



Diphallia and double scrota in a donkey: A case report

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Abstract

Diphallia and double scrota are rare congenital anomalies. This report records, for the first time, the gross pathological findings of a rare case of diphallia and double scrota in a two-year-old donkey. On physical examination of the donkey, double peni, double prepuces, double scrota and two testes were observed. The two peni were directed opposite to each other at the caudal ventral midline. The posterior penis was the functional one and appeared normal in structure. This penis had ventral deviation and was displaced caudally to the posterior scrotum and testes. The testes were atrophied, asymmetrical and located anterior to the posterior penis in a transverse plan. The anterior penis was not functional, rudimentary, replaced by a fibrous band, fixed to the prepuce and had normal cranial direction. The anterior prepuce was well developed with preputial orifice. The anterior scrotum was rudimentary, empty and located posterior to the anterior penis. Two rudimentary teats were also seen between anterior prepuce and scrotum.

Keywords: Diphallia; double scrota; donkey

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Introduction

According to the available literature, congenital anomalies of external genitalia in equine are rare. Ambiguous genitalia, intersex, cryptorchidism and hypospadias are the most common recorded anomalies in horses (Kuiper and Destl, 2007; De Lorenzi et al., 2010; Sato et al., 2012; Almeida et al., 2013).

Diphallus is a rare congenital anomaly in animals. It has been reported earlier in a 5 days old Angus calf with atresia ani and an accessory scrotum (Loynachan et al., 2006). Ghanem et al. (2004) also reported a case of atresia ani with diphallus and separate scrota in a calf. At 4 months after birth, two separate scrota (each containing a testis) and a sac-like structure in the middle of two scrota were visible. Two weeks later, two peni (diphallia) were observed, each in a separate preputial sheath. At necropsy (7 months of age), the prepuce was thick and the glans of the right penis was adhered to the prepuce. The left penis did not have a urethra or retractor penis muscles. The sac-like

structure in the middle of the two scrota contained the urinary bladder and a loop of small intestine. The pubic bone failed to fuse at the pelvic symphysis.

Bahr and Distl (2004) reported a case of diphallus in a German Holstein calf. Clinical examination revealed a duplication of glands penis, corpus penis and urethra, but no further anomalies were observed. They ascribed this anomaly to chromosomal aberration (Bahr and Distl, 2004).

Another case of diphallia associated with polymelia, polydactylism, lack of the bony floor of the pelvis, asymmetrical pelvis, asymmetrical sacral and coccygeal vertebrae and unilateral hypoplasia of the kidneys has been reported in a calf (Behrens et al., 1993).

To the best of the authors' knowledge, congenital diphallia and double scrota were not reported in the peer-reviewed veterinary literature. Therefore, this report records, for the first time, the gross pathologic findings of a rare case of diphallia and double scrota in a donkey.

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Fig. 1: A two-year-old donkey showing double peni, double scrota, double prepuces and two asymmetrical testes



Fig. 2: The anterior penis in a two-year old donkey showing well developed prepuce, empty scrotum (arrows) and two rudimentary teats

Case history and gross findings

A two-year-old donkey was admitted to the Surgery Clinic at Faculty of Veterinary Medicine, Cairo University, Egypt for treatment of an ocular infection. During examination, it was noticed that the donkey urinates between his hind limbs. Therefore, physical examination of the external genitalia was carried out.

On physical examination of the donkey, paired peni, prepuces, scrota and testes were observed. The two peni were located opposite to each other at the caudal ventral midline (Fig. 1).

The posterior penis was the main functional one that faced backward between the hind limbs and appeared normal in structure. The penis had ventral deviation and displaced caudally to the posterior scrotum and testes (Fig. 1). The posterior penis could be easily exteriorized through a normal prepuce. The testes were atrophied, asymmetrical and located in the posterior scrotum cranial to the posterior penis and in a transverse plan. The anterior testis was smaller than the posterior one.

The anterior penis was rudimentary, replaced by a fibrous band, fixed to the prepuce and had normal cranial direction. It had neither a urethra nor retractor penis muscles. The anterior prepuce was well developed with preputial orifice. The anterior scrotum was rudimentary, empty and located posterior to the anterior penis in a longitudinal direction. The two median raphae were perpendicular to each other. Two rudimentary teats were also seen between anterior prepuce and the scrotum (Fig. 2).

Discussion

The cause of these anomalies in the present case could not be known. Possibly, they are caused by a chromosomal aberration (Bähr and Distl, 2004). These anomalies were diagnosed accidentally in this donkey, while the donkey was presented for ocular examination because they had no adverse effects on the donkey except urination between his hind limbs. The direction of the urination could be explained by the ventral deviation of the functional posterior penis. Similar findings and explanation were mentioned by Sato et al. (2012) in a Thoroughbred colt with ambiguous external genitalia. DeLorenzi et al. (2010) recorded evident ventral penis deviation associated with hypospadias in a 4-year-old Friesian horse. In contrast, this donkey had normal penile urethra. Due to the malposition of the functional penis, it was expected that the donkey would be unable to mate, even the testes were atrophied. This could be explained by their malposition and location near to the abdominal wall.

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