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ANATOMIC STUDIES ABOUT RABBIT SPERMATICS WAYS

STUDII ANATOMICE PRIVIND CAILE SPERMATICE LA IEPURELE DE CAMP

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The paper aims to bring some completions of male genital anatomy in rabbits, in particular related to vascularisatia it. Data from literature are brief and last time the species is used as a laboratory experimental model with application in human surgery. To study were used 10 animals that were purchased from the private sector. Prior to making dissection vascular formations were injected with a contrast material prepared in the laboratory of anatomy of the faculty. Dissection was performed using the magnifying glass stereomicroscopica and appropriate instrumentation surgery high fineness. Were achieved after pictures and pieces of dissection were performed schemes. Formation to describe the terminology used in NAV ed. 2002 After dissection found that epididyme is intimately attached to the edge epididymis testicularis, channel epididymis presents a many flecsuosis branch of different sizes, thickness of the channel increases from epididimar cones related to deferential channel, number eferente cones is variable (between 6 and 8 cones), and tail origin epidydimis and deferential channel is dressed in adipose tissue forming the body fat of testicularis. Testicular arteries originate from the abdominal aorta, right testicular artery, the right of the fifth lumbar vertebrae left testicular artery and the right of the sixth lumbar vertebra: epididimara artery skull emerges from the testicular artery and the caudal artery of the internal iliac .
Keywords: rabbit, epididim, testis, artera testiculris

Introduction

Laboratory animals have been, but also will be, appropriate subjects for those experiments that cannot be carried out *in vitro*. Some attention has already been paid by several authors to the structure of their bodies and organ systems (McLaughlin 1972; Barone et al.1973; Cooper and Schiller 1975; Hebel and Stromberg 1976; Smallwood 1992; Popesko et al. 1992) but many details have not yet been studied.

The study of anatomy, including the vasculature of the testis in domestic mammals, is closely connected with their reproduction. Similarly, in laboratory animals such study is necessary for experiments which, to a greater or lesser degree, provide knowledge which could be applied not only to domestic mammals,

but also to man. Examples include the study of the effect of heavy metals on the testicular parenchyma, the effect of ionizing radiation, the effect of some medicaments, disorders in the circulation of the blood, as well as various experimental surgical interventions.

Among laboratory animals, perhaps the vascularization of the rat testis has been studied the most (Harrison 1949; Harrison and Weiner 1949; Kormano 1967 Vrzgulova and Hajovska 1968; Hebel and Stromberg 1976; Chubb and Desjardins 1982; Melman et al. 1985). This problem has been studied, to a much lesser degree, in the mouse (Harrison 1949; Harrison and Weiner 1949; Froud1959; Suzuki 1982; Chubb and Desjardins 1982), the guinea pig (Cooper and Schiller 1975), the golden hamster (Michel 1959) and in the rabbit (Harrison 1949; Harrison and Weiner 1949; Chubb and Desjardins 1982). The purpose of the present work is to study the arterial supply and its sources in the male rabbit's genital gland, epididymis, scrotum and the *ductus deferens*.

Materials and Methods

For the study, ten healthy male rabbits weighing 2.5-3 kg from private breeders were used. The animals were euthanized by prolonged anaesthesia administered as an inhalant using either chloroform or ether. Immediately following euthanasia, the vascular network was perfused by a physiological solution with the addition of Heparin (Leaiva) at the dose of 1 ml (5000 U.I.) per 250 ml of solution, through the *left cardiac ventricle*. During the injection, the *v. cava cranialis* was opened in order to lower the pressure in the vessels to ensure a good injection. As a filling mass which gave, we used red silicon 10% In the work. The latest veterinary anatomical nomenclature is used (NAV, 2002).

Results and Discussion

Epididyme is attached to the edge epididymar of testis which has an elongated shape. *Extremitas capitata epididymis* is very attached to the pole testis skull making the impression of a single mass. *Extremitas caudata epididymis* is detached from the caudal pole of testis. Epididymal body is thin in the middle and large to the extreme. Epididymal channel presents a variety of flecsures, flecsures largest followed by flecsures narrowest. *Extremitas caudata epididymis* with deferential channel origin is wrapped in adipose tissue formed where the body fat of testiculului. Epididymal albuginea is thin body and thick towards the two extremes.

