



Dystocia and its Management in a Captured Wild Monkey

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ABSTRACT

A stray wild female monkey, aged 5-6 years were presented to the Referral Veterinary Polyclinics, ICAR- Indian Veterinary Research Institute, with a history of straining and discharge from the vulva since morning. A close physical examination of the external genitalia of the monkey revealed it as prominent, red and swollen implying impending labor. The vulva was open due to the internal pressure revealing foetal part visible with reduced fetal fluid. Per-vaginal examination revealed a foetal head in the birth canal, but absence of foetal responses. Per vaginal examination revealed foetal presentation to be anterior longitudinal, dorso-sacral position, but it was difficult to palpate postural condition. To relieve the condition female monkey was positioned in a left lateral recumbent position followed by ample lubrication of the birth canal with CMC (Carboxymethyl cellulose) gel using an intrauterine catheter and syringe. The traction approach was used to extract the dead foetus. Following successful delivery bleeding was prevented by administering ethamsylate injections at a dose rate of 15 mg/Kg (1 ml), and other supportive medications were administered. The macaque monkeys can postpone labour making it difficult for an observer to determine the indicators of dystocia until the condition has worsened. This makes dystocia in nonhuman primates a grave condition requiring prompt medical attention.

Introduction

Dystocia, often known as painful labour or birth, has been reported in Prosimians, Old World monkeys, New World monkeys, and Apes. Among these, New World monkeys are more vulnerable to dystocia due to the inproportionate foetal size to the maternal size (Van Lonkhuijzen et al., 2010).

In macaques, females achieve reproductive maturity around the age of 2.5 and 3 years (Ilayaraja et al., 2013).

The breeding season varies greatly among the populations. Populations who dwell in cooler climates breed in the winter so that their offspring are born in the spring. *Macaca mulatta* have few well-defined mating seasons. The gestation period is approximately 180 days, practically all pregnancies culminate in the birth of only one child, mostly in the late hours of the night. Females in captivity maintain a constant menstrual cycle of 26 to 28 days when housed in the comparable conditions. During the cycle, they are couplable for 8 to 11 days (Hunnell et al., 2007).

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Nonhuman primates with dystocia are reported frequently in a critical state and require immediate medical attention, and since the majority of species give birth at night, any female macaque in labour during the day should be cautiously monitored for signs of dystocia (Abee et al., 2012).

Case history

A stray wild female monkey, aged 5-6 years old and weighing 6-7 kg, was rescued by an animal rescue team and brought to the ICAR-IVRI, TVCC at around 5 p.m. with a history of straining and discharge from the vulva since morning. On the same day, early in the morning, it was caught near a residential area.

Physical examination

Physical examination divulged mild dehydration, pale mucous membranes, heart rate of 195/min and a rectal temperature of 100.5 °F. 'Sex skin' of the animal was prominent, red and swollen suggesting that it was a pregnant animal. Due to internal pressure, the vulva was open with the foetal part visible with reduced fetal fluid. Per-vaginal examination revealed a foetal head in the birth canal, but absence of foetal responses, implying that the foetus is dead. Foetal presentation was observed to be anterior longitudinal, dorsal sacral position, but it was difficult to palpate postural condition.

Management & Treatment

The animal was positioned in a left lateral recumbent position and the birth canal was then lubricated with CMC

(Carboxymethyl cellulose) gel using an intrauterine catheter and syringe (Fig. 1a). The traction approach was used to extract the dead foetus (Fig. 1b). However, because the vulva was nearly dry, frequent lubrications were required. The foetus was exteriorised by applying traction on the exposed head for about 7 minutes.

The dead foetus was successfully delivered following application of ample traction (Fig. 2c). The foetal head appeared to be oedematous. The umbilical cord appeared to be normal (Fig. 2d). The umbilical cord was separated and bleeding was prevented by administering ethamsylate injections at a dose rate of 15 mg/Kg (1 mL), and prophylactic antibiotic injection Ceftriaxone 1G intramuscularly and anti-inflammatory medication of meloxicam 0.4 mL was also injected intramuscularly. It was advised to continue the medications for 2 more days. Long-term dystocia in monkeys leads to the death of the foetus and dam.

