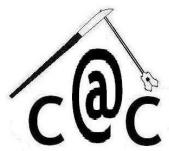


Cahiers d'Anatomie Comparée



C@C, 2009, 1:20-27.

ANATOMY OF THE KIDNEY OF THE DROMEDARY (*Camelus dromedarius*, L. 1758), INVESTIGATED BY DISSECTIONS, LATEX INJECTION, ANGIOGRAPHY AND MRI.

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Titre en français :

Anatomie du rein du dromadaire (Camelus dromedarius, L. 1758) à partir de dissections, d'injection au latex, d'angiographie et d'IRM.

Mots-clés : *rein, anatomie, IRM, angiographie, dromadaire*

Keywords: kidney, anatomy, MRI, angiography, dromedary

Systematics – Systématique (latin) :

Vertebrates - *Vertébrés (Vertebrata)*
Gnathostomes - *Gnathostomes (Gnathostomata)*
Tetrapods - *Tétrapodes (Tetrapoda)*
Mammals - *Mammifères (Mammalia)*
Therians - *Euthériens (Theria)*
Cetartiodactyls - *Cétartiodactyles (Cetartiodactyla)*
Tylopods - *Tylopodes (Tylopoda)*
Camelids - *Camelidés (Camelidae)*
Camelus dromedarius, Linnaeus, 1758

The present study was conducted on the left kidney of two male dromedaries (*Camelus dromedarius*, L. 1758) bought at the market of El Khroub (Algeria) (1) on 31st October 2008, (2) on 15th May 2009. The fresh weights were respectively 500g (1) and 550 g (2), and their measurements: 12 cm x 8.5 cm x 6 cm.

L'étude a été menée sur les reins gauches de deux dromadaires mâles (C. dromedarius) achetés au marché de El Khroub (Algérie), le premier, noté (1) le 31 oct. 2008 et le second noté (2) le 15 mai 2009. Leurs poids frais étaient respectivement de 500 g (1) et de 550g (2) et leurs mesures voisines de 12 x 8,5 x 6 cm.

The first kidney (1) was stored for one day at 4°C and was fixed in formaldehyde solution (5.5%) during five days.

- MRI (T1 sag. TR 350, TE 12 and T2 sag. TR 2500, TE 89), 4 mm slides, head coil, 1 Tesla, Harmony Siemens

- Angiography (I2 injection in the renal artery, 16 mAs, 46 kV, 19 ms), Convix 30, Universix 120, Fuji FCR 5000

- Pink latex injection in the renal artery to show the location of the arterial vascularisation in the renal parenchyme

- Frontal section of the kidney

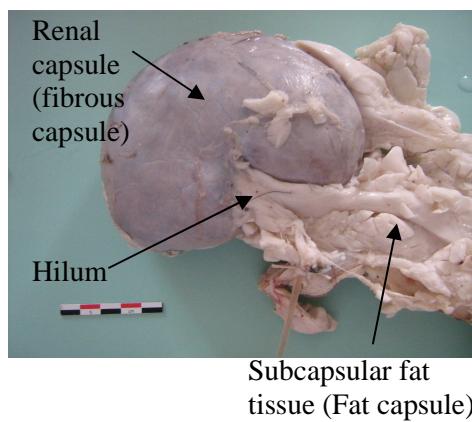
The second kidney (2) was cut immediately after slaughter to show the fresh aspect of the parenchyme.

Fig. 1. Morphology (1) [Morphologie (1)].

A.



B.



C.

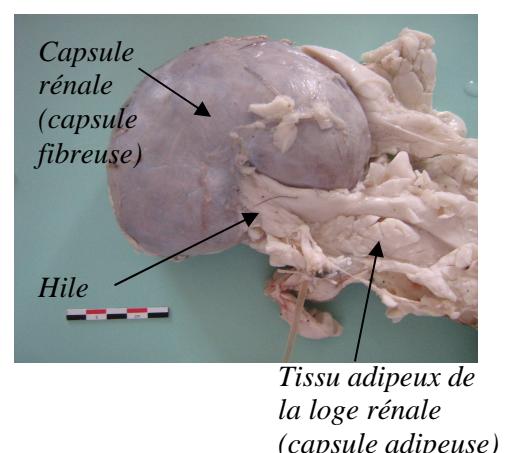
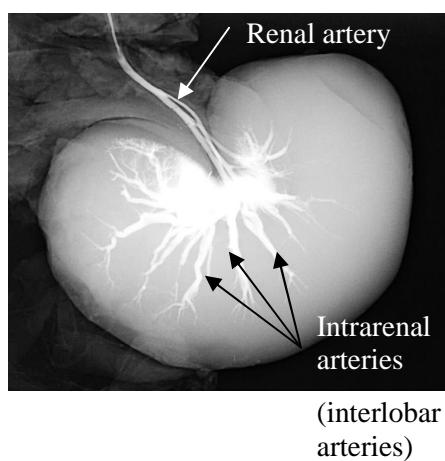


