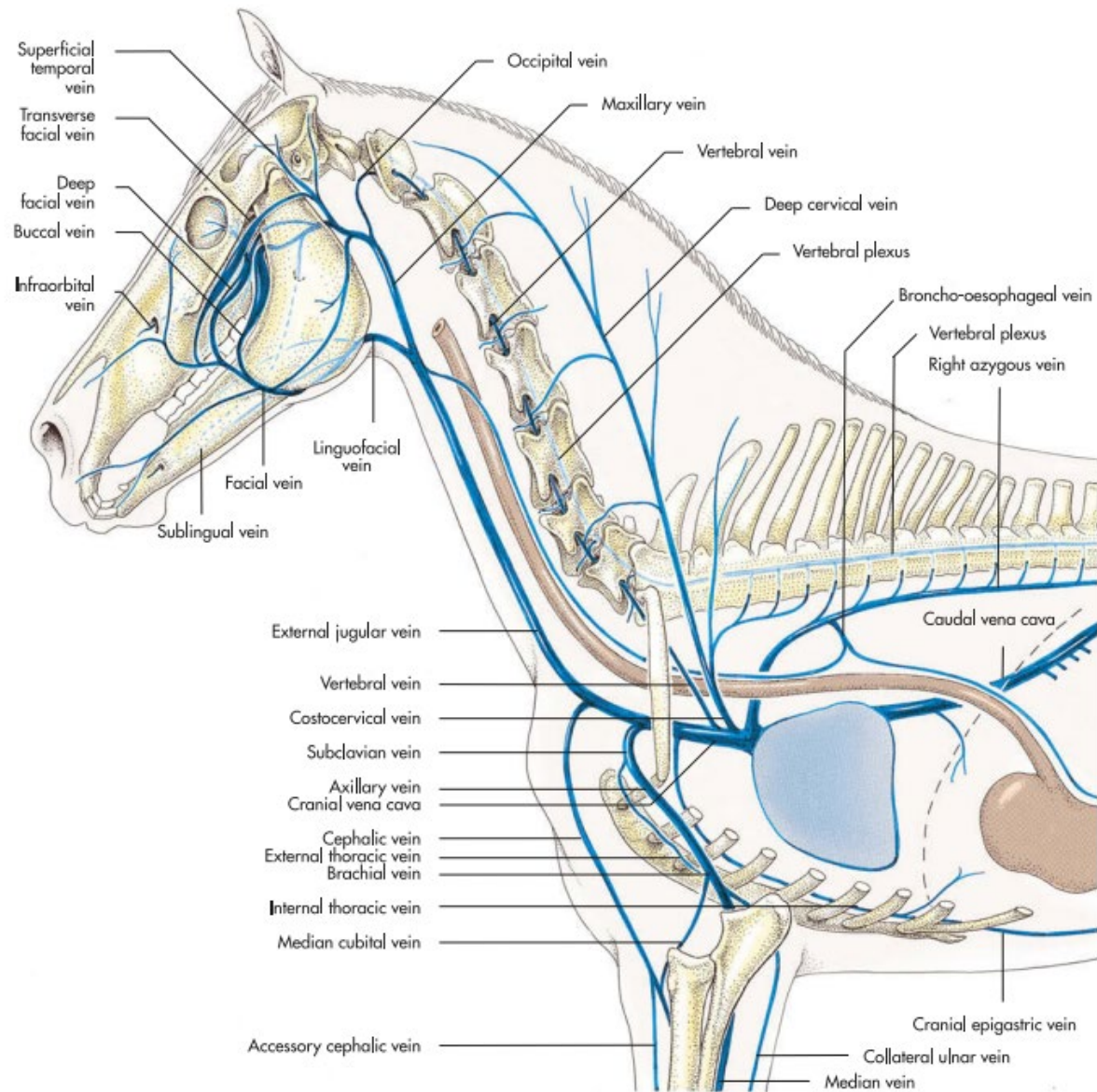


Fig. 13.26 Larger veins of the head, neck and the thoracic limbs and the tributaries to the cranial vena cava of the horse (schematic, simplified).

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- ❑ **V. cava cranialis:**
 - ❑ V. azygos dextra (eq, Ru, ca)
 - ❑ V. azygos sinistra (Ru, su)
 - ❑ V. costocervicalis
 - ❑ V. thoracica interna
 - ❑ V. brachiocephalica (su, ca)
 - ❑ V. subclavia
 - ❑ Truncus bijugularis

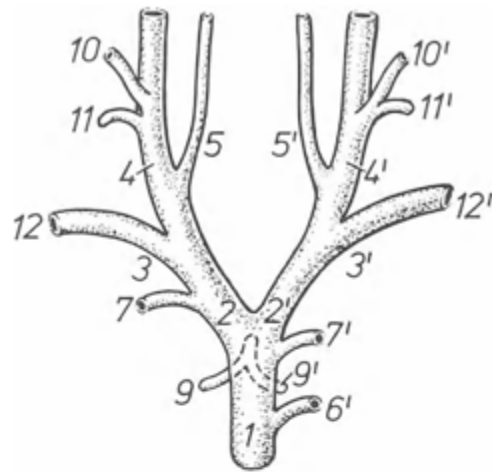


Fig. 145

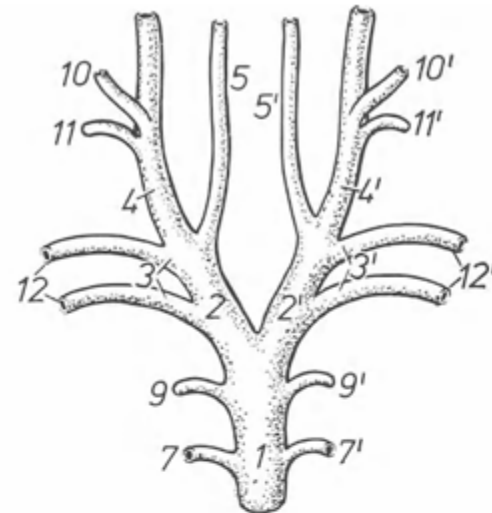


Fig. 146

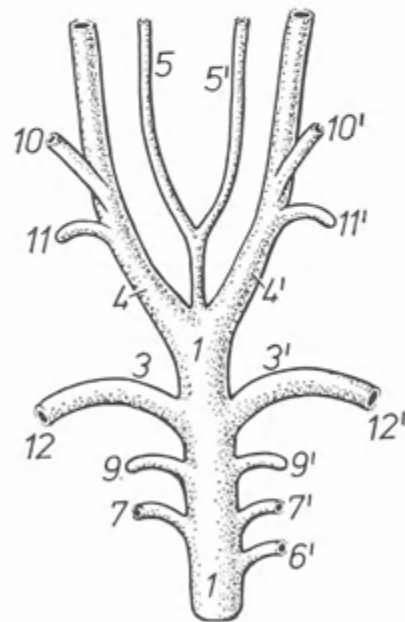


Fig. 147

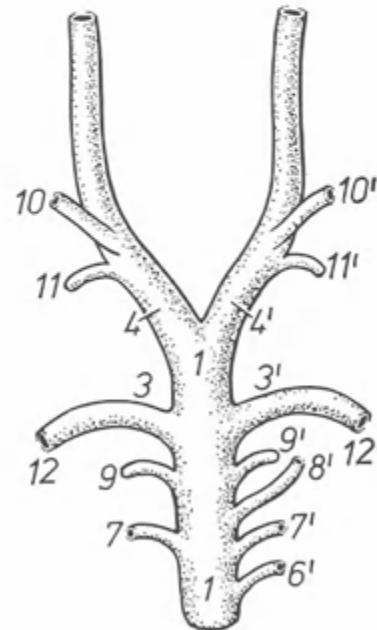


Fig. 148

Figs 145, 146, 147, 148. Vena cava cranialis of the dog, pig, ox and horse. Dorsal view.

1 v. cava cranialis; 2 v. brachiocephalica sinistra; 2' v. brachiocephalica dextra; 3 v. subclavia sinistra; 3' v. subclavia dextra; 4 v. jugularis externa sinistra; 4' v. jugularis externa dextra; 5 v. jugularis interna sinistra; 5' v. jugularis interna dextra; 6 v. azygos dextra; 7 v. costocervicalis sinistra; 7' v. costocervicalis dextra; 8 v. vertebralis dextra; 9 v. thoracica interna sinistra; 9' v. thoracica interna dextra; 10 v. cervicalis superficialis sinistra; 10' v. cervicalis superficialis dextra; 11 v. cephalica sinistra; 11' v. cephalica dextra; 12 v. axillaris sinistra; 12' v. axillaris dextra

V. azygos dextra

- Neparan krvni sud (**eq**, **Ru**, **ca**)
- Hiatus aorticus → Cavum abdominis
- V. broncho-esophagea (eq, ca)
- Vv. intercostales dorsales
- Vv. lumbales I et II (L_1)

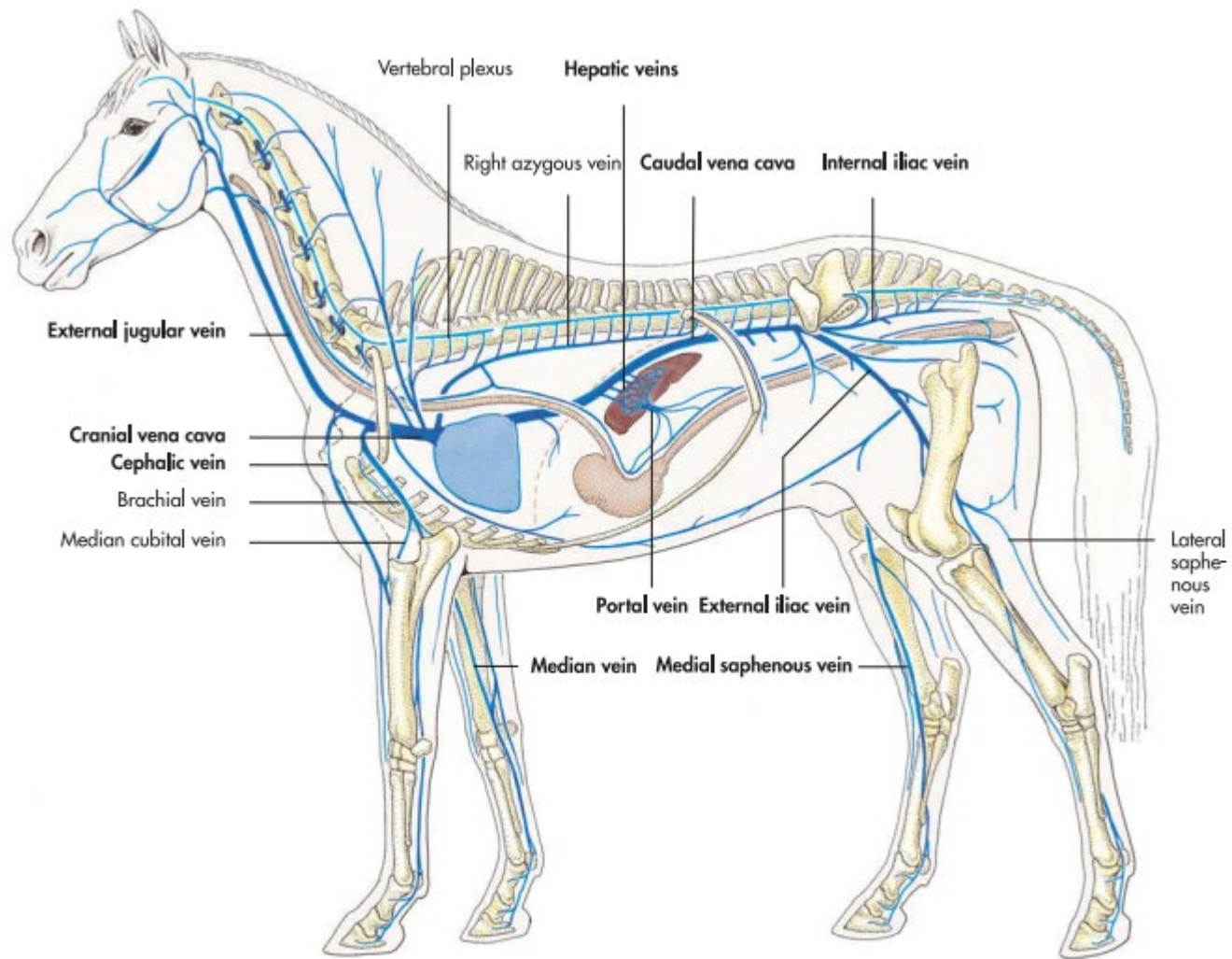


Fig. 13.28 Venous system of the horse (schematic).

V. azygos sinistra

- Neparan krvni sud (**Ru, su**)
- Hiatus aorticus → Cavum abdominis

- Vv. intercostales dorsales
- Vv. bronchales
- Vv. esophageae

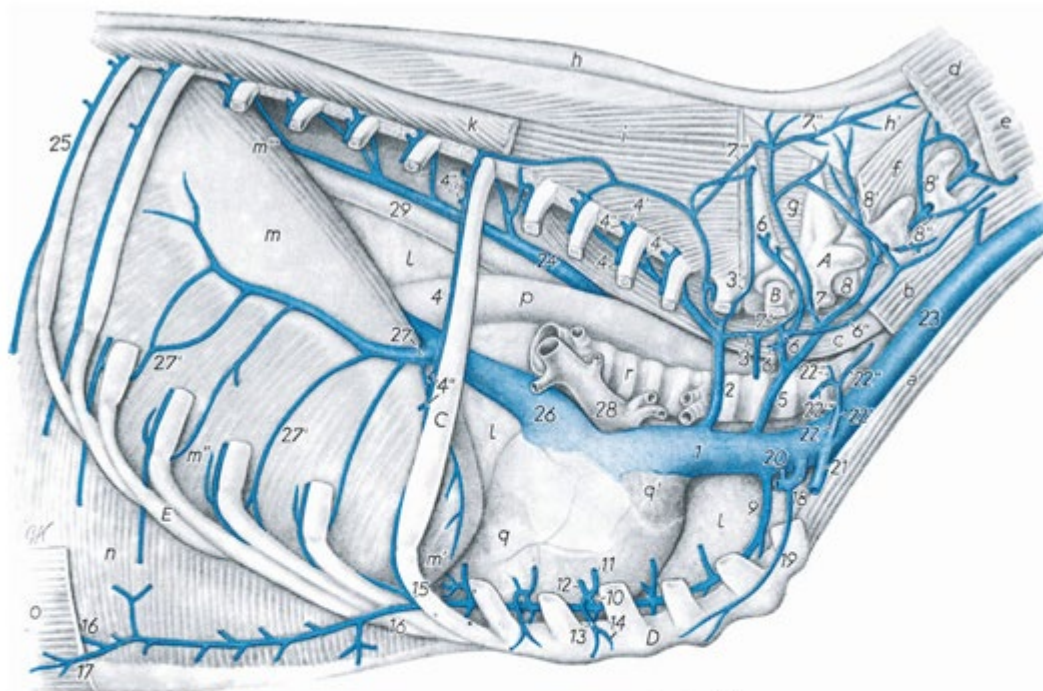
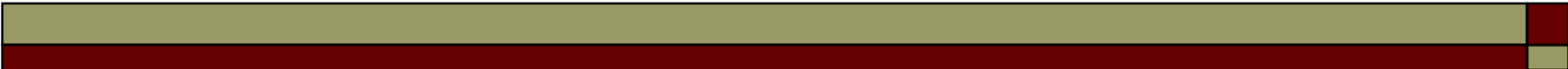


Fig. 154. Veins of the thoracic cavity of the goat. Right lateral view.
(After Raubut, 1962, Diss., Hanover.)