The testis of rabbit, as with the males of other mammals, is supplied by the *a. testicularis.* It originates (Fig.1) from the abdominal aorta caudally to the *a. renalis,* ventrolaterally or ventrally. The *a. testicularis dextra* emerges about 1-1.5 cm, sometimes only 0.5 cm in front of the *a. testicularis sinistra*. The right testicular artery arises approximately at the level of the fifth lumbar vertebra, the left at the level of the cranial part of the sixth lumbar vertebra. The *a. testicularis*,

from its origin, runs caudo-ventrally as the *pars recta* in the wide *plica vasculosa*. Within the *canalis inguinalis*, which is long and wide in rabbits, the *pars recta* changes to the *pars convoluta* which is formed by 13-20 loose loops (Fig 2). At the *extremitas capitata* and along the *margo epididymis*, it approaches the *extremitas caudata*, where it perforates the *tunica albuginea* and continues as a subcapsular artery directly or tortuously through the *margo liber*. At the cranial end, it returns to the epididymal margin, where it forms slightly tortuous loops. At the *extremitas caudata* (in some cases also at the opposite testicular end) the testicular artery divides into two branches of almost equal thickness, which bend and continue around the testis, so that at the *margo liber* three arteries run side by side (Fig.3). The small secondary intratesticular branches project from both marginal arteries (Fig.4). The thicker of them, the *r. Rete testis* enters the *mediastinum testis* which is shifted closely to the epididymal margin. From the *r. rete testis*, tiny *rr. interlobulares* originate in all directions; they run in the *septula testis* and reach the marginal branches and *tunica albuginea*. Several anastomoses are formed between the arteries of the free and epididymal margins. The epididymis is supplied by the branches of the blood vessels emanating from two sources: a) the *a. testicularis* or its *pars convoluta*, from which originates the *r. Epididymalis cranialis*, which vascularizes the epididymal head and fat pad (Fig.1). Before reaching the epididymal head the thin small branch (*r. epididymalis medius*), protrudes from the *a. testicularis* for the head and cranial part of the epididymal body. The caudal part of the epididymal body and tail are supplied with the next branch of the *a. testicularis* – the *r. epididymalis caudalis*; b) the *a. epididymalis caudalis*, which vascularizes the caudal part of the epididymal body and tail. It originates from the initial part of the *a. iliaca externa* either independently or from the *common trunk* whose branches also supply the *ductus deferens* and *m. cremaster*. The *a. epididymalis caudalis* above the epididymal tail is divided into 2–3 delicate branches, which enter the caudal part of the epididymal body and tail, where they run almost horizontally and give rise to more secondary branches. Some of them communicate with the *r. epididymalis caudalis*, with the terminal part of the *a. Ductus deferentis* as well as with the intratesticular branches. The *a. ductus deferentis* is a thin blood vessel, originating from the common trunk of the *a. iliaca externa.* It runs along the *ductus deferens*, which it supplies. In the epididymal tail, it communicates with the terminal part of *a. epididymalis caudalis* and the *r. epididymalis caudalis*. A thin branch, the *r. cremastericus* for the ventral part of the *m. cremaster* originates above the *extremitas caudata* from the *r. ductus deferentis*. The *a. cremasterica* originates from the above mentioned common trunk of the *a. Iliaca externa* (Fig. 1). Its several *rr. musculares* supply the *m. cremaster* and 1-3 *rr. Adiposi* vascularize the caudal fat pad. The terminal branches of *a. cremasterica* enter the testicular coverings.

Fig. 1. Origin of the testicularis artery

Fig 2. Rami to the testicularis artery

Conclusions

1. Epididimul is intimately attached to the edge epididymis testicularis;
2. Channel epididymis presents a many flecsuosis branch of different sizes, thickness of the channel increases from epididimar cones related to deferential channel, number eferente cones is variable (between 6 and 8 cones);
3. Tail origin epidydimis and deferential channel is dressed in adipose tissue forming the body fat of testicularis;

4. Testicular arteries originate from the abdominal aorta, right testicular artery, the right of the fifth lumbar vertebrae left testicular artery and the right of the sixth lumbar vertebra: epididimara artery skull emerges from the testicular artery and the caudal artery of the internal iliac;

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