Discussion

Rhesus macaque (*Macacamullata*) is the old world monkey common in the northern part of India. Their age of sexual maturity is 4 or 5 years. With a 28-day menstrual cycle, the female's cycle is comparable to that of humans. Mating isn't restricted to a certain season. Pregnancy in macaques lasts over 146-180 days. Signs of preceding parturition include squatting, frequently touching the vagina, wagging of tail and frequently changing place. Delivery of young will take around 1- 3 hours. Twin births are rare in macaques.

The hemochorial placenta is characterised by foetal chorionic villi clusters, which contains the foetal blood, floating freely in maternal blood, known as the intervill-



Fig. 1: (a) Lubrication, and (b) Traction of foetus



Fig. 2: (c) Expulsion of dead foetus, (d) Dead foetus

lous gap. The endometrial branch of the uterine arteries supplies maternal blood to this pool through the base of the placenta. Endometrial branches of the uterine veins drain blood from the intervillous region. The mother and foetus exchange metabolites across the villous tissue, with a fibrous core in which foetal circulation is present.

Dystocia can cause significant morbidity and mortality in both the foetus and the mother. Malpresentation, posture, multiple foetuses and fractures have been reported as the causes of dystocia (Brady, 2000). In infants, facial oedema and bruising can cause dystocia in nonhuman primates in some cases (Aksel and Abee, 1983). Various cases of bilateral shoulder flexion in macaques were reported (Pandey et al., 2016).

The difficulty in detecting dystocia in macaques is due to their capacity to postpone labour and, as well as their housing and habitat (Bohm and Gilbert, 2012). Even the most skilled observer also fails to determine the indicators of dystocia until the condition has worsened. Nonhuman primates with dystocia are frequently in grave condition as a result of these circumstances and they require prompt medical attention.

References

- Abee CR, Mansfield K, Tardif SD, Morris T. Nonhuman primates in biomedical research: biology and management. Academic Press 2012; Vol 1.
- Aksel S, Abee CR. A pelvimetry method for predicting perinatal mortality in pregnant squirrel monkeys (*Saimiri sciureus*). *Lab Anim Sci.* 1983;33(2):165-7.
- Bohm RP, Gilbert MH. Emergency medicine and critical care for nonhuman primates, in: Abee CR, Mansfield K, Tardif S, and Morris T (eds.) *Nonhuman Primates in Biomedical Research*, Vol 1: Biology and Management, second edition Elsevier, Waltham, MA, 2012; 359–389. doi: 10.1016/B978-0-12-381365-7.00015-7.
- Brady AG. Research techniques for the squirrel monkey (*Saimiri sp.*). *ILAR J.* 2000;41(1):10-8. doi: 10.1093/ilar.41.1.10.
- Hunnell NA, Rockcastle NJ, McCormick KN, Sinko LK, Sullivan EL, Cameron JL. Physical activity of adult female rhesus monkeys (*Macaca mulatta*) across the menstrual cycle. *Am J Physiol Endocrinol Metab.* 2007;292(6):E1520-5. doi: 10.1152/ajpendo.00497.2006.
- Pandey AK, Gyan S, Parveen K, Sandeep K, Sonu K, Satbir S, Sarvan K, Davinder S. Dystocia in a she monkey due to bilateral shoulder flexion: a rare case report. *Indian Vet J.* 201; 93(4): 61-62.
- Ilayaraja S, Arun A Sha, Yaduraj Khadpekar, Sanio Jonhson, Niraj Dahe. Dystocia in a rhesus macaque (*Macaca mulatta*) and its successful management. *Indian Wildlife Year Book.* 2013; 85: 11-12.
- van Lonkhuijzen L, Dijkman A, van Roosmalen J, Zeeman G, Scherpbier A. A systematic review of the effectiveness of training in emergency obstetric care in low-resource environments. *BJOG.* 2010;117(7):777-87. doi: 10.1111/j.1471-0528.2010.02561.x.