Fig. 2. Angiography of the dromedary's kidney (1) [Angiographie du rein du dromadaire (1)].

A.



B.



C.

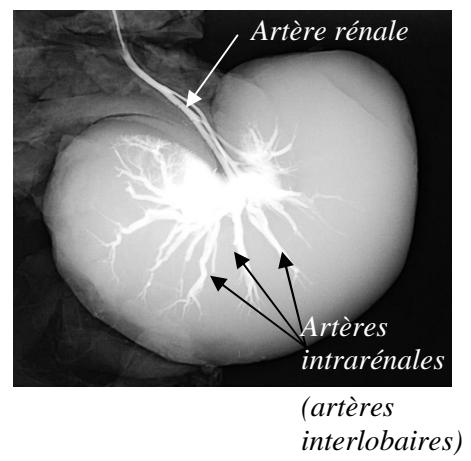
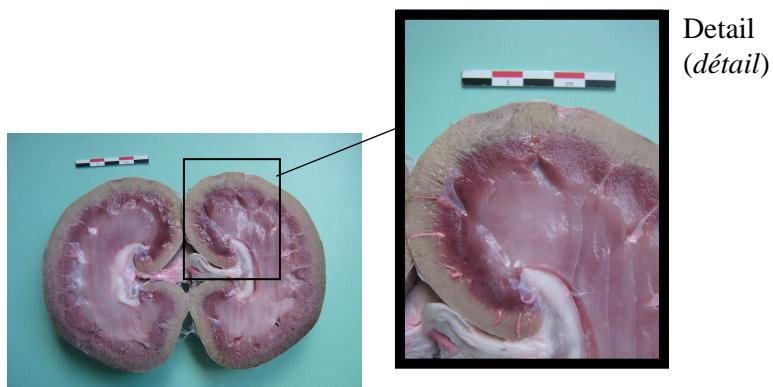
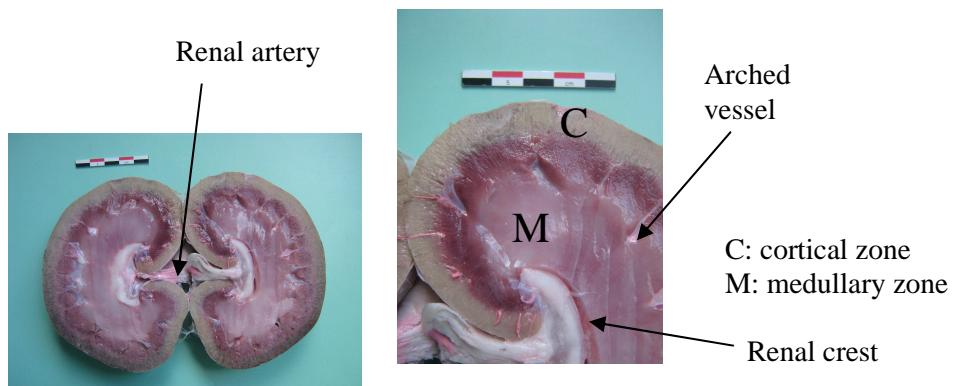


Fig. 3. Pink latex injection of the renal artery – longitudinal section of the kidney (1) [Injection au latex rose de l'artère rénale – coupe longitudinale du rein (1)].

A.



B.



C.

