

SURGICAL MANAGEMENT OF PYGOMELIA WITH CONCURRENT DIPHALLUS IN A DACHSHUND PUP

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A Twenty-day old male Dachshund pup was presented to the University Veterinary Hospital, Kokkalai with a supernumerary pelvic limb. It also had two fully developed penises which were reported to be functional. Surgical removal of the extra limb was performed when the pup was four months of age. Since both the penises were functional, no intervention was performed on the penises. The surgical management of pygomeleia in a pup with concurrent diphallus is reported in this paper.

Keywords: Pygomeleia, Diphallus, Pup.

Pygomeleia is a rare congenital defect characterised by the presence of a supernumerary limb at different locations on the body. Depending on the body region, pygomeleia has been classified as notomeleia, cephalomeleia, thoracomeleia and pygomeleia. Caudal duplication, is a rare type of conjoined twinning. The aim of this type of a case report has been described a case of caudal duplication in a male crossbreed puppy; the puppy was macroscopically and radiographically examined after death and the external features included a supernumerary limb projecting from the perineum (Mazzullo *et al.*, 2007). Bifid phallus is further subdivided into the following categories: complete, if there are two penises; and partial, if there are only two separate glandes (Gyftopoulos *et al.*, 2002). Diphallia or penile duplication is a rare congenital abnormality, which has been reported in various species including humans, dogs and donkeys. But the simultaneous occurrence of pygomeleia and true diphallus is extremely rare. In this case report, an extremely rare condition of pygomeleia with true complete diphallia in a Dachshund pup and its surgical management is discussed.

Case history and Observations

A twenty-day old male Dachshund pup was presented to the University Veterinary Hospital, Kokkalai with the complaint of an extra limb at the pelvic region. On clinical examination, a supernumerary limb was seen attached to the perineal region. It was almost equal to the size of the normal weight bearing limbs with a white skin whilst the body colour was black. Two fully developed penises were observed which were reported to be functional (Fig.1). The testicles could be palpated at the base of the penises but without the presence of a scrotum. Owing to the size of the pup, the owner was advised to present the animal after a few months for surgical correction. The pup was presented when it was four months of age for surgical correction (Fig.2). The pup was subjected to radiographical examination to assess the attachments of the bones of the supernumerary limb. The radiograph revealed that the femur was attached to the ischium and all the bones of the limb were present but of smaller size (Fig.3).



Fig.1. On the day of presentation



Fig.2. On the day of surgery



Fig.3. Lateral radiograph pre-op



Fig.4. After separation of the supernumerary limb

Surgical treatment

The pup was prepared for surgery under general anaesthesia. It was premedicated with Inj. xylazine @ 1 mg/kg and Inj. butorphanol @ 0.1 mg/kg. Anaesthesia was induced using Inj. ketamine @ 5 mg/kg and Inj. midazolam @ 0.1 mg/kg and maintained on isoflurane @ 2%. The site was prepared for aseptic surgery. A curvilinear skin incision was made at the base of the extra limb and dissected the subcutaneous tissue which consisted of adipose tissue and connective tissue. The

blood vessels were ligated and dissected out the extra limb (Fig.4). The subcutaneous tissue and skin were apposed in the routine manner. Post-operatively, it was maintained on cefpodoxime proxetil @ 10 mg/kg orally, meloxicam @ 0.2 mg/kg orally for five days and supplemented with multivitamins. The skin sutures were removed on the 10th post operative day and the dog had an uneventful recovery (Fig.5). Since both the penises were found to be functional and the owner was not interested in breeding the dog, it was left as such (Fig. 6).



Fig. 5. On the day of suture removal



Fig. 6. True complete diphallia

Results and Discussion

Even though the occurrence of polymelia and diphallus has been reported by various authors in cattle etc. But it is very

rare in canines and occasionally in cats and dogs as reported by Adonis *et al.*, 2016 and Mazzullo *et al.*, 2007. The phenomenon of polymelia is usually associated with other

congenital defects such as polydactyly (extra fingers or toes) or the presence of additional and often underdeveloped bones. In most cases, the extra limb is shorter and devoid of muscle tissue. The physiological attributes of the affected animal, including temperature, pulse and respiration rate, are usually normal.

In this case the overall size of the supernumerary limb was near to the normal limb with an ill-developed femur of the extra limb attached to the ischium. The other bones were partially developed with near normal muscles, blood vessels and nerves which was evident on dissection. Diphallia or penile duplication is a rare congenital abnormality. Diphallus has been observed and reported in some cases of dogs. Diphallia may be due to duplication of the cloacal membrane early in development, with subsequent formation of two urogenital tubercles, or may be part of a more extensive hindgut defect, which includes developmental anomalies in other systems as also reported by Hollowell *et al.*, 1977. In this case, since it was otherwise healthy, the internal organs were not specifically evaluated for any other anomalies. The absence of a well-defined scrotum and the subcutaneous location of the testicles are likely to affect the development

of the testicles. Even though, there was urine output through both the penises, since it is a case of true complete diphallia, the breedability of the animal is questionable.

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