A vertebra cervicalis VII; B costa I; C costa VII; D sternum; E arcus costalis

a m. sternomandibularis; b m. scalenus; c m. longus colli; d, e m. semispinalis capitis; d m. biventer cervicis, e m. complexus; f m. multifidus cervicis; g mm. interspinales; h lig. supraspinale; h' lam. nuchae; i mm. spinales et semispinales thoracis et cervicis; k m. longissimus thoracis; l mediastinum; m-m'' diaphragma: m. centrum tendineum, m' pars sternalis, m'' pars costalis, m''' pars lumbalis; n m. transversus abdominis; o m. rectus abdominis; p oesophagus; q cor (pericardium has been removed); q' auricula dextra; r trachea

1 v. cava cranialis; 2 v. azygos dextra; 3 v. intercostalis suprema with v. intercostalis dorsalis I; 3' r. dorsalis I; 4 vv. intercostales dorsales, 4' r. dorsalis, 4'' rr. cutanei laterales; 5 v. costocervicalis; 6 v. scapularis dorsalis; 7, 7' v. cervicalis profunda, 7'', 7''' its branches; 8 v. vertebralis, 8' rr. dorsales, 8'' rr. ventrales; 9 v. thoracica interna; 10, 11 vv. intercostales ventrales, 12 r. collateralis, 13 r. perforans, 14 r. sternalis; 15 v. musculophrenica; 16 v. epigastrica cranialis; 17 v. epigastrica cranialis superficialis; 18 v. subclavia, v. axillaris; 19 v. thoracica externa; 20 v. suprascapularis; 21 v. cephalica; 22 v. cervicalis superficialis, 22' r. muscularis, 22'' r. ascendens, 22''' r. praescapularis, 22iv r. suprascapularis; 23 v. jugularis externa; 24 v. azygos sinistra; 25 v. costoabdominalis dorsalis; 26 v. cava caudalis; 27 v. phrenica cranialis, 27' anastomoses with rr. phrenici of the vv. intercostales; 28 a. pulmonalis dextra; 29 aorta thoracica



V. costocervicalis

- U visini IC₁
- V. cervicalis profunda
- V. intercostalis suprema
- V. scapularis dorsalis
- V. vertebralis

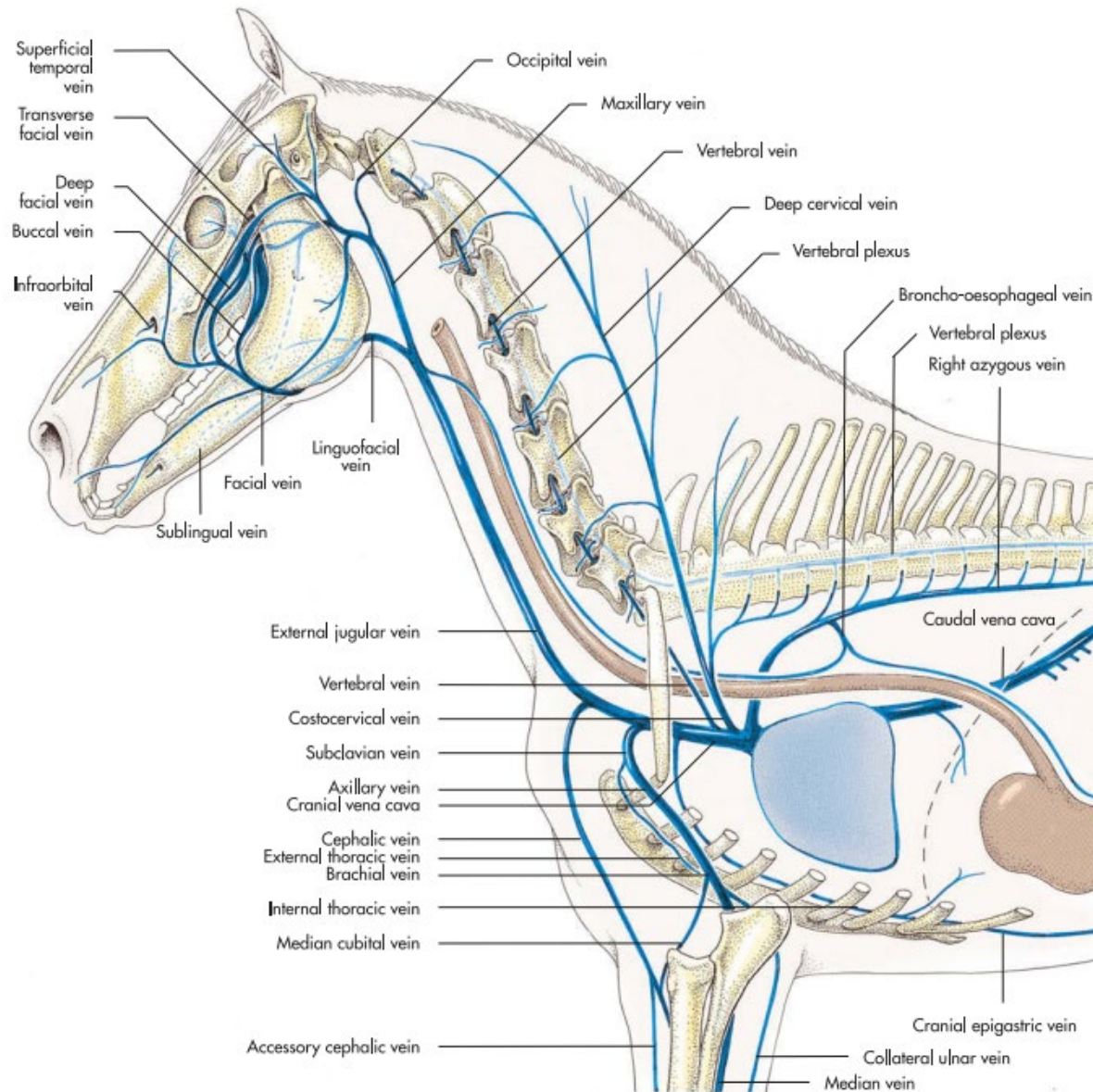


Fig. 13.26 Larger veins of the head, neck and the thoracic limbs and the tributaries to the cranial vena cava of the horse (schematic, simplified).

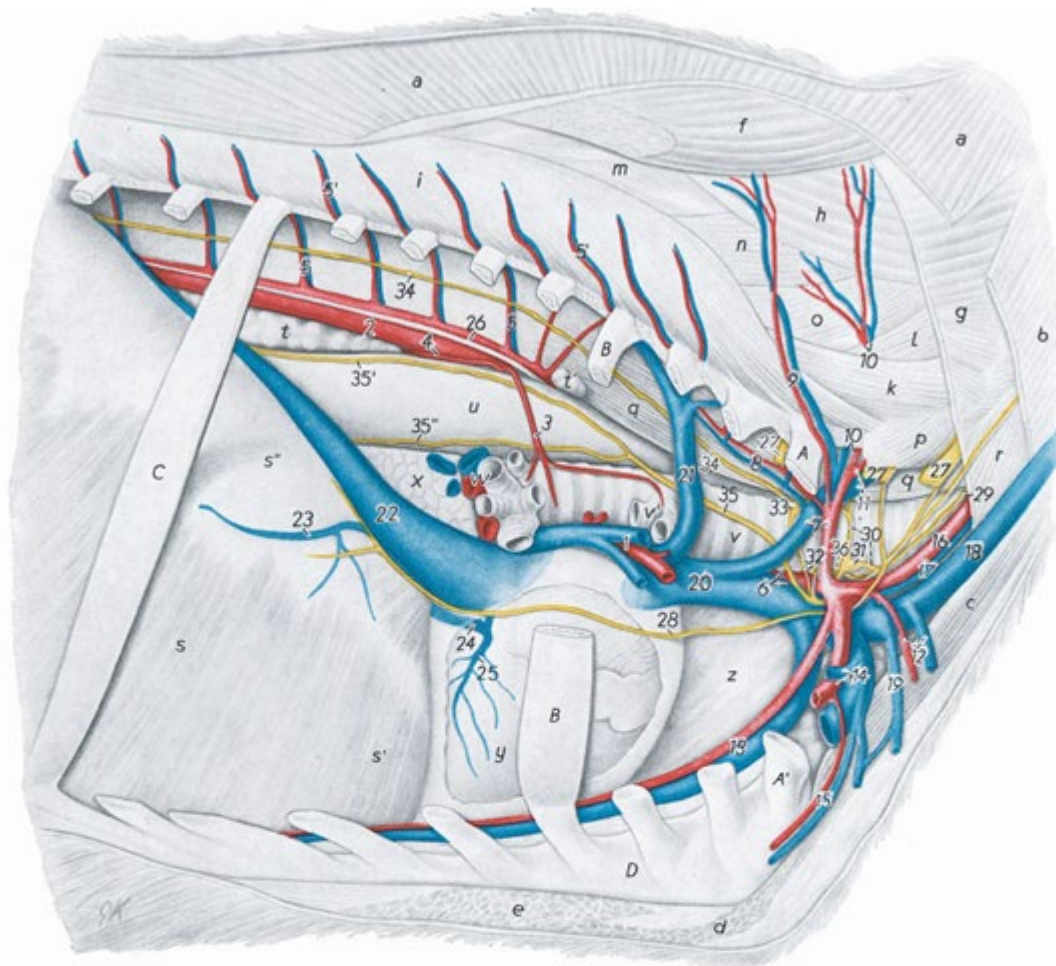


Fig. 155. Veins and arteries of the thoracic cavity of an ox. The plura mediastinalis has been removed. Right lateral view.
(After Wilkens and Rosenberger, 1957, study performed at the Institute of Veterinary Anatomy, Hanover.)

A, A' costa I; B costa IV; C costa IX; D sternum

a m. trapezius; b m. brachiocephalicus; c m. sternocephalicus; d mm. pectorales superficiales; e m. pectoralis profundus; f m. rhomboideus cervicis; g m. serratus ventralis cervicis; h m. splenius; i m. longissimus thoracis; k m. longissimus cervicis; l mm. longissimi capitis et atlantis; m mm. spinales et semispinales dorsi et cervicis; n m. biventer cervicis; o m. complexus of the m. semispinalis capitis; p m. intertransversarius; q m. longus colli; r m. scalenus; s diaphragma, pars costalis; s' pars sternalis; s'' centrum tendineum; t ln. mediastinalis caudalis longissimus; t' ln. thoracicus aorticus; u oesophagus; v trachea; v' bronchus trachealis; w radix pulmonis; x pulmo dexter, lobus accessorius; y cor (pericardium partly removed); z mediastinum craniale

1 a. and v. pulmonalis, branches to the right apical lobe; 2 aorta thoracica; 3 r. bronchialis, 4 r. oesophageus of the a. broncho-oesophagea; 5 aa. and vv. intercostales dorsales, 5' rr. cutanei laterales; 6 truncus brachiocephalicus and v. cava cranialis; 7 truncus and v. costocervicalis; 8 a. and v. intercostalis suprema; 9 a. and v. scapularis dorsalis; 10 a. and v. cervicalis profunda; 11 a. and v. vertebralis; 12 a. and v. cervicalis superficialis; 13 a. and v. thoracica interna; 14 a. axillaris and vv. axillares; 15 a. and v. thoracica externa; 16 a. carotis communis; 17 v. jugularis interna; 18 v. jugularis externa; 19 v. cephalica; 20 v. cava cranialis; 21 v. azygos dextra; 22 v. cava caudalis; 23 v. phrenica cranialis; 24 sinus coronarius; 25 v. cordis media; 26 ductus thoracicus; 27 radices plexus brachialis; 28 n. phrenicus; 29 truncus vagosympathicus; 30 cervical part of the n. sympathicus; 31 ggl. cervicale medium; 32 ansa subclavia; 33 ggl. stellatum; 34 truncus sympathicus, pars thoracica; 35 n. vagus; 35' truncus vagalis dorsalis; 35'' truncus vagalis ventralis; 36 n. laryngeus recurrens

V. thoracica interna

- U visini IC_1 – **Car**, **su**
- U visini 1. rebra – **Ru**, **eq**
- Vv. intercostales ventrales
- Vv. perforantes
- Vv. mediastinales
- Vv. thymicae
- V. pericardiacophrenica
- V. musculophrenica
- V. epigastrica cranialis

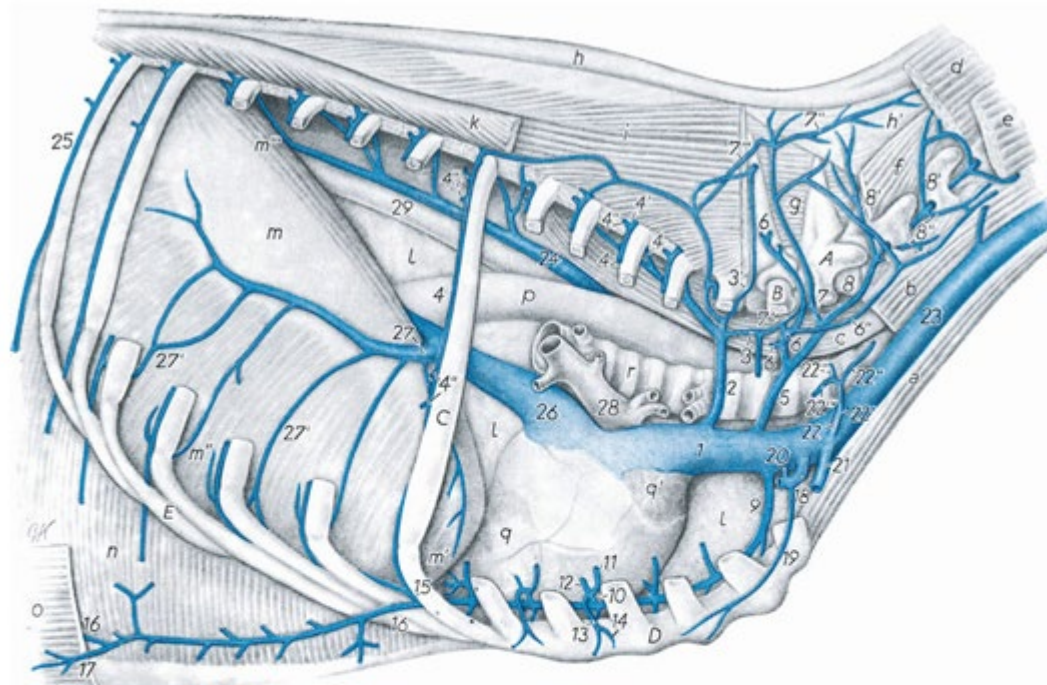
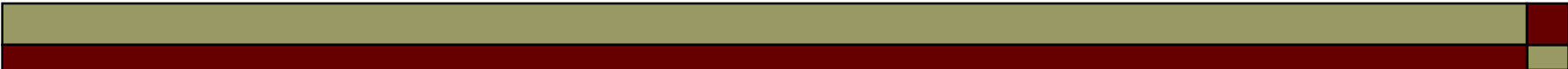


Fig. 154. Veins of the thoracic cavity of the goat. Right lateral view.
(After Rauhut, 1962, Diss., Hanover.)