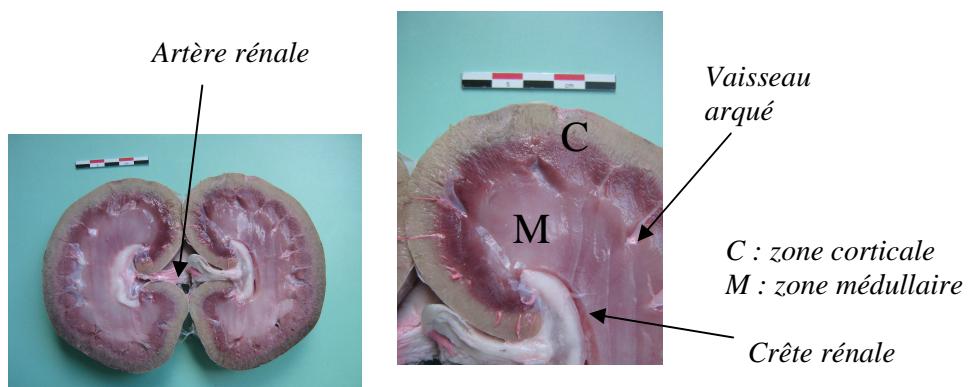
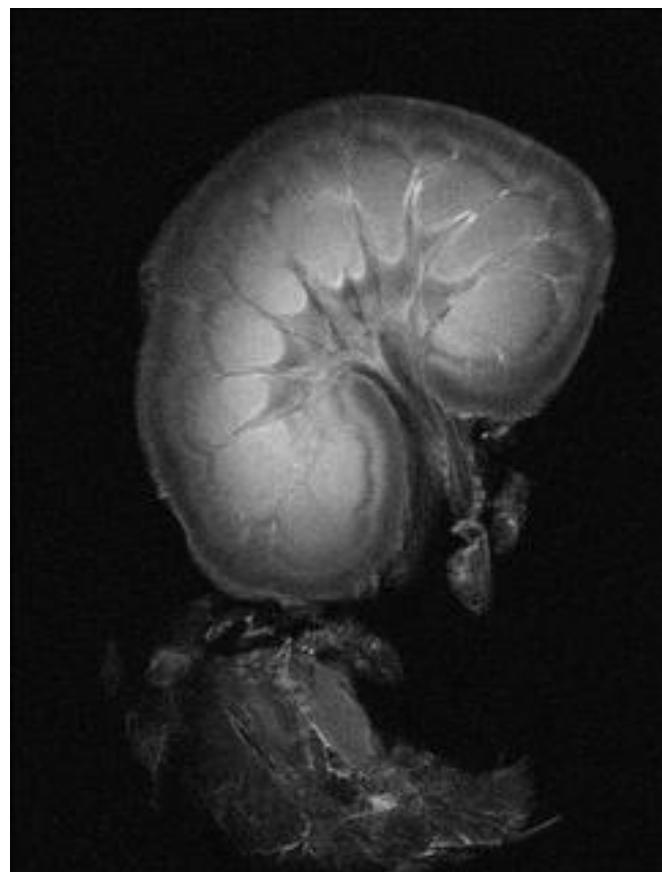
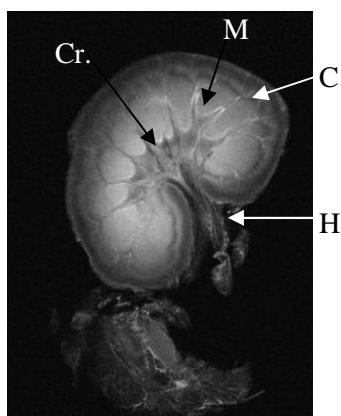


Fig. 4. MRI aspect, before latex injection (1) [Aspect à l'IRM avant injection au latex (1)].

A.

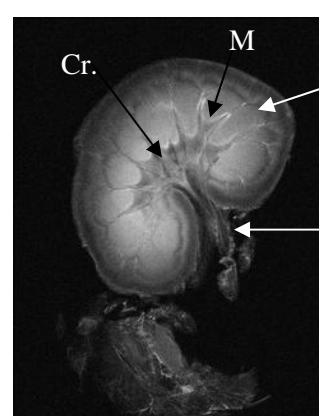


B.



C: cortical zone
M: medullary zone
Cr.: renal crest
H: hilum

C.



