

## CALVING PATTERN AND NEONATAL BEHAVIOUR IN INDIAN DROMEDARY CAMEL

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The characteristic features of different stages of parturition behavior and the post partum behavioral features of camel calf are presented.

### Materials and Methods

A total of nineteen healthy camels (camelus dromedarius) of Bika eri breed were randomly selected and kept for observation in loose housing system. All nineteen parturient camels were under the observation from at least one week before the expected date of calving. The camels were maintained under identical system of management. All related observations were recorded on a suitably developed score card containing all parameters related to parturition as well as neonatal behavior of camel. The recorded data were classified pertaining to different aspects and analysis was conducted according to standard statistical method (Snedecor and Cochran, 1989).

### Results and Discussion

**Signs of labour pain :** Behavioral signs of labour pain of parturient in camel were alone and separate from the main herd, two grooves on either side of the root of tail, concavity between the site of pin bone which is mainly due to relaxation of sacro-siatic

ligaments, swollen vulva, repeated lying down standing up, tense and tortuous superficial mammary vein and swelling of udder and teat were very common signs of imminent parturition within 3-5 hr (Yagil, 1985). Where as some other sign viz : looking to the flank, aggressiveness, uneasiness, scrapping ground with hind feet and discharge from vulva were not so common.

**Stages of Calving :** Behavioural phenomenon during different stages of parturition of camel are presented in table 1. Behavioral phenomenon during different stages of parturition of camel revealed that in maximum cases (85%) allantoic bag expelled out only after rupturing where as there were very few cases (15%) where allantoic bag expelled out as such and ruptured outside and subsequently released straw coloured fluid. There is an average of 9 liters of foetal fluids, 80-90% of which is allantoic fluid (Musa and Abusineina, 1978). Amniotic fluid never exceeds more than one litre which is much less than the volumes in either the cow or the mare. The average time (min) gap between appearance and expulsion of allantoic bag was  $3.42 \pm 0.30$  and it ranged from 1 to 4 min. The average time (min) gap between expulsion of

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allantoic bag and appearance of foetus was  $5.31 \pm 0.95$  where as the range value was 2 to 8 min. The 100% cases showed normal presentation which was out stretched forelegs with chin of the calf resting on it. The posture of dam at the time of expulsion of foetus was on sternal recumbancy (100% cases). The average time (min) interval between appearance and expulsion of foetus was  $6.40 \pm 0.21$  (assisted labour cases) and  $40.33 \pm 2.14$  (unassisted labour cases). The head of the calf appears, usually still within an intact amnion. The body gradually appears and the rear portion is then quickly ejected. If it is a breech birth the hind legs appear first, but no additional help is required. The delivery of a normally positioned calf takes about 25 minute. The post partum average time (minute) taken for expulsion of placenta was  $52.75 \pm 7.22$  where as it ranged from 32 to 140 min. Yagil (*loc. cit.*) reported that the placenta can come off with the calf but is normally discarded after 40-50 min.

The post partum behavioral characteristic of dam indicated that dam stands up as soon as the calf was expelled out. The nosing and smelling the calf was very common feature. In normal and natural delivery process the placenta was not eaten by dam (100% cases). After parturition maximum dam (85%) adopt their calf very quickly (within 4 to 8 min) but there were few cases (15 %) where dam took more time for this adoption process. In maximum cases (95%) dams were extremely protective of her young and not readily allow anyone to handle her calf but few dams (5%) were reluctant to this behavior. The mother stands as soon as the calf is out. This severs the umbilical cord. Unlike other ruminants, bitch, sow or mare the mother does not bite the cord, lick the calf or eat the afterbirth. Fraser (1968) reported that sow, mare and bitch eat the after birth.

**Neonatal behavior :** The neonatal behavior is presented in table 2: The average

Table 1 - Behavioural phenomenon during different stages of parturition of Camel

Parameter	Mean $\pm$ S.E. (n=19)
Time gap between appearance and expulsion of allantoic bag (min)	3.42 $\pm$ 0.30
Time gap between expulsion of allantoic bag and appearance of foetus (min)	5.31 $\pm$ 0.95.
Time gap between appearance and expulsion of foetus (minute)	6.40 $\pm$ 0.21
Assisted labour (12 cases) Unassisted labour (7 cases)	
Postpartum time taken for expulsion of placenta (minute)	52.75 $\pm$ 7.22

Table 2 - Neonatal behavior

Parameter	Mean $\pm$ S.E. (n=19)
Time taken for the calf to stand (min)	51.42 $\pm$ 8.31
Time taken for 1 st suckling attempt (min)	81.12 $\pm$ 6.92
Time taken for excretion of muconium (min)	30.00 $\pm$ 3.12
Time taken for 1 st urination (min)	60.24 $\pm$ 0.99
Locomotary movement Normal - (within 12-24 hr)	
(%) Not Normal	95
Proper walking (Days) After 6-7	5
(%) Before 6-7	92
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## Calving pattern and neonatal behaviour of camel

time taken for the calf to stand on his leg and 1<sup>st</sup> suckling attempt were 20-80 (min) and 55-95 (min) respectively. The calves in a normal parturition assumed sternal position with head slightly dropping towards the ground. The eyes were generally covered by mucous membrane; then opened up after the birth. The dam nosed and smelled the calf again and again but did not lick the young one. The newborn calf made repeated attempts to stand up until finally hind legs flexed sufficiently to support the body. Tandon *et al.*, (1998) reported that on an average, it took about 50 min (20 to 90 min) for the calves to stand. Initially the movement was unsteady with staggering gait. New born calves kept their forelegs forward with slope and hind legs stretched behind the forelegs. The locomotion became normal after 10-12 hrs, and the calves started following the mother, walking by its sides or behind. The average time interval for suckling varied from 1-3 time per hour.

## Summary

In 19 healthy camels detailed observation on signs of labour, calving and neonatal behaviour were made and various parameters were quantified and presented.

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