A vertebra cervicalis VII; *B* costa I; *C* costa VII; *D* sternum; *E* arcus costalis

a m. sternomandibularis; *b* m. scalenus; *c* m. longus colli; *d*, *e* m. semispinalis capitis; *d* m. biventer cervicis, *e* m. complexus; *f* m. multifidus cervicis; *g* mm. interspinales; *h* lig. supraspinale; *h'* lam. nuchae; *i* mm. spinales et semispinales thoracis et cervicis; *k* m. longissimus thoracis; *l* mediastinum; *m*-*m''* diaphragma: *m*. centrum tendineum, *m'* pars sternalis, *m''* pars costalis, *m'''* pars lumbalis; *n* m. transversus abdominis; *o* m. rectus abdominis; *p* oesophagus; *q* cor (pericardium has been removed); *q'* auricula dextra; *r* trachea

1 v. cava cranialis; *2* v. azygos dextra; *3* v. intercostalis suprema with v. intercostalis dorsalis I; *3'* r. dorsalis I; *4* vv. intercostales dorsales, *4'* r. dorsalis, *4''* rr. cutanei laterales; *5* v. costocervicalis; *6* v. scapularis dorsalis; *7*, *7'* v. cervicalis profunda, *7''* its branches; *8* v. vertebralis, *8'* rr. dorsales, *8''* rr. ventrales; *9* v. thoracica interna; *10*, *11* vv. intercostales ventrales, *12* r. collateralis, *13* r. perforans, *14* r. sternalis; *15* v. musculophrenica; *16* v. epigastrica cranialis; *17* v. epigastrica cranialis superficialis; *18* v. subclavia, v. axillaris; *19* v. thoracica externa; *20* v. suprascapularis; *21* v. cephalica; *22* v. cervicalis superficialis, *22'* r. muscularis, *22''* r. ascendens, *22'''* r. praescapularis, *22''''* r. suprascapularis; *23* v. jugularis externa; *24* v. azygos sinistra; *25* v. costoabdominalis dorsalis; *26* v. cava caudalis; *27* v. phrenica cranialis, *27'* anastomoses with rr. phrenici of the vv. intercostales; *28* a. pulmonalis dextra; *29* aorta thoracica



Vene glave i vrata

- **V. jugularis externa sinistra et dextra**
- **V. jugularis interna sinistra et dextra (Bo, su, ca)**

V. jugularis interna

- Uz ventralni rub A. carotis communis i uliva se u Truncus bijugularis.

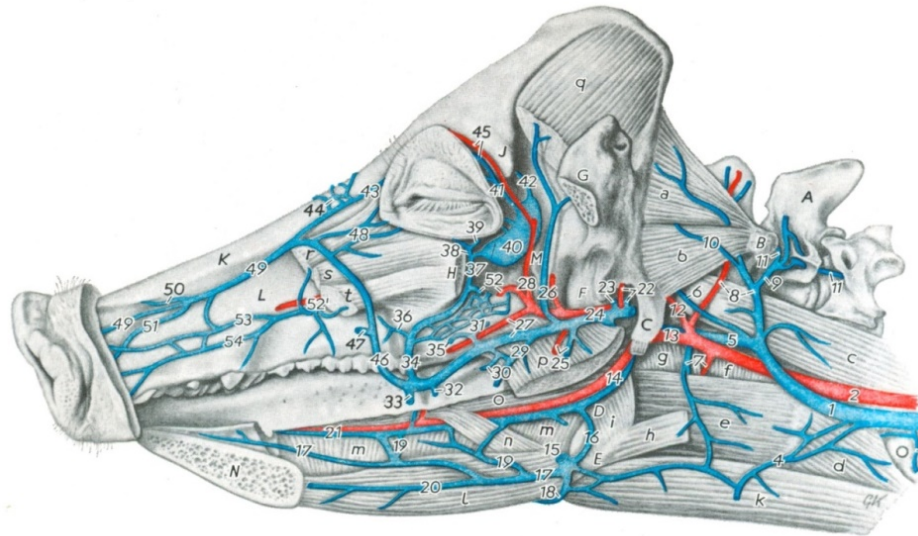


Fig. 183. Deep veins and arteries of the head of a pig. Left lateral view.
(After Becker, 1960, Diss., Hanover.)

A proc. spinosus of the axis; B ala atlantis; C proc. jugularis (with tendon of origin of the m. biventer mandibulae); D stylohyoideum; E thyrohyoideum; F bulla tympanica; G proc. zygomaticus of the os temporale (cut off); H os zygomaticum (cut off); J proc. zygomaticus of the os frontale; K os nasale; L os maxillare; M crista pterygoidea; N mandibula; O gl. thyroidea

a m. obliquus capitis cranialis; b m. rectus capitis ventralis; c m. longus capitis; d m. sternothyroideus; e m. hyothyroideus; f m. cricopharyngeus; g m. thyropharyngeus; h m. omohyoideus; i m. stylohyoideus; k m. sternohyoideus; l m. geniopharyngeus; m m. genioglossus; n m. hyoglossus; o m. styloglossus; p m. pterygoideus medialis; q m. temporalis; r m. levator labii maxillaris; s m. caninus; t m. depressor labii maxillaris

1 v. jugularis interna; 2 a. carotis communis; 3 v. thyroidea cranialis; 5 v. comitans a. carotidis externae; 6 v. emissaria foraminis jugularis; 7 a. and v. laryngea cranialis; 8 a. and v. occipitalis; 9 r. ventralis of the v. vertebralis at the axis, anastomoses like r. anastomoticus cum v. occipitali at the atlas; 10 r. occipitalis; 11 v. vertebralis; 12 a. carotis interna; 13 a. carotis externa; 14 a. lingualis with v. comitans a. lingualis; 15, 16 v. lingualis; 17 v. sublingualis; 18 arcus hyoideus; 19 rr. anastomotici; 20 v. submental; 21 a. and v. profunda linguae; 22 a. and v. auricularis caudalis; 23 v. temporalis superficialis; 24 a. and v. maxillaris; 25 a. and v. alveolaris mandibularis; 26 a. and v. temporalis profunda; 27 a. buccalis and sinus pterygoideus with transition to the v. buccalis; 28 a. ophthalmica externa; 29 v. pterygoidea; 30 vv. pharyngeae; 31 v. emissaria foraminis orbitorotundi; 32 parallel vein to the v. facialis with branches to the m. masseter; 33 v. facialis; 34 v. profunda faciei; 35 v. palatina descendens; 37 transition of the v. profunda faciei into the sinus ophthalmicus; 38 v. ophthalmica externa ventralis; 39 v. conjunctivalis; 40 sinus ophthalmicus; 41 v. ophthalmica externa dorsalis; 42 v. supraorbitalis; 43 v. frontalis; 44 plexus venosus frontalis; 45 a. and v. lacrimalis; 46 v. facialis; 47 v. labialis maxillaris; 48 vv. palpebrales mediales; 49, 50 v. dorsalis nasi; 51, 53, 54 v. lateralis nasi; 52 a. palatina descendens and v. infraorbitalis; 52' a. and v. infraorbitalis

- 
-
- V. thyreoidea media
 - V. thyreoidea cranialis
 - V. occipitalis (Bo, ca)

- 1 = 1st cervical nerve
- 2 = Recurrent laryngeal nerve (X)
- 3 = Vagosympathetic trunk
- 4 = Thyroid gland
- 5 = Mandibular gland

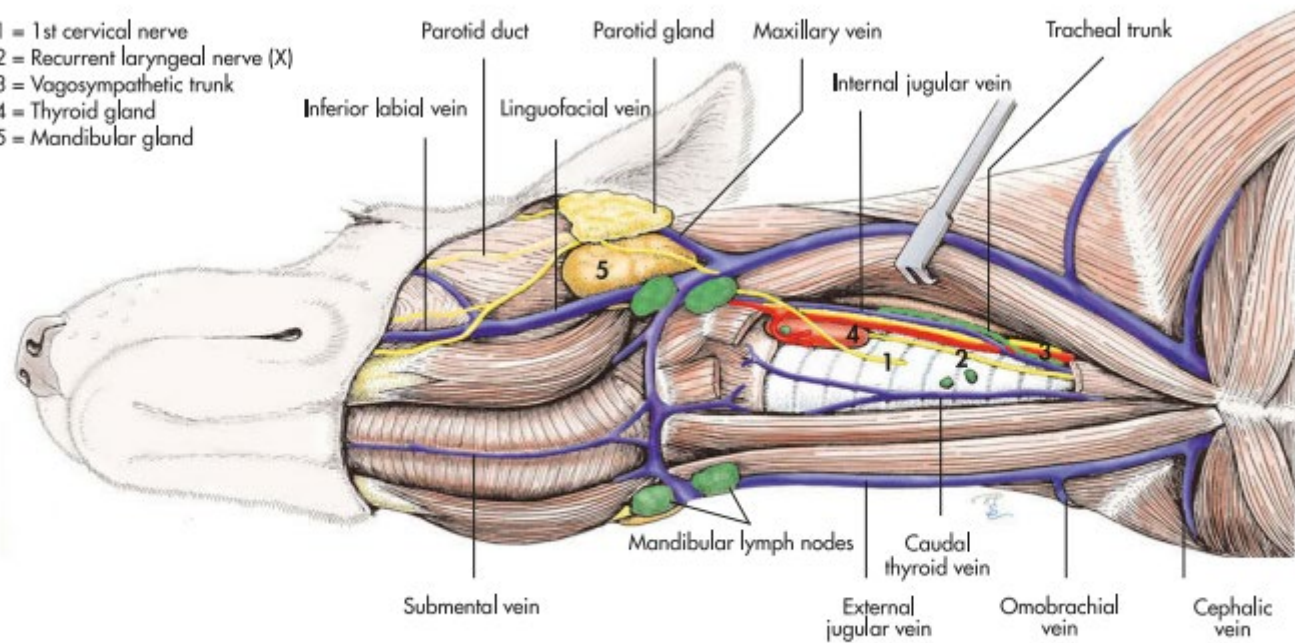


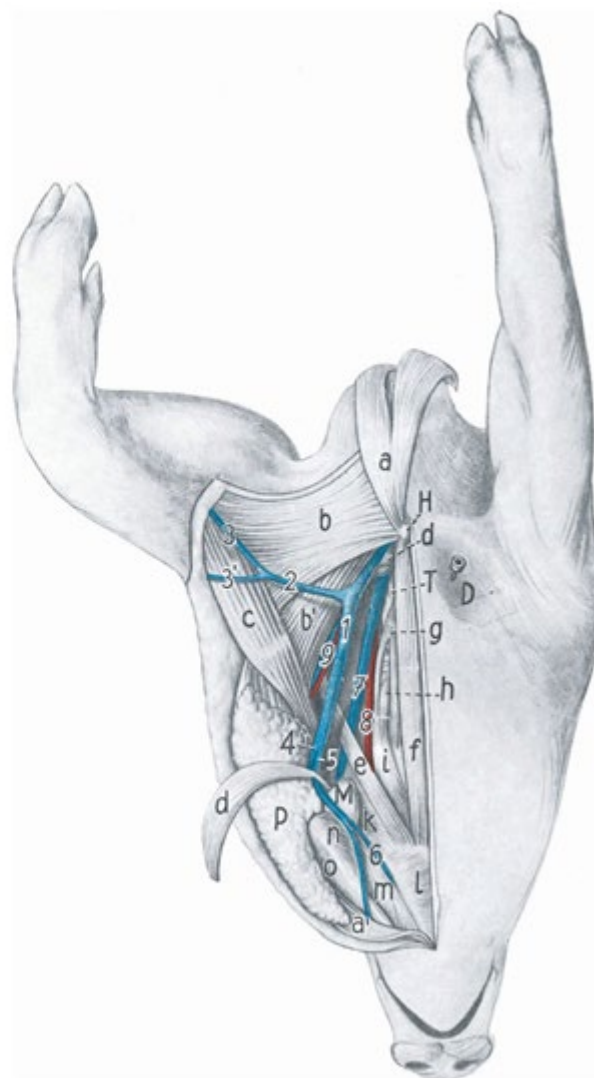
Fig. 20.18 Schematic illustration of the superficial structures of the neck in the dog (ventral view).

Fig. 177. V. jugularis externa, v. jugularis interna and a. carotis communis of a pig. Topographical. Ventral view.
(After Hütten and Preuss, 1953, work carried out at the Institute for Veterinary Anatomy, Hanover.)

D fossa jugularis; *H* manubrium sterni; *M* gl. mandibularis; *P* gl. parotis; *T* gl. thyreoidea

a m. cutaneus colli; *a'* mm. cutaneus faciei et labiorum; *b* mm. pectorales superficiales; *b'* m. subclavius; *c* m. brachiocephalicus; *d* m. sternomastoideus; *e* m. omohyoideus; *f* m. sternohyoideus; *g* m. sternothyreoideus; *h* m. cricothyreoideus; *i* m. thyreo-hyoideus; *k* m. occipitohyoideus; *l* m. mylohyoideus; *m* m. digastricus; *n* m. pterygoideus medialis; *o* masseter

1 v. jugularis externa; *2, 3* v. cephalica; *3'* v. cephalica accessoria, lateral vessel; *4* v. maxillaris; *5* v. linguofacialis; *6* v. lingualis; *7* v. jugularis interna; *8* a. carotis communis; *9* a. and v. cervicalis superficialis



V. jugularis externa

□ Sulcus (Fossa) v. jugularis

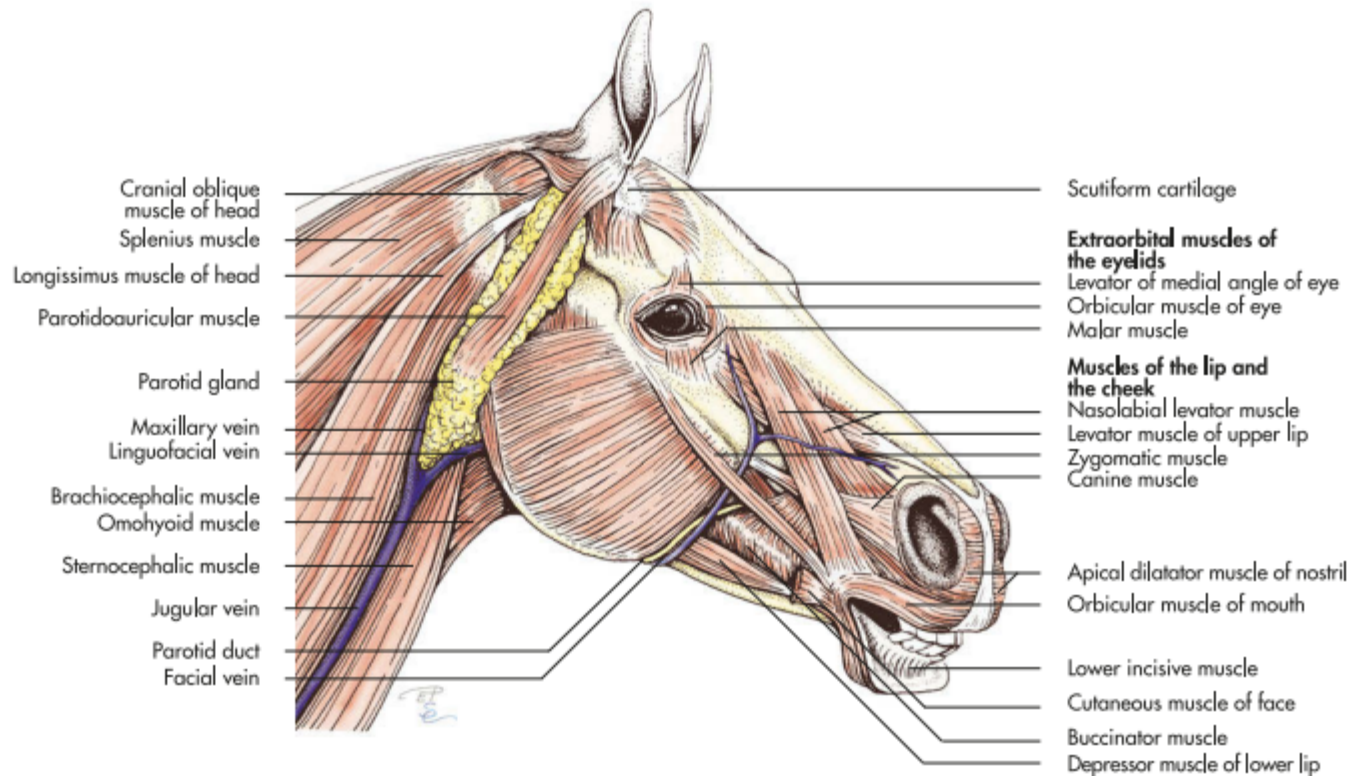
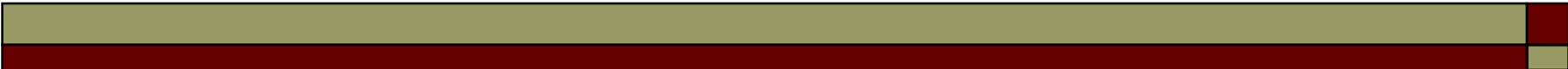


Fig. 3.4 Superficial muscles of the head of the horse (schematic, lateral aspect); fig. based on data from Ghetie, 1954.