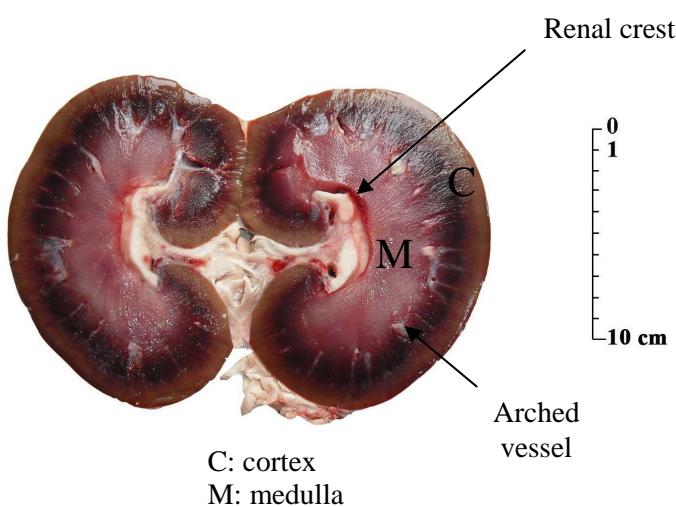
C : zone corticale
M : zone médullaire
Cr. : crête rénale
H : hile

Fig. 5. Aspect of the renal parenchyme, fresh organ-longitudinal section (2) [Aspect du parenchyme rénal, coupe longitudinale d'organe frais (2)].

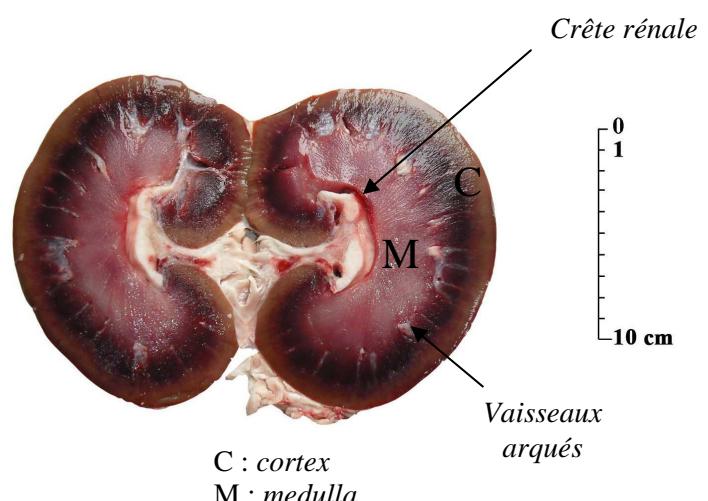
A.



B.



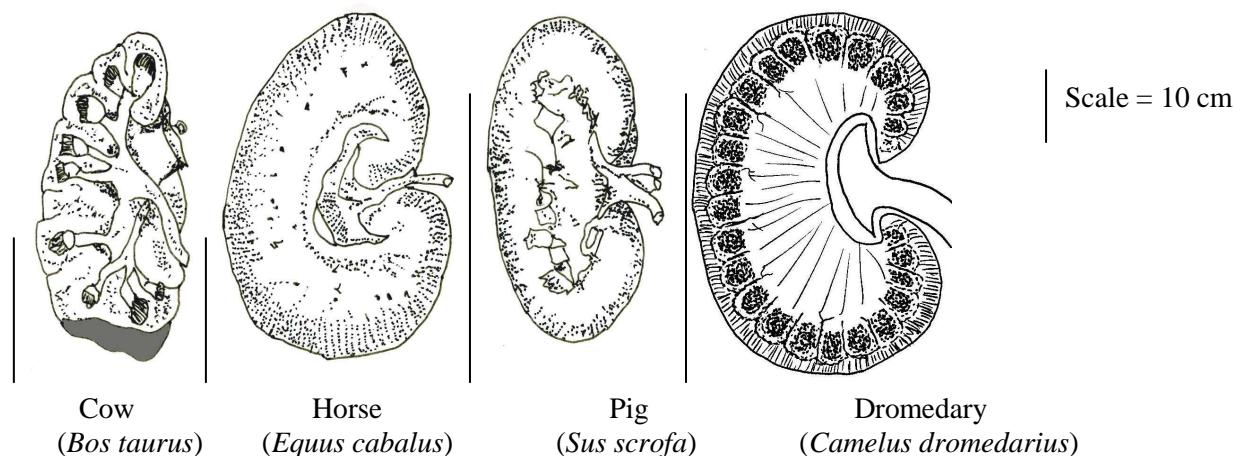
C.



