Diprosopus Delivery by Caesarean Section under Field Conditions -
Complications and Their Management

*D.M. Makhdoomi1, Mohmmad Arif Khan2 and Mohsin Ali Gazi3

Teaching Veterinary Clinical Services Complex, Faculty of Veterinary Sciences and Animal
Husbandry SKUAST Kashmir.

1. Professor and Head
2, 3 MVSc students Surgery & Radiology.
*Corresponding Author email: dmmakhdoomi@gmail.com

Abstract

A case of Diprosopus delivery by cesarean section is documented. Diprosopus is a form of symmetrical conjoined twins consisting of a single neck and body with various forms of duplication. The present report describes the delivery of Diprosopus by caesarean section after prolonged labour and its complications, viz tearing of birth canal, radial paralysis and wound dehiscence in a cow under field conditions and its successful management.

Key words: Diprosopus delivery, Caesarean Section

Case History

Congenital head defects involving duplications such as diprosopus, dicephalus and schisoprosopia occur more frequently in cattle than in sheep and pigs, and are rare in goats (Hiraga and Dennis, 1993). Its occurrence is extremely rare in horses (Shojaei et al., 2006). An adult Holstein Friesian, 5 years, 300kgs was reported exhibiting labour since 48 hours. There was a moderate depression but physiological parameters were within normal range. Per vaginal examination revealed moderate degree of cervical relaxation and a linear tear. The double head of the foetus was palpable with one mouth facing the cervical canal and the second part of the head deviated to the right side of the dry birth canal. The surgical judgment demanded caesarean section.

Material and Methods

The caesarean section was done as per standard methodology using left lower flank incision and the dead Diprosopus was relieved. The tear in the birth canal was sutured using continuous lock stitch method with 3-0 chromic catgut. The post operative treatment advised included, injection Ciprofloxine 1000mg BD IV, injection meloxicame 10ml IM for 3 days. The animal tried to get up during 2nd post operative hour but was forced to sit up to 8th post operative hours to avoid suture rupture by owner. The animal was normal up to 3rd post operative day but on day 4th, the animal turned recumbent and every effort was made to
make the animal to stand failed because the animal developed Radial Paralysis in right leg and the symptoms included dropped elbow, diminished extension of elbow, carpals and digits. Loss of extensor postural thrust limb support and loss of triceps reflex and the animal rested the affected leg on the fetlock. The treatment of Radial paralysis was instituted which included massing with liniments ammonia and camphor, injection Neurobion and inj. Trineurosol (total 10ml) few ml at multiple sites along the course of the nerve. Exposure to infrared light for 10 minutes twice daily for on week was also given. The limb was placed under support from the last digit to the fetlock joint; the support was fabricated from bamboo sticks and jute material. The animal on 15th post operative day showed sudden loss of condition, clinically manifested by receded flanks and the suture along the incision line turned loose and resulted in dehiscence.

The gap so formed was treated as open wound. However, a delay in healing was recorded. The wound was freshened by undermining the skin and resutured using braided silk placing horizontal mattress sutures.

The treatment of all the complications viz; tearing of birth canal, radial paralysis and wound dehiscence took 2 months for follow up. The animal recovered fully after 60 days and returned to oestrus on 86 post operative day.

Discussion

Diprosopus have been classified as free, attached, symmetrical and attached asymmetrical (Leipold et al 1972). Wu et al. (2002) stated that the pathogenesis of diprosopus monauchenos involves duplication of the notochord. Schulze Et al. (2006) suggested that diprosopus could be an oligogenic inheritance as the parent stock and their ancestors usually show no signs of diprosopus and the Frequency of its occurrence in a herd is presumably low. The Diprosopus in the present case had a unique body, single emphysematous head but facial duplication Joined at occipito- tempo-parietal region. Each facial duplication had a fully developed maxilla, mandible mouth with muzzle. Cranial duplication is a form of congenital defect that affects cranial and facial structures is usually referred to as diprosopus dicephalus in articles (Hiraga and Dennis, 1993). Necropsy of the Diprosopus revealed oral cavities terminated at a single larynx and oesophagus. Examination of the cranial cavities revealed two cerebrums fusingly forming a single medulla oblongata. Neurapraxia is an interruption in the function and conduction of the nerve with out structural damage. Pressure on the radial nerve along the course (Wheeler et al 1986) or prolonged recumbency (Duncan 1991). The diprosopus could be an oligogenic inheritance as the parent stock and their ancestors usually show no signs of diprosopus and the frequency of its occurrence in a herd is presumably low (Schulze et al. 2006). Congenital abnormalities are sequel to arrested development of the different segments of the Mullarian ducts or incomplete fusion of the ducts during
Embryogenesis (Jainudeen and Hafez, 2000), leading to the death or malformation of the foetus. In the present case, the animal made efforts to stand but was forced to assume recumbency with a fear of suture dehiscence by the owner at home resulting in increased pressure on the affected limb under the influence of gravity. Moreover, thoracic limbs got abducted severely from the body and the entire plexus was drawn away from normal position forcing pressure on the nerve due to stretching. The animal presumably lost confidence in standing and thus developed radial paralysis. The fabricated bamboo support concomitant with the treatment regimen helped to treat the condition in the present case. The prognosis in such cases is guarded to poor as only 28% cases get reasonable regain of the affected limb function at 4 or more months after infliction of injury (Gibson and Daniloff 1989). The reconstruction of surgical canal was simple and safe procedure. It healed uneventfully and the animal returned to oestrus within 3 months. To check the infection and prevent the prolonged dressing and cost thereof, the wound was freshened and resutured. This helped in early restoration of the wound healing.

Summary

A dead Diprosopus was delivered by caesarean section. The cow developed complications like tearing the birth canal, radial paralysis and dehiscence of abdominal wound which were managed successfully.

Reference