- 
-
- U visini C₂ :
 - **V. linguofacialis**
 - **V. maxillaris**

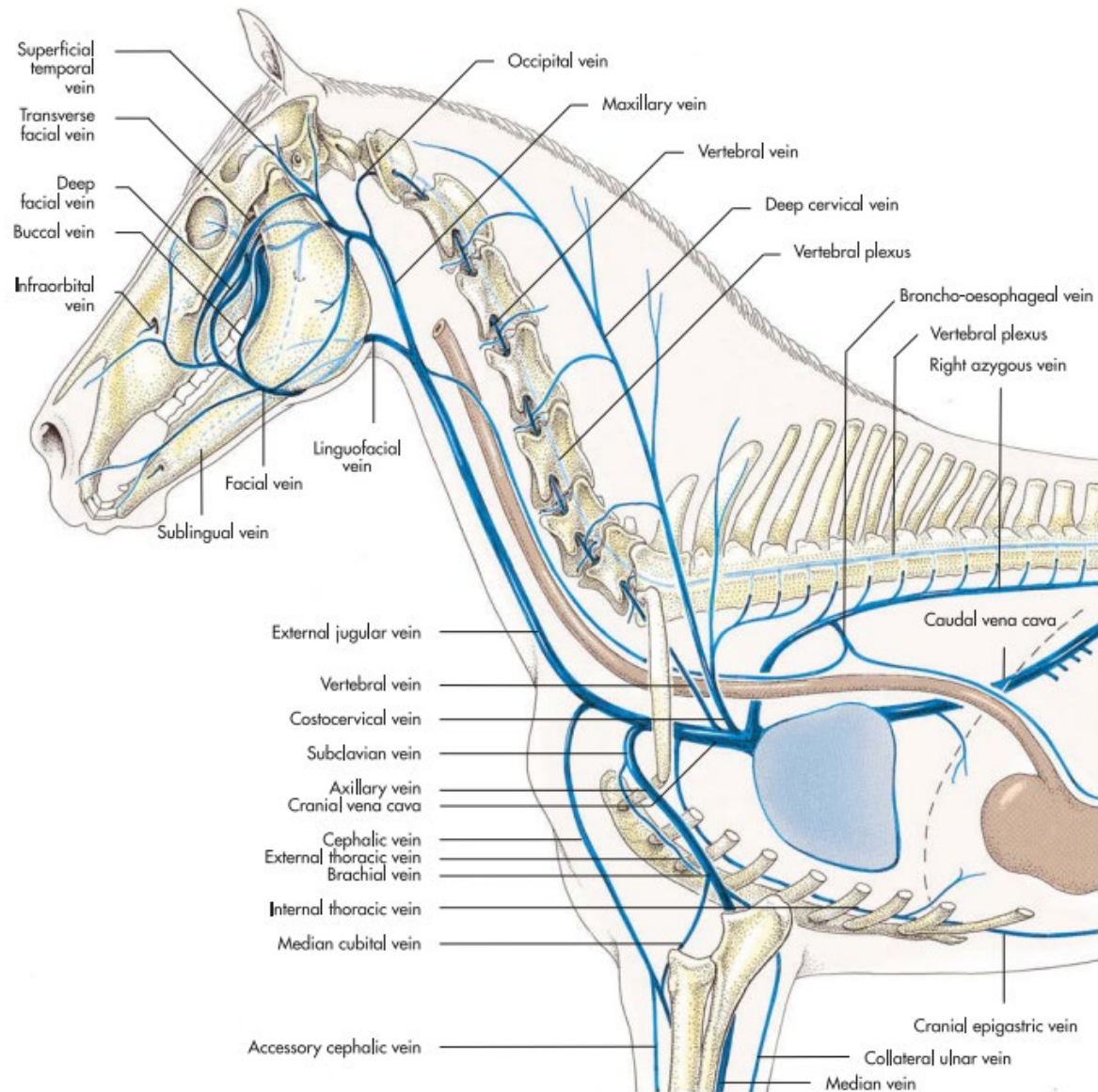
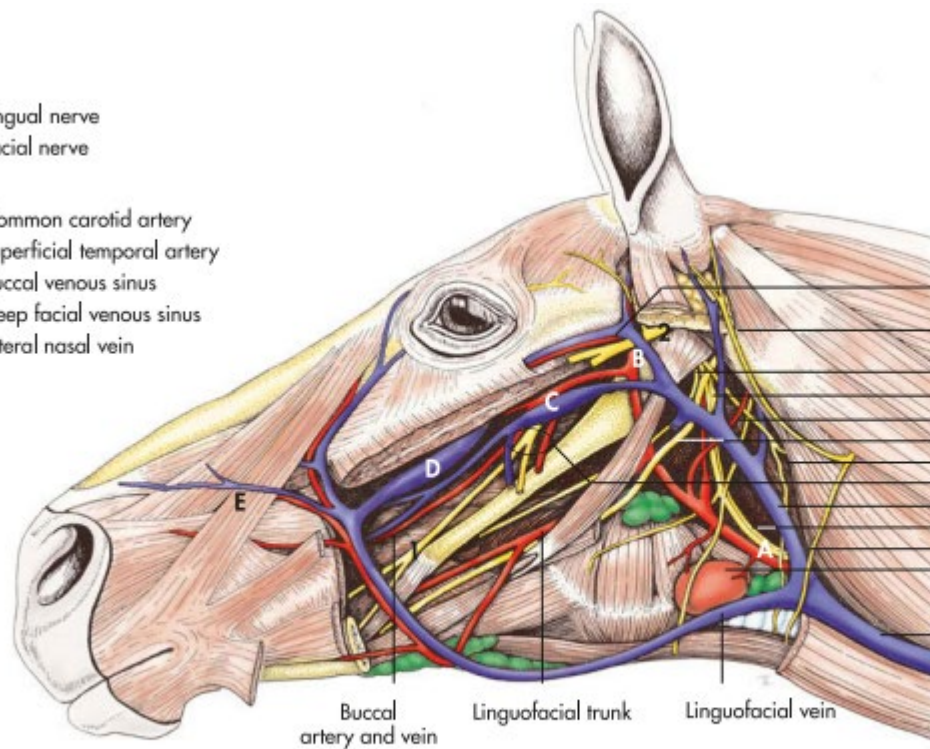


Fig. 13.26 Larger veins of the head, neck and the thoracic limbs and the tributaries to the cranial vena cava of the horse (schematic, simplified).

- 1 = Lingual nerve
2 = Facial nerve

- A = Common carotid artery
B = Superficial temporal artery
C = Buccal venous sinus
D = Deep facial venous sinus
E = Lateral nasal vein



- Transverse facial artery and vein
Great auricular nerve
Glossopharyngeal nerve
Cranial cervical ganglion
Occipital artery
Hypoglossal nerve
Accessory nerve
Inferior alveolar a., v. and n.
Maxillary vein
Vagosympathetic trunk
Ventral branch of the C₂ nerve
Thyroid gland

External jugular vein

Fig. 20.9 Topography of the deeper organs and structures of the head in the horse (schematic).

- 
-
- ☐ **V. cervicalis superficialis**
 - ☐ **V. cephalica**
 - ☐ **V. mediana cubiti**
 - ☐ **V. cephalica accessoria**
 - ☐ **V. linguofacialis (V. maxillaris externa)**
 - ☐ **V. maxillaris (V. maxillaris interna)**

□ V. linguofacialis → V. facialis

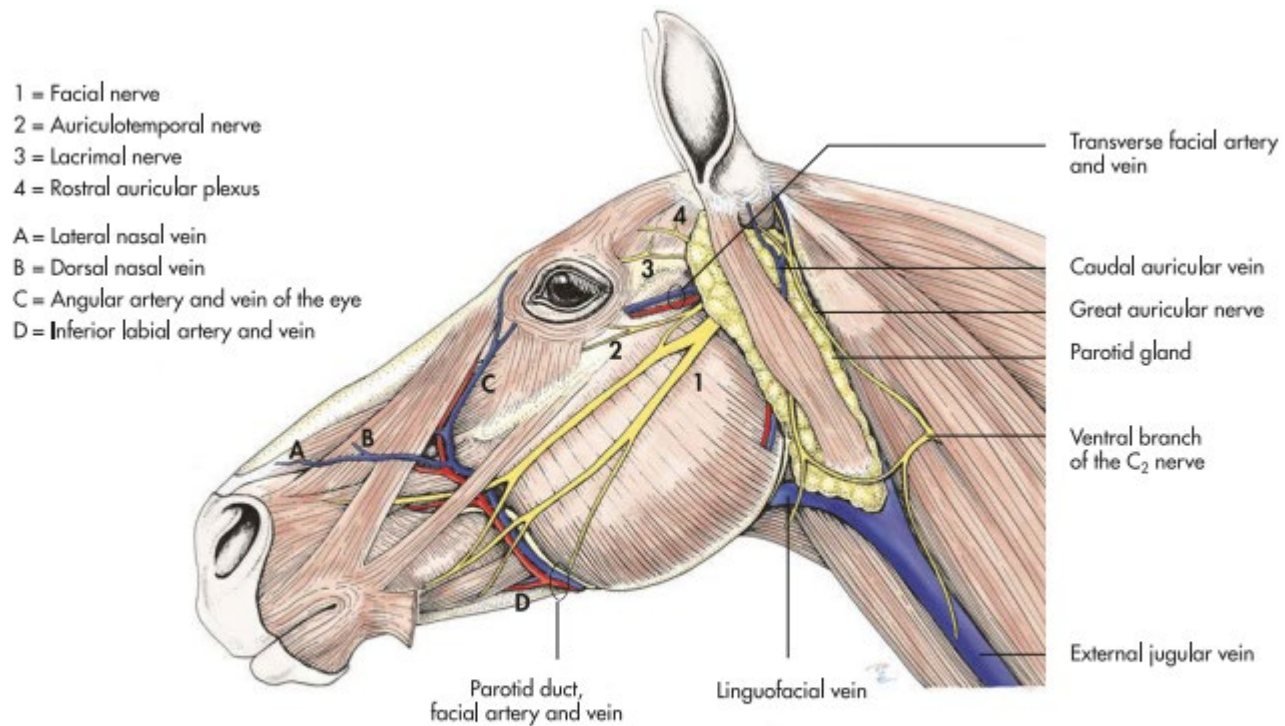
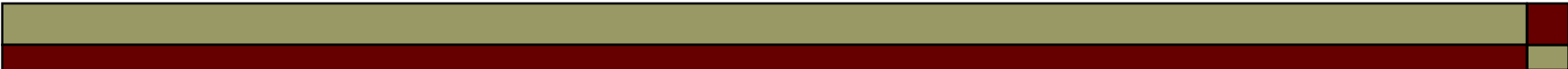


Fig.20.8 Topography of the superficial organs and structures of the head in the horse (schematic).

- 
-
- ❑ **V. facialis:**
 - ❑ V. submentalalis (Bo, ca)
 - ❑ V. labialis inferior
 - ❑ V. angularis oris
 - ❑ V. labialis superior (eq, Bo, ca)
 - ❑ V. profunda faciei (reflexa)
 - ❑ V. lateralis nasi
 - ❑ V. dorsalis nasi
 - ❑ V. angularis oculi

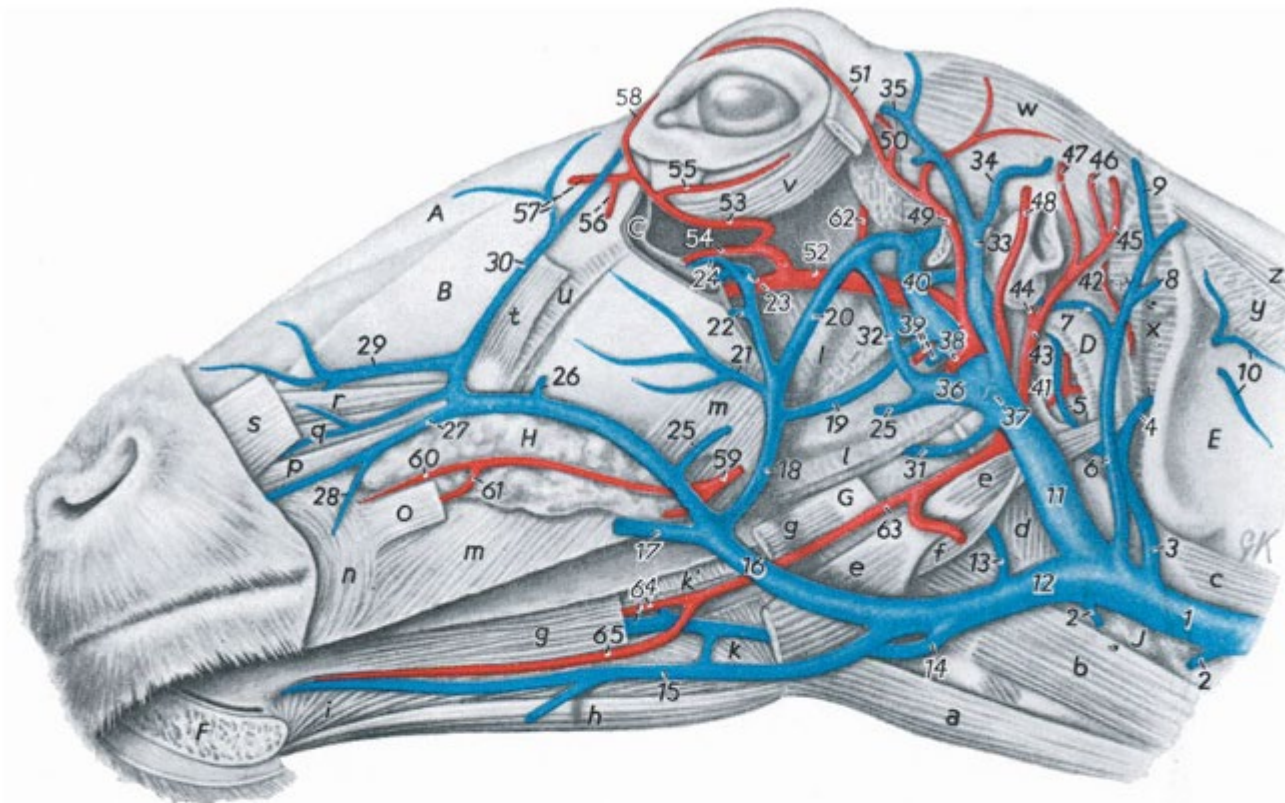
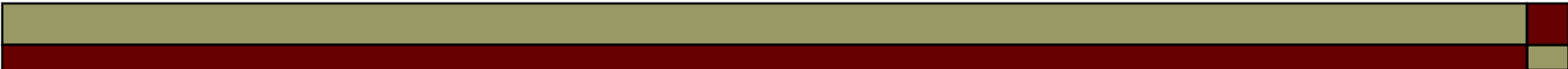


Fig. 184. Deep veins and arteries of the head of a sheep. Left lateral view.
(After Heeschen, 1958, Diss., Hanover.)