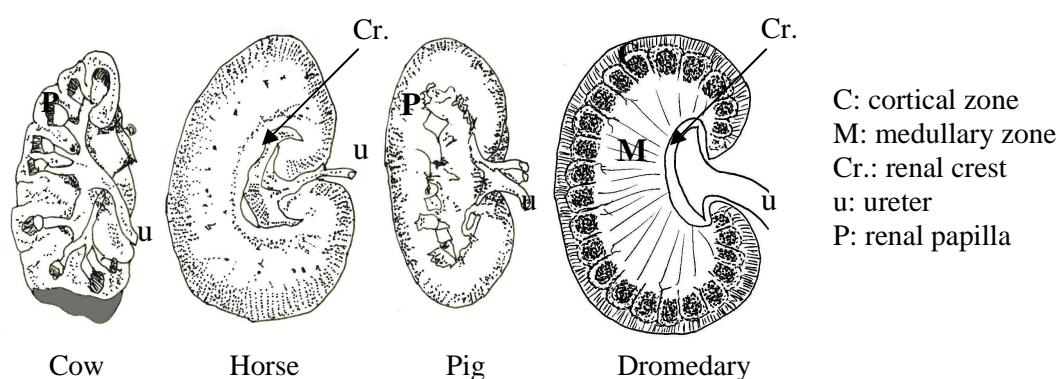
As in the kidney of the horse, a pronounced and wine-coloured zone is visible between the cortex and the medulla.

Fig. 6. Comparative anatomy [Anatomie comparée].

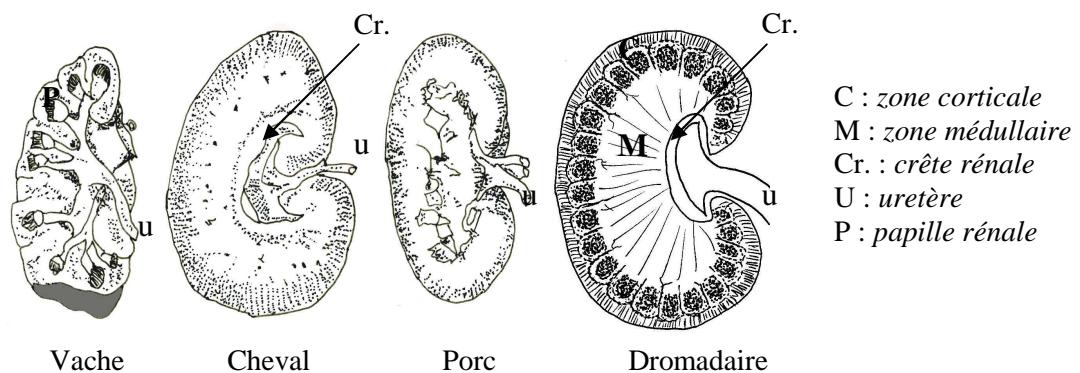
A.



B.



C.



Among other studied cetartiodactyla species, the kidney of the dromedary is peculiar with its hyperdeveloped medullary zone.

International nomenclature (*nomenclature internationale*)

English	Français	Nomina Anatomica Veterinaria
kidney	<i>Rein</i>	<i>Ren</i>
Renal hilum	<i>Hile du rein</i>	<i>Hilus renalis</i>
Fat capsule	<i>Capsule adipeuse</i>	<i>Capsula adiposa</i>
Fibrous capsule	<i>Capsule fibreuse</i>	<i>Capsula fibrosa</i>
Renal cortex	<i>Cortex du rein</i>	<i>Cortex renis</i>
Renal medulla	<i>Medulla du rein</i>	<i>Medulla renis</i>
Renal papillae	<i>Papilles rénales</i>	<i>Papillae renales</i>
Renal crest	<i>Crête rénale</i>	<i>Crista renalis</i>
Ureter	<i>Uretère</i>	<i>Ureter</i>
Arteries of the kidney	<i>Artères rénales</i>	<i>Arteriae renis</i>
Veins of the kidney	<i>Veines rénales</i>	<i>Venae renis</i>
Interlobar arteries	<i>Artères interlobaires</i>	<i>Arteriae interlobares renis</i>
Arched arteries	<i>Artères arquées</i>	<i>Arteriae arcuatae</i>

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Orientations bibliographiques

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