A os nasale; *B* os maxillare; *C* sinus maxillaris; *D* proc. jugularis; *E* ala atlantis; *F* mandibula; *G* os hyoideum; *H* gl. buccales dorsales; *J* gl. thyroidea
a m. sternohyoideus; *b* m. sternothyroideus; *c* cleidomastoideus; *d* mm. constrictores pharyngis caudales; *e* m. biventer mandibulae; *f* m. stylohyoideus; *g*
m. styloglossus; *h* m. geniohyoideus; *i* m. genioglossus; *k*, *k'* m. hyoglossus; *l* m. pterygoideus; *m* m. buccinator; *n* m. orbicularis oris; *o* m. zygomaticus; *p*
m. depressor labii maxillaris; *q* m. caninus; *r* m. levator labii maxillaris; *s* m. levator nasolabialis; *t* m. malaris; *u* m. masseter; *v* m. obliquus bulbi ventralis; *w*
m. temporalis; *x* m. obliquus capitis cranialis; *y* m. obliquus capitis caudalis; *z* m. rectus capitis dorsalis major

1 v. jugularis externa; *2* vv. thyroideae; *3* v. occipitalis; *4* r. anastomoticus; *5* v. emissaria foraminis jugularis; *6* v. auricularis caudalis; *7* v. stylomastoidea; *8*
v. auricularis lateralis; *9* v. auricularis intermedia; *11* v. maxillaris; *12* v. linguofacialis; *13* v. laryngea cranialis; *14* v. lingualis; *15* v. sublingualis; *16* v.
facialis; *17* v. labialis mandibularis; *18* v. profunda faciei; *19* v. buccalis; *20*, *32* branches of the v. masseterica; *22* v. palatina descendens; *23* v.
sphenopalatina; *24* v. infraorbitalis; *25*, *36* v. masseterica ventralis; *26* v. palpebralis inferior medialis; *27* v. labialis maxillaris; *28* v. angularis oris; *29* v.
lateralis nasi; *30* v. angularis oculi; *31* v. pharyngea; *32* branch of the v. masseterica; *33* v. temporalis superficialis; *34* v. auricularis rostralis; *35* v.
ophthalmica externa dorsalis; *37* v. transversa faciei; *38*, *59* a. transversa faciei; *39* a. and v. alveolaris mandibularis; *40* v. temporalis profunda; *41* a.
occipitalis; *42* r. occipitalis; *43* a. auricularis caudalis; *44* a. stylomastoidea; *45* r. auricularis lateralis; *46* r. auricularis intermedius; *47* r. meningeus; *48* a.
auricularis rostralis; *49* a. temporalis superficialis; *50* a. lacrimalis; *51* a. palpebralis superior lateralis; *52* a. maxillaris; *53* a. malaris; *54* a. infraorbitalis; *55* a.
palpebralis inferior medialis; *56* a. lateralis nasi; *57* a. and v. dorsalis nasi; *58* a. palpebralis superior medialis; *60* a. labialis maxillaris; *61* a. angularis oris; *62*
a. temporalis profunda; *63* a. lingualis; *64* a. and v. profunda linguae; *65* a. sublingualis



Vene prednjeg ekstremiteta

- Površinski venski sistem: V. cephalica
- Duboki venski sistem: V. subclavia

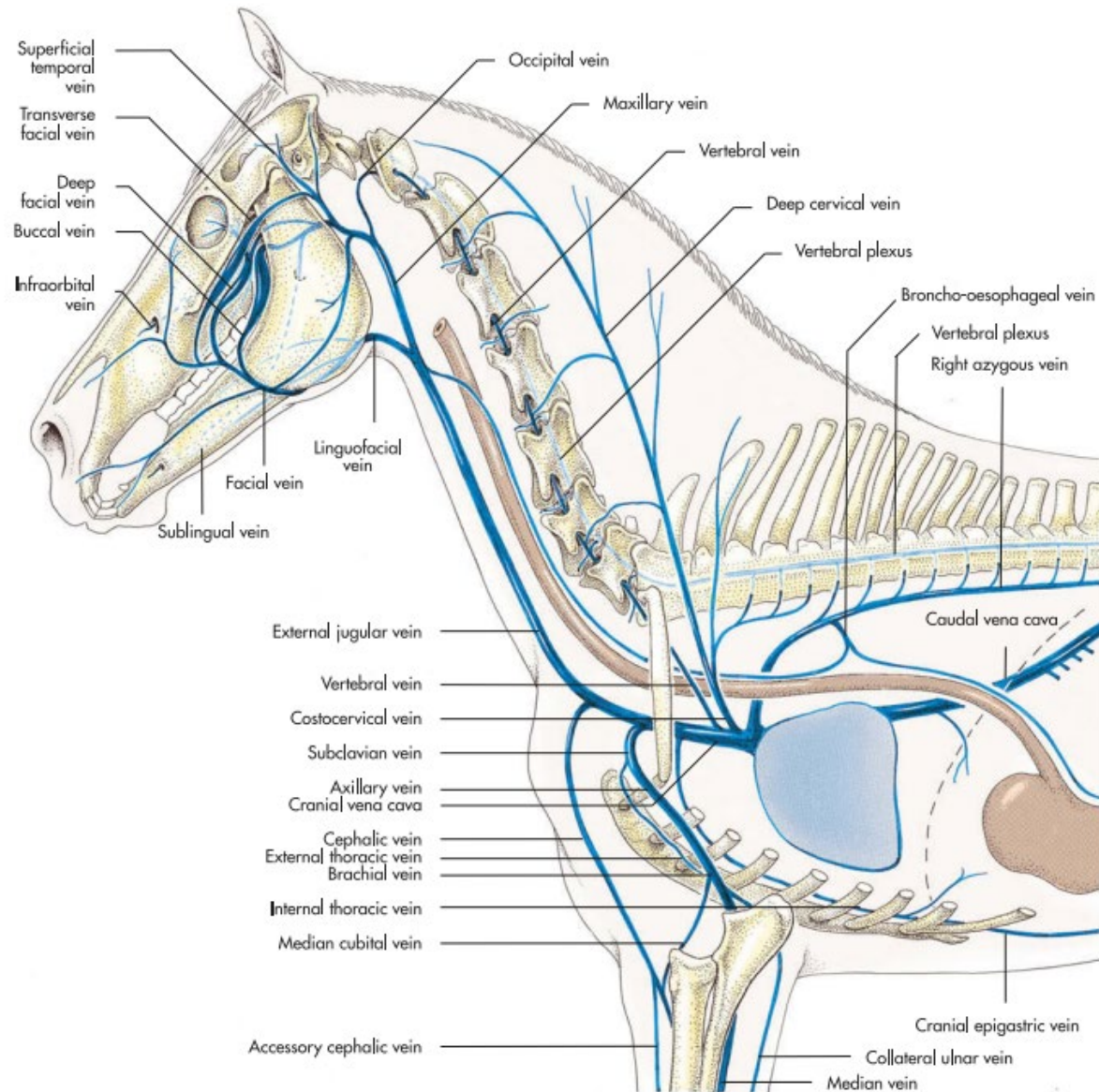
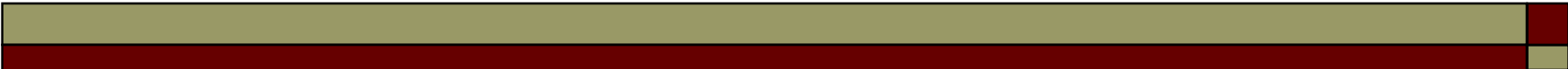
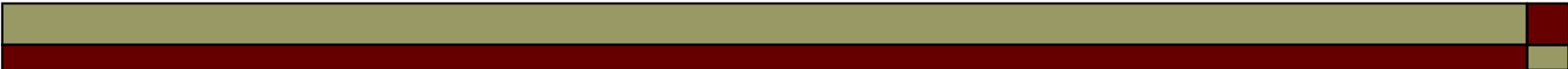


Fig. 13.26 Larger veins of the head, neck and the thoracic limbs and the tributaries to the cranial vena cava of the horse (schematic, simplified).

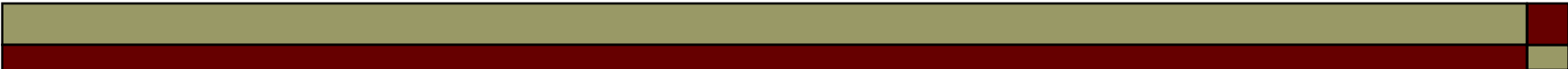
- 
-
- **V. cephalica**
 - V. mediana cubiti
 - V. cephalica accessoria

 - **V. subclavia**
 - V. thoracica externa (eq, su)

- 
-
- ❑ **V. axillaris**
 - ❑ V. thoracica externa (Ru, ca)
 - ❑ V. thoracica superficialis (Ru)
 - ❑ V. thoracica lateralis (su, ca)
 - ❑ V. suprascapularis
 - ❑ V. subscapularis
 - ❑ V. thoracodorsalis
 - ❑ V. circumflexa humeri cranialis (eq, su, ca)

- 
-
- ❑ **V. brachialis**
 - ❑ V. profunda brachii
 - ❑ V. bicipitalis (eq, su, ca)
 - ❑ V. collateralis ulnaris
 - ❑ V. brachialis superficialis (ca)
 - ❑ V. transversa cubiti
 - ❑ V. interossea communis

- 
-
- ❑ **V. mediana**
 - ❑ V. profunda antebrachii
 - ❑ V. radialis
 - ❑ Ramus palmaris (eq)

- 
-
- **Vv. metacarpeae palmares II et III (eq)**
 - **Vv. metacarpeae palmares II et IV (Ru, su)**
 - **Vv. metacarpeae palmares I – IV (ca)**

 - **Vv. digitales palmares communes**

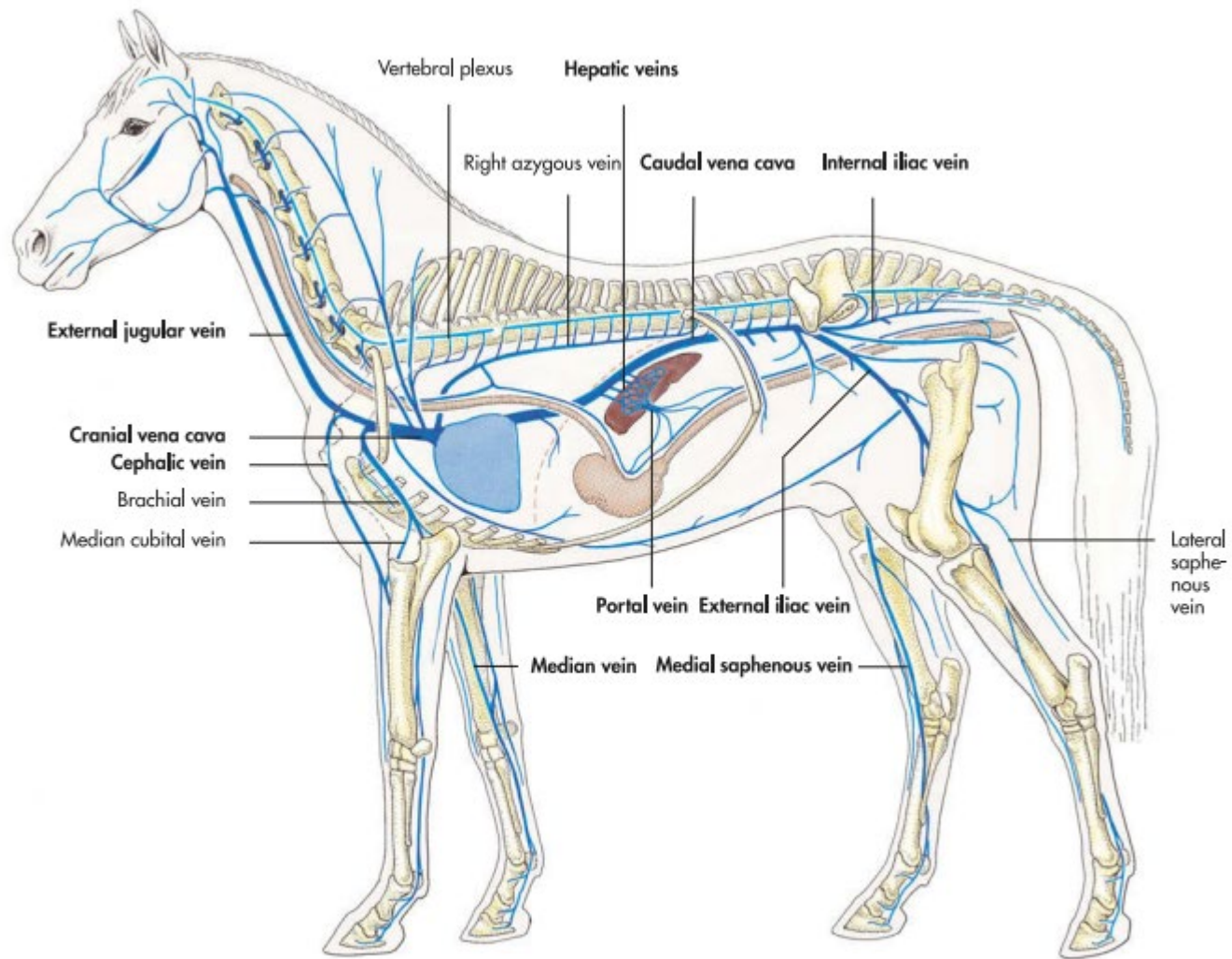
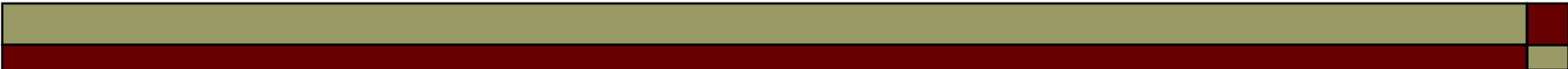


Fig. 13.28 Venous system of the horse (schematic).



V. cava caudalis

- Dovodi v. krv u srce iz zidova i organa trbušne i karlične duplje i iz zadnjih ekstremiteta.
- Neparan krvni sud.

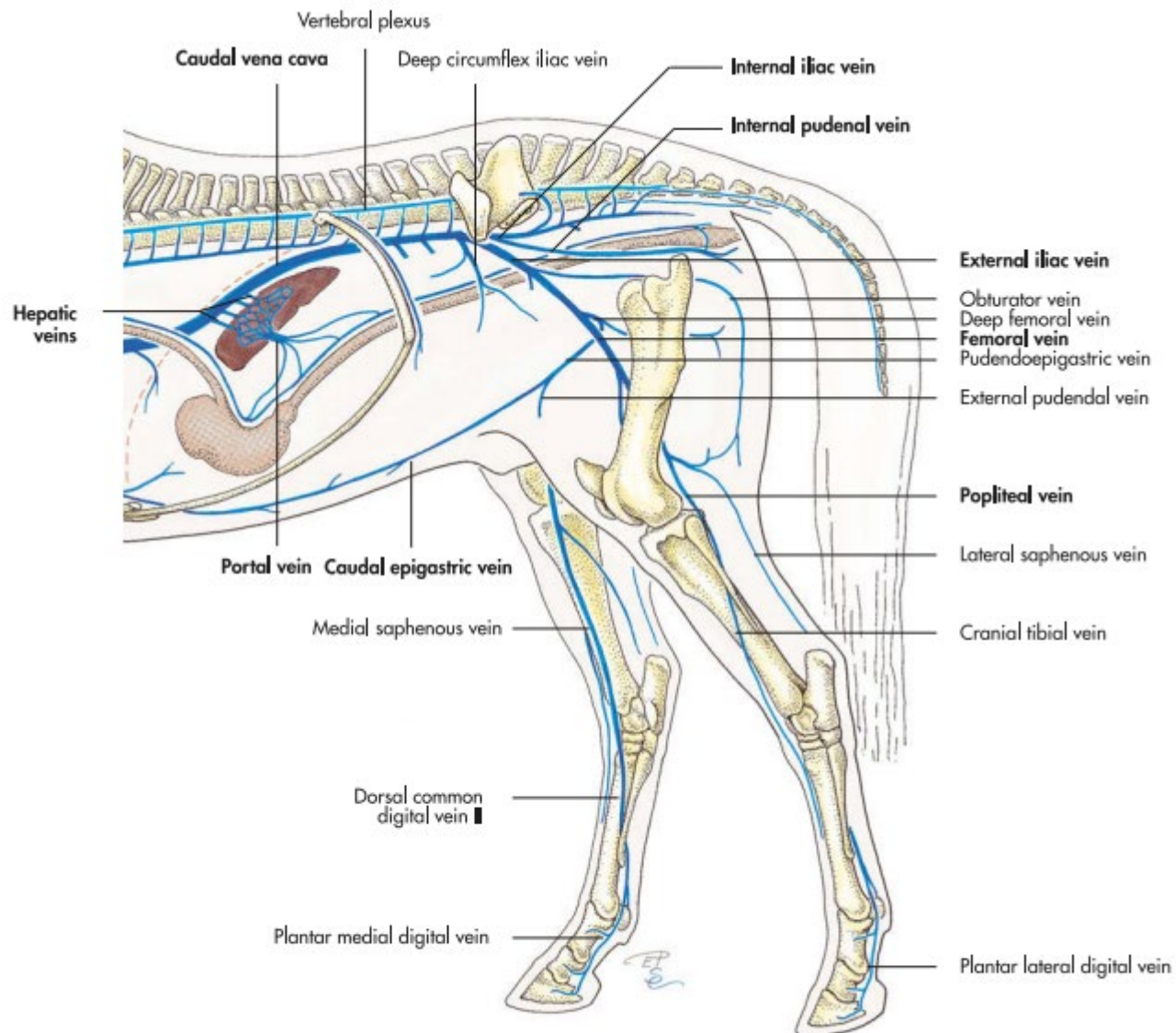


Fig. 13.29 Larger veins of the pelvic limb and the tributaries to the caudal vena cava of the horse (schematic).

- 
-
- $L_5 - \mathbf{eq}$
 - $L_6 - \mathbf{Ov, su, ca}$
 - $S_1 - \mathbf{Bo}$

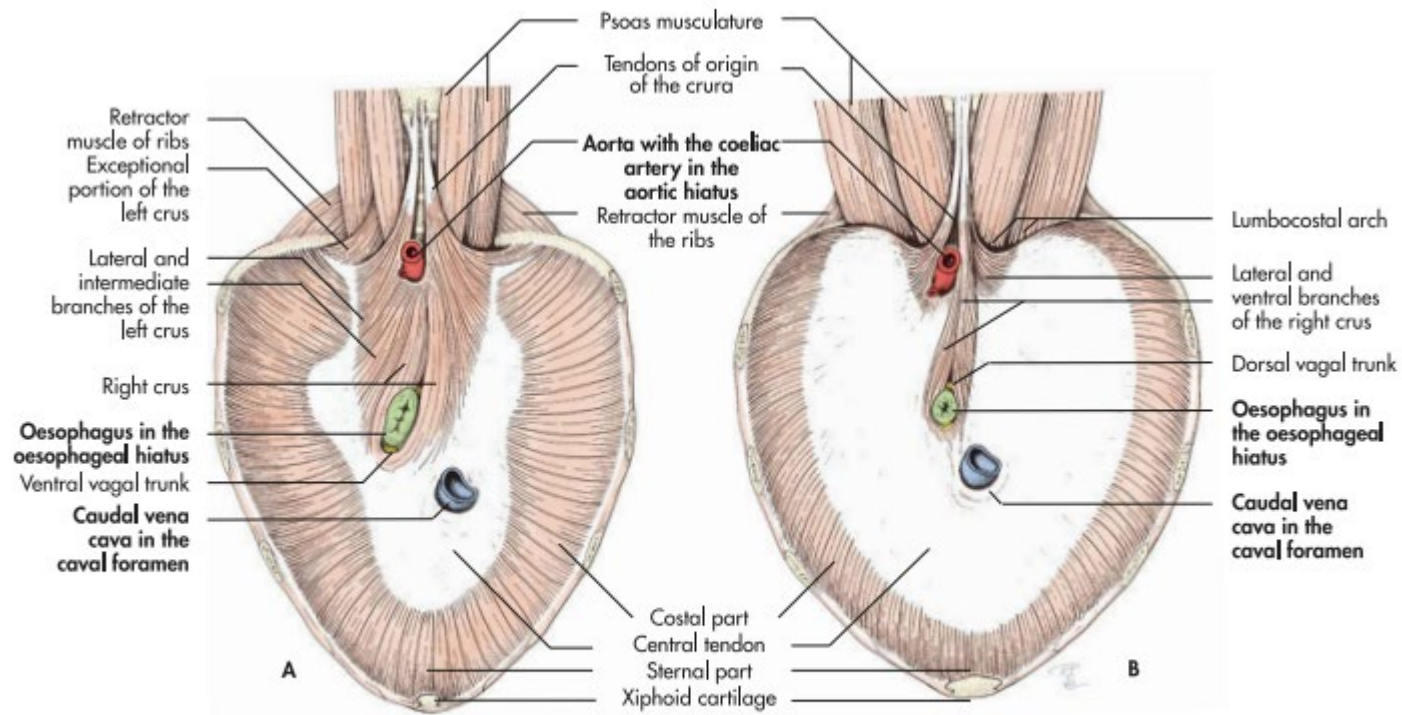


Fig. 3.17 Diaphragm of the dog (A) and horse (B) (schematic, caudal aspect).

- 
-
- ❑ Vv. phrenicae craniales
 - ❑ V. phrenica caudalis
 - ❑ V. abdominalis cranialis (su, ca)
 - ❑ Vv. lumbales
 - ❑ Vv. hepaticae
 - ❑ Vv. adrenales suprarenales (eq, Ru)
 - ❑ Vv. renales
 - ❑ Vv. testiculares / vv. ovaricae
 - ❑ V. circumflexa ilium profunda
 - ❑ V. iliaca communis
 - ❑ V. sacralis mediana

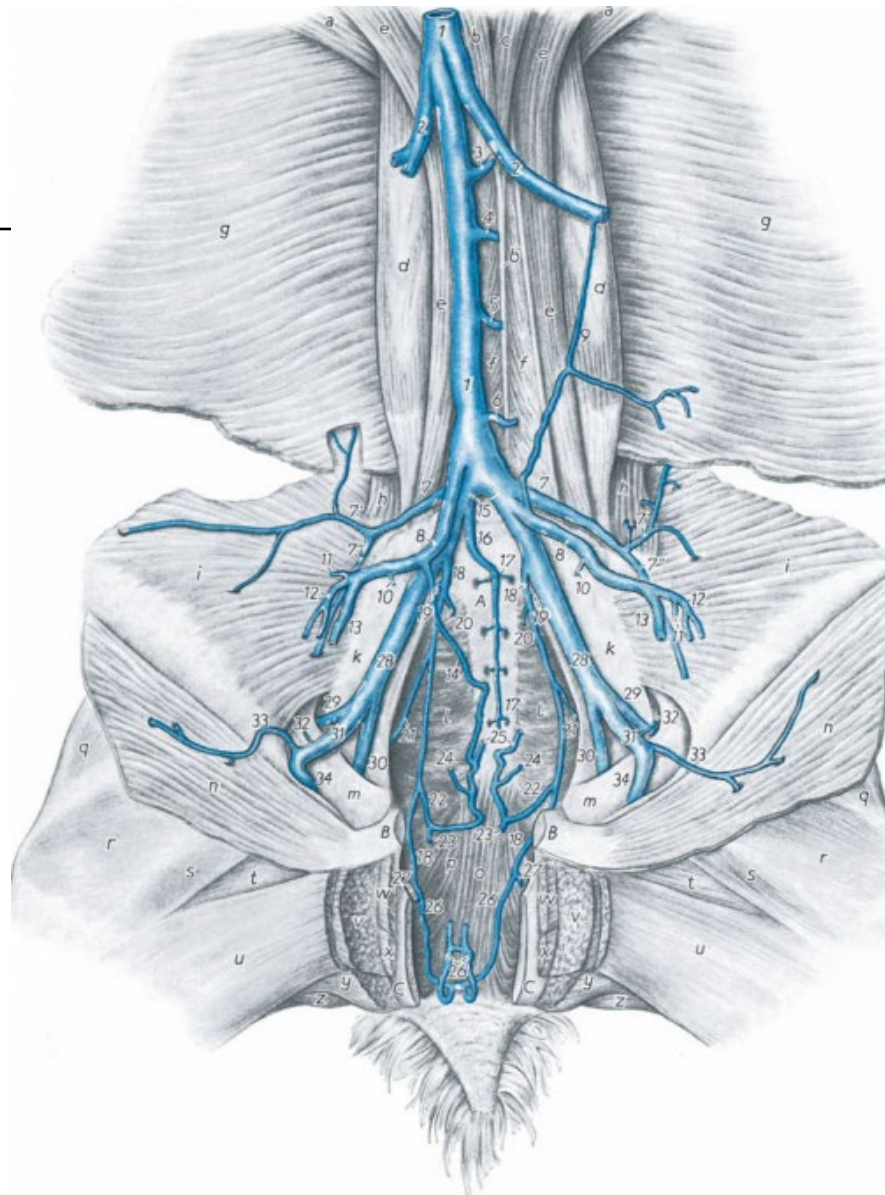
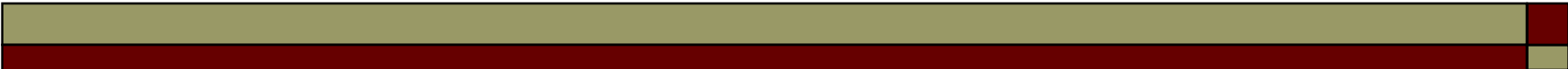


Fig. 189. Veins of the abdominal and pelvic cavity and of the abdominal wall of the sheep. Ventral view.
(After Rauhut, 1962, Diss., Hanover.)



Vene zadnjeg ekstremiteta

- Površinski venski sistem:
- V. saphena medialis
- V. saphena lateralis

-
- V. saphena lateralis



- Horst Erich König i Hans-Georg Liebich, 2009.

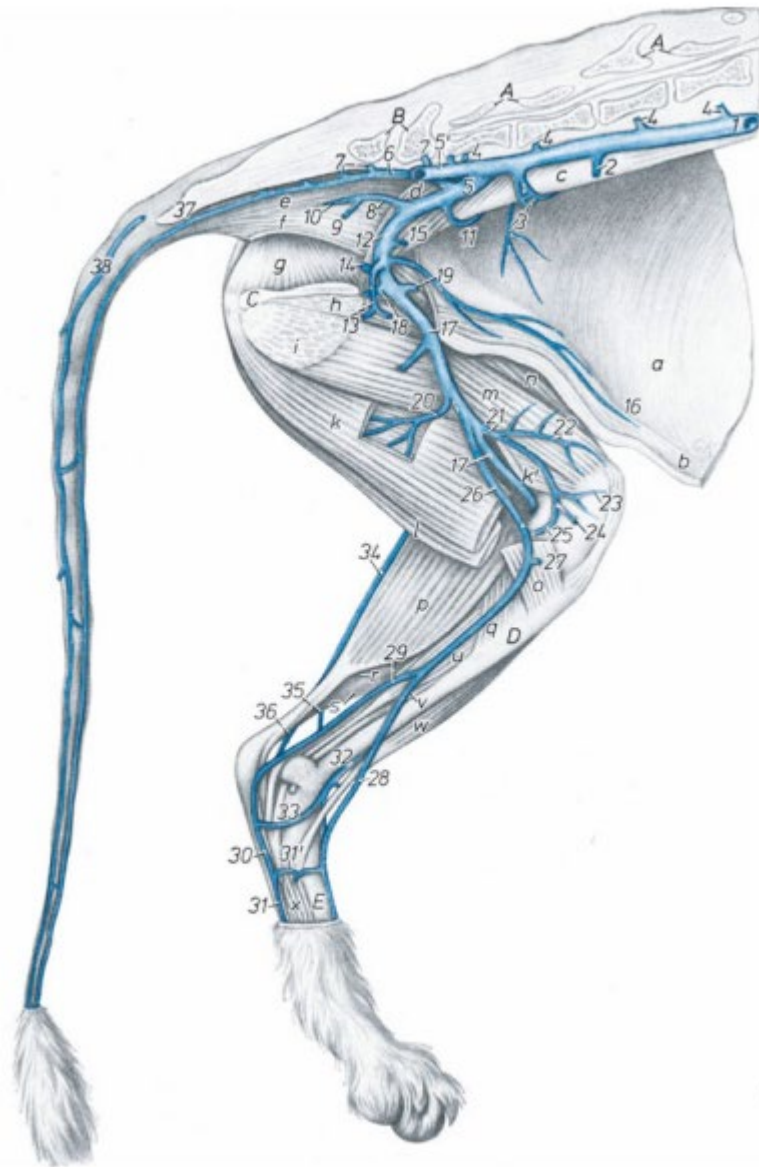


Fig. 194. Veins of the left pelvic limb of the cat. Medial view.
(After Biel, 1966, Diss., Hanover.)

- 
-
- ❑ **V. iliaca externa:**
 - ❑ V. ductus deferentis (eq, su)
 - ❑ V. uterina (eq)
 - ❑ V. iliacofemoralis (eq)
 - ❑ V. obturatoria (eq)
 - ❑ V. abdominalis caudalis (Ru, ca)
 - ❑ V. pudendoepigastrica (Ru, ca)
 - ❑ V. profunda femoris

☐ **V. femoralis:**

☐ V. circumflexa femoris lateralis

☐ V. saphena medialis

☐ V. genus descendens

☐ Vv. caudales femoris

- V. saphena lateralis (eq, ca)

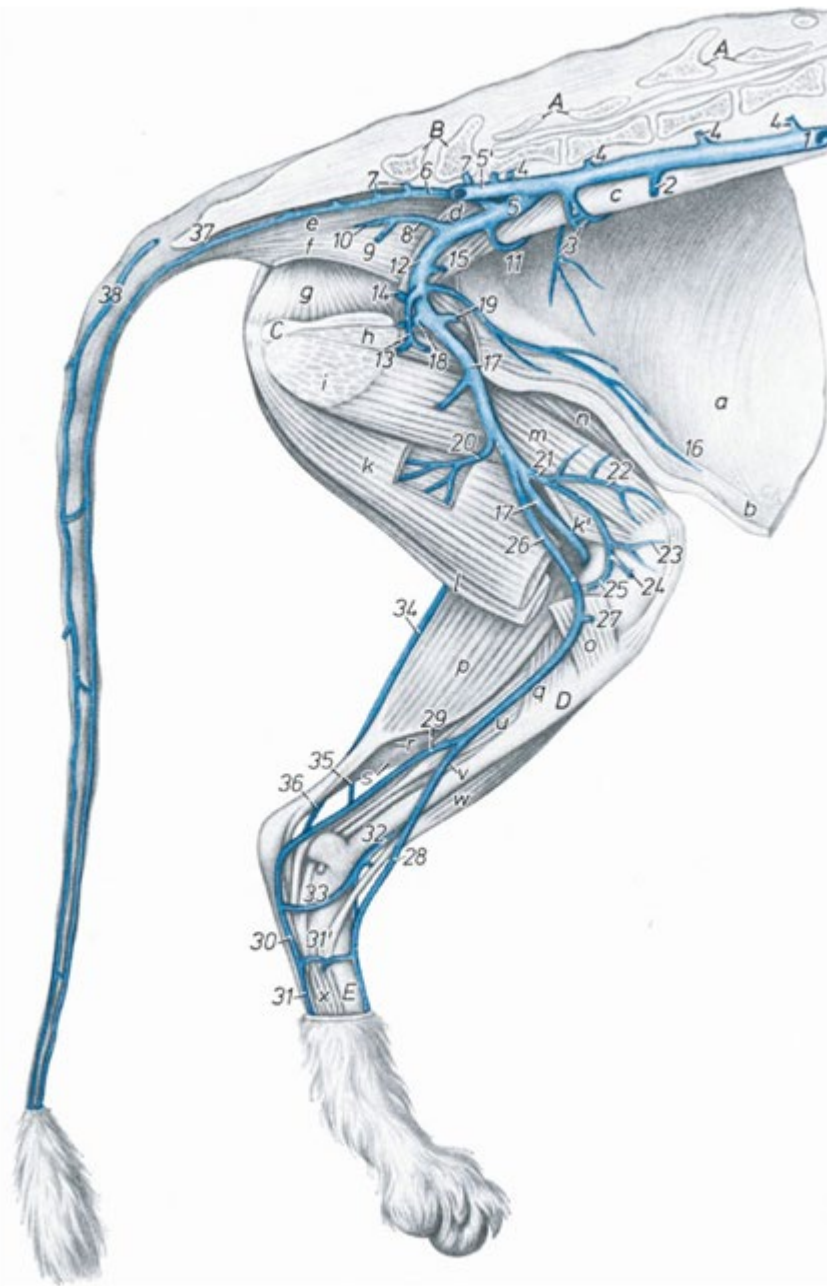


Fig. 194. Veins of the left pelvic limb of the cat. Medial view.
(After Biel, 1966, Diss., Hanover.)

- 
-
- **V. poplitea:**
 - Vv. genus
 - V. tibialis caudalis
 - V. tibialis cranialis

- 
-
- ❑ **V. tibialis cranialis**
 - ❑ **V. dorsalis pedis**
 - ❑ **V. metatarsae dorsalis II (eq)**
 - ❑ **V. metatarsae dorsalis III (Ru, su)**
 - ❑ Kod **ca** anastomozira sa r. cranialis (V. saphena medialis)
 - ❑ **Vv. digitales plantares communes**

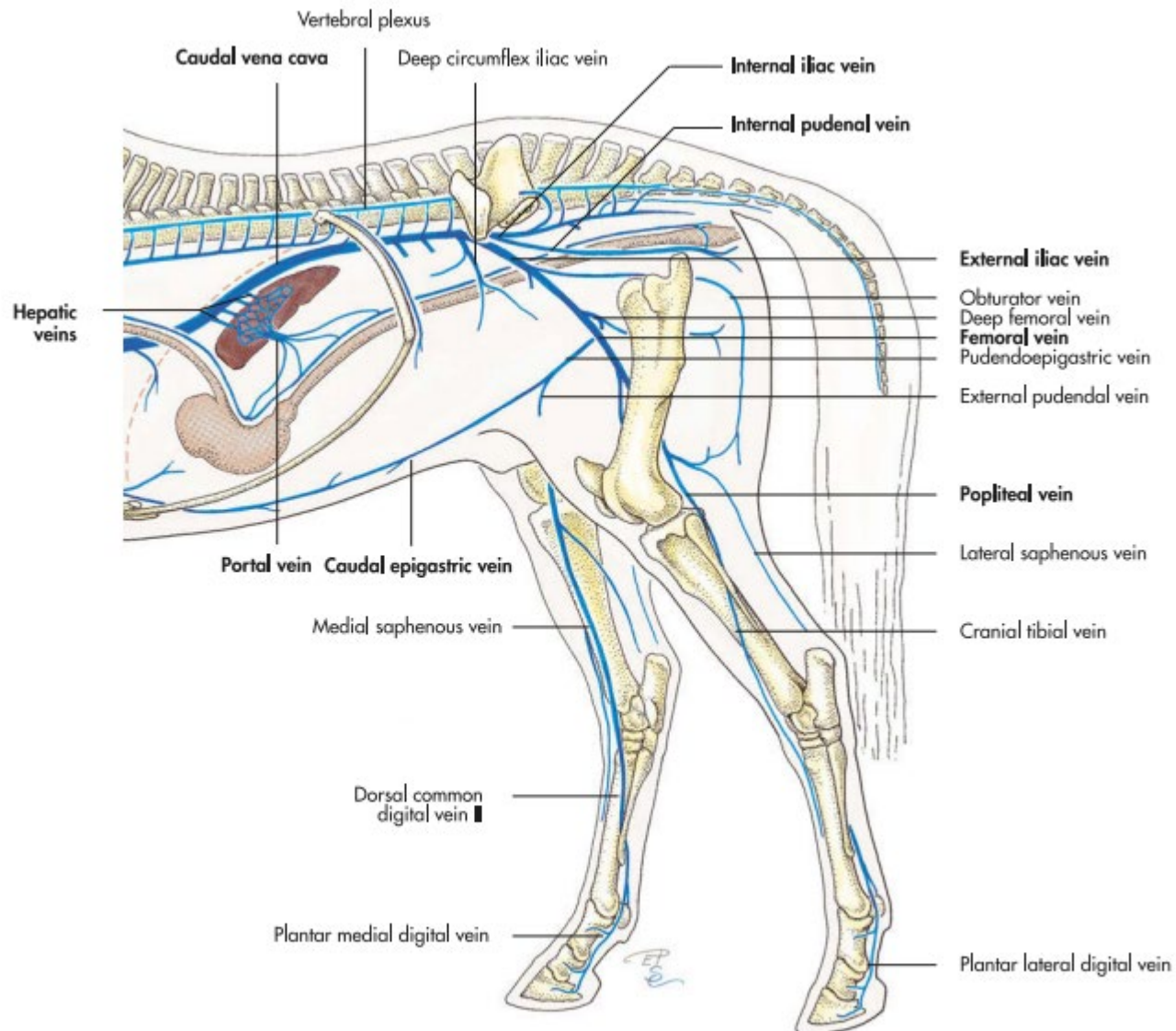


Fig. 13.29 Larger veins of the pelvic limb and the tributaries to the caudal vena cava of the horse (schematic).

V. iliaca interna

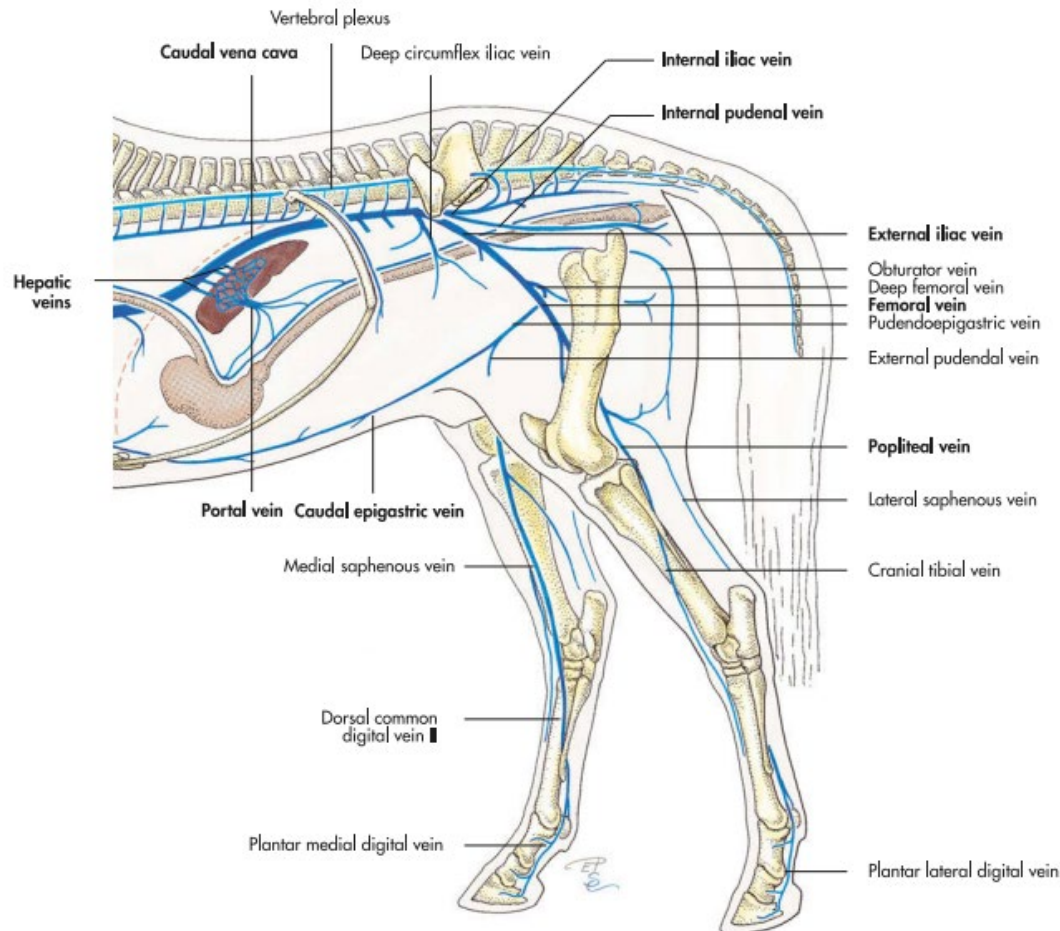
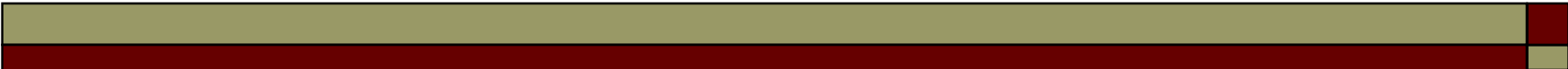


Fig. 13.29 Larger veins of the pelvic limb and the tributaries to the caudal vena cava of the horse (schematic).

- 
-
- ❑ V. iliolumbalis (Ru, su, ca)
 - ❑ V. glutea cranialis (Ru, su, ca)
 - ❑ V. glutea caudalis
 - ❑ V. obturatoria (Ru, su, ca)
 - ❑ V. pudenda interna
 - v. prostatica
 - v. vaginalis
 - v. perinealis ventralis
 - v. penis
 - v. clitoridis

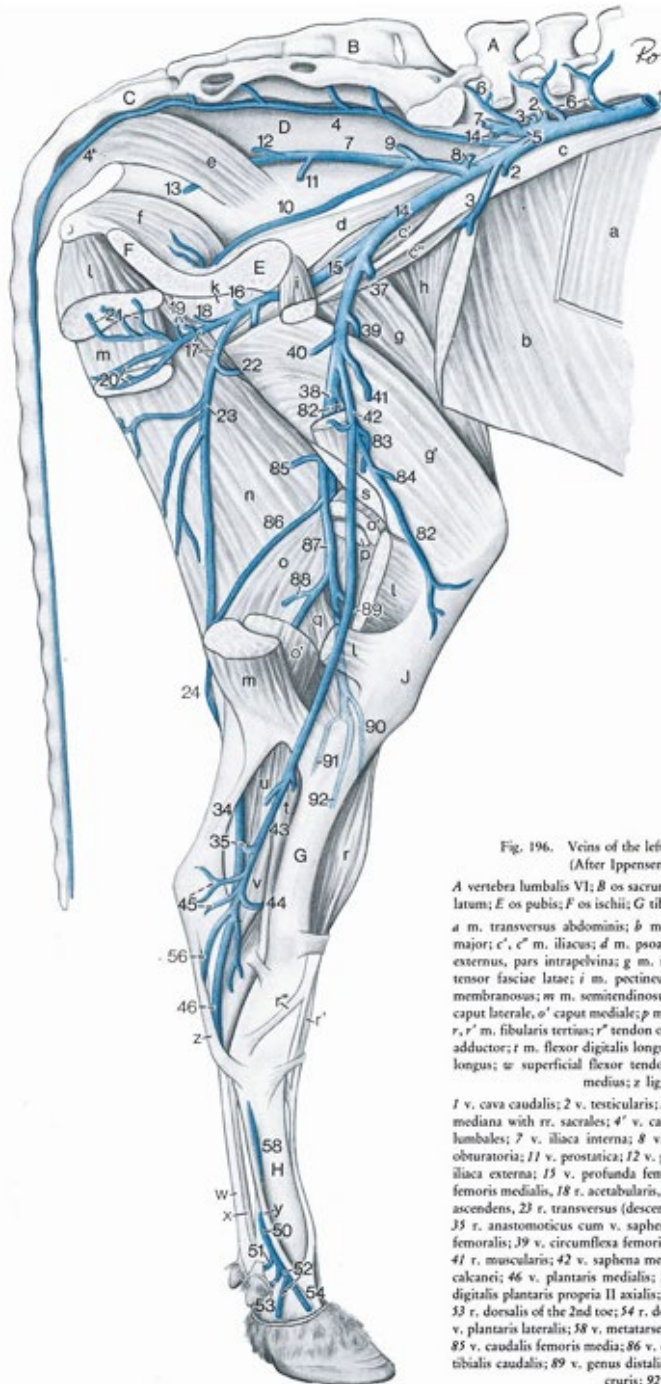


Fig. 196. Veins of the left pelvic limb of the ox. Medial view.

(After Ippensen, 1969, Diss., Hanover.)

A vertebra lumbalis VI; B os sacrum; C vertebra caudalis I; D lig. sacrotuberale latum; E os pubis; F os ischii; G tibia; H os metatarsale III + IV; f fascia genus a m. transversus abdominis; b m. obliquus internus abdominis; c m. psoas major; c' m. iliacus; d m. psoas minor; e m. coccygeus; f m. obturatorius externus, pars intrapelvina; g m. rectus femoris; g' m. vastus medialis; h m. tensor fasciae latae; i m. pectineus; k m. obturatorius externus; l m. semi-membranosus; m m. semitendinosus; n m. biceps femoris; o m. gastrocnemius, caput laterale, o' caput mediale; p m. flexor digitorum superficialis; q m. popliteus; r, r' m. fibularis tertius; r' tendon of the m. tibialis cranialis; s cut edge of the m. adductor; t m. flexor digitorum longus; u m. tibialis caudalis; v m. flexor hallucis longus; w superficial flexor tendon; x deep flexor tendon; y m. interossea medius; z lig. tarsi plantare longum

1 v. cava caudalis; 2 v. testicularis; 3 v. circumflexa ilium profunda; 4 v. sacralis mediana with rr. sacrales; 4' v. caudalis mediana; 5 v. iliaca communis; 6 vv. lumbales; 7 v. iliaca interna; 8 v. iliolumbalis; 9 v. glutea cranialis; 10 v. obturatoria; 11 v. prostatica; 12 v. glutea caudalis; 13 v. pudenda interna; 14 v. iliaca externa; 15 v. profunda femoris; 16 r. obturatorius; 17 v. circumflexa femoris medialis, 18 r. acetabularis, 19, 22 rr. profundus, 20, 21 branches of the r. ascendens, 23 r. transversus (descendens); 24 v. saphena lateralis; 34 r. caudalis; 35 r. anastomotica cum v. saphena medialis; 37 v. pudendopigastica; 38 v. femoralis; 39 v. circumflexa femoris lateralis; 40 v. caudalis femoris proximalis; 41 r. muscularis; 42 v. saphena medialis; 43 r. caudalis; 44 r. articularis; 45 rr. calcanei; 46 v. plantaris medialis; 50 v. digitalis plantaris communis II; 51 v. digitalis plantaris propria II axialis; 52 v. digitalis plantaris propria III abaxialis; 53 r. dorsalis of the 2nd toe; 54 r. dorsalis phalangis proximalis of the 3rd toe; 56 v. plantaris lateralis; 58 v. metatarsae plantaris II; 82, 83, 84 v. genus descendens; 85 v. caudalis femoris media; 86 v. caudalis femoris distalis; 87 v. poplitea; 88 v. tibialis caudalis; 89 v. genus distalis medialis; 90 r. muscularis; 91 v. interossea cruris; 92 v. tibialis cranialis

V. portae

- Počinje kapilarima u zidu želuca, slezine, pankreasa i svih creva (osim kaudalnog dela rektuma) – **ekstrahepatično kapilarno područje**.
- Završava kapilarima u jetri – **intrahepatično kapilarno područje**.

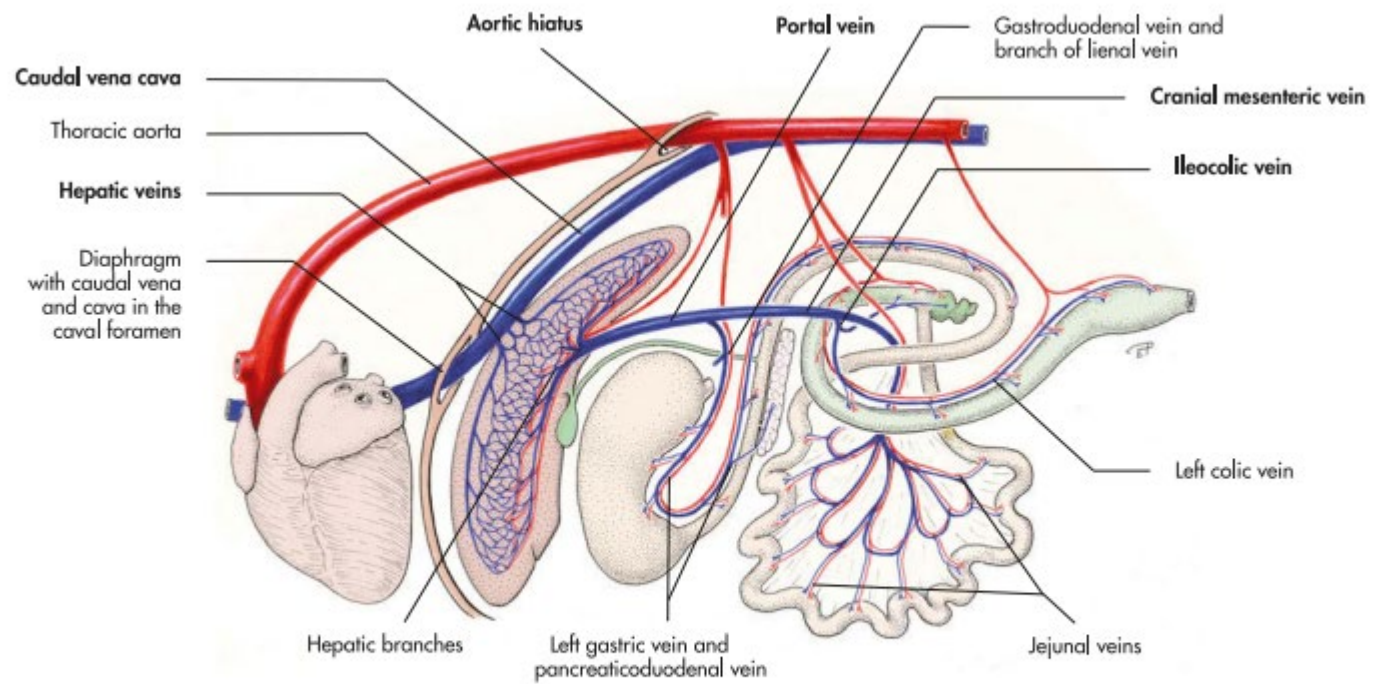


Fig. 13.30 Hepatic portal system of the dog (schematic).

- **V. portae**
- **A. hepatica**

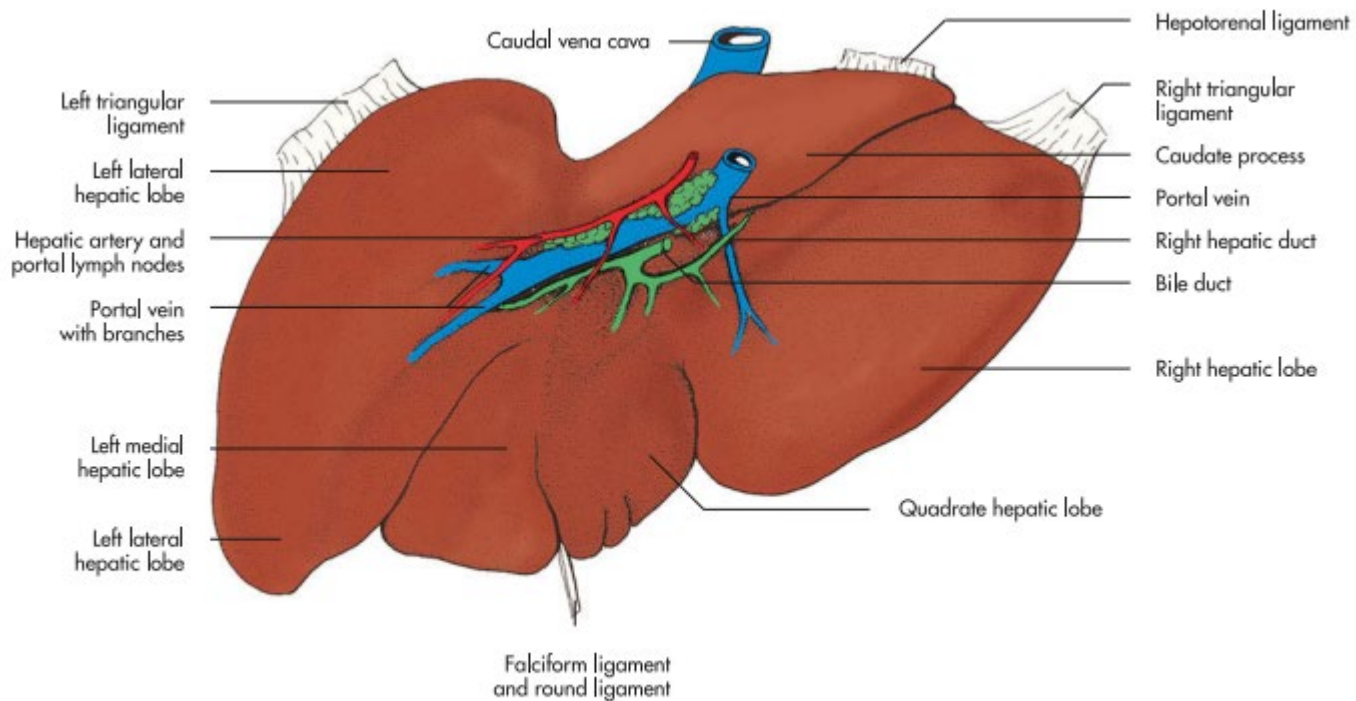


Fig. 8.103 Liver of the horse (schematic, visceral surface).

□ Vv. hepaticae → V. cava caudalis

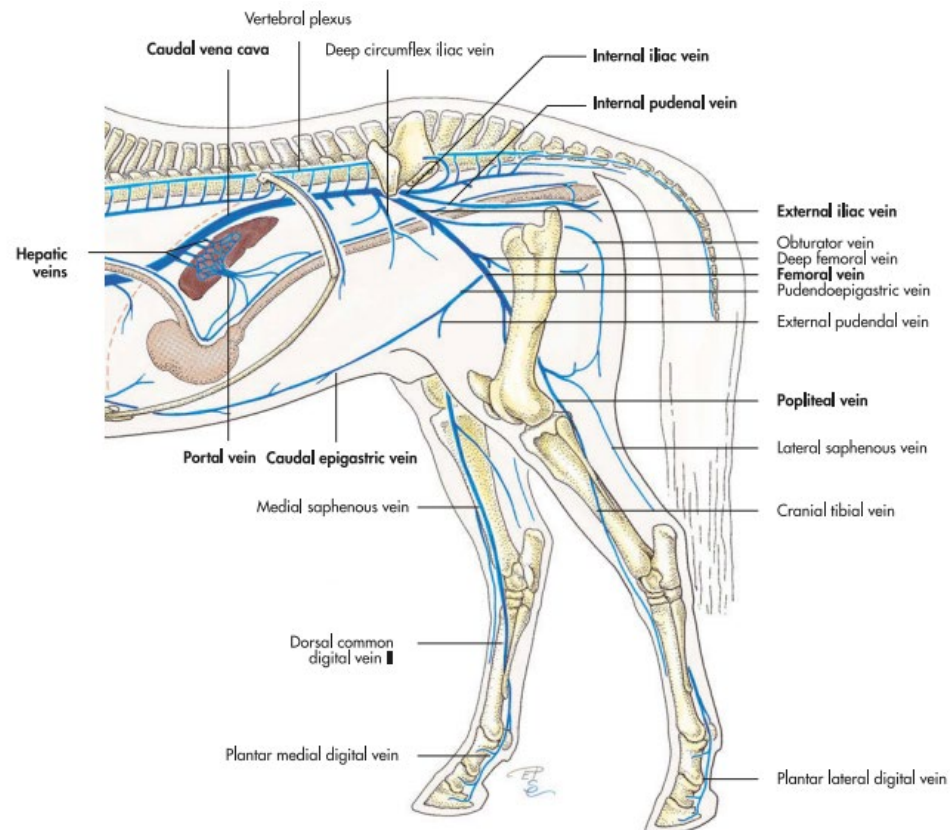
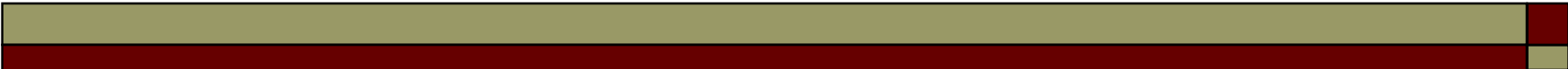
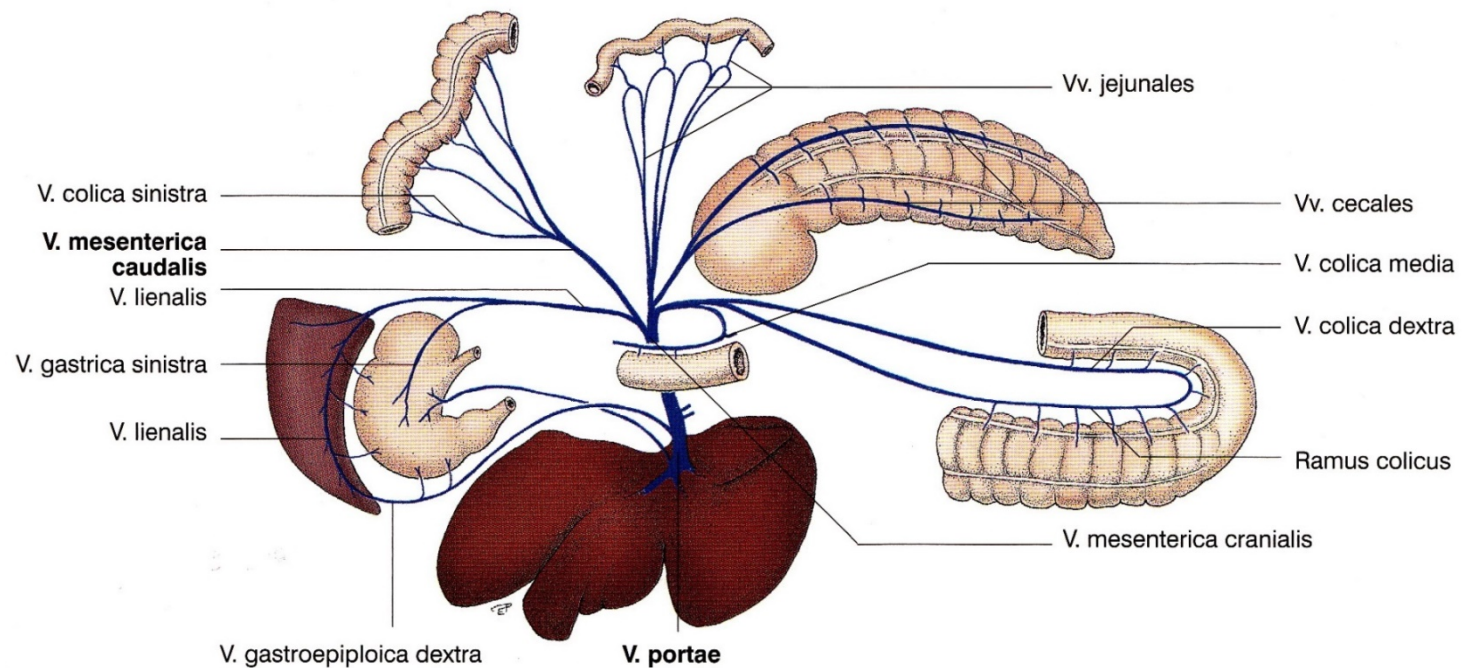


Fig. 13.29 Larger veins of the pelvic limb and the tributaries to the caudal vena cava of the horse (schematic).

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- ❑ Ramus dexter
 - ❑ Ramus sinister
 - ❑ Rami pancreatici (eq)
 - ❑ Vv. cysticae
 - ❑ V. gastrica dextra (su)
 - ❑ V. gastrica sinistra parietalis (eq)
 - ❑ V. gastroduodenalis
 - ❑ V. lienalis
 - ❑ V. mesenterica cranialis
 - ❑ V. mesenterica caudalis



- Shematski prikaz područja v. portae u konja, Ghetie, 1955.

Fetalni krvotok

- ❑ Plućni krvotok neznatan.
- ❑ Između Atrium dextrum i sinistrum Foramen ovale.
- ❑ Između Aortae i Truncus pulmonalis Ductus arteriosus (Botalli).
- ❑ V. cava cranialis – a. krv
- ❑ V. umbilicalis – a. krv (hepar)