

Reproduction in Camel

A.V. Khanvilkar¹, S. R. Samant² and B. N. Ambore³

Krantisinh Nana Patil College of Veterinary Science,
Shirval, District Satara

Abstract

The word camel is derived from the Greek word "kremal". Camel is an important component of the desert ecosystem from time immemorial and is recognized as the "Ship of the desert". Humans depend on this animal not just for meat, milk and hide but also as one of the most important mode of transport in the desert which has increased to 10,30,000 million according to FAO census, which is almost 6-8% of the total camel population of the world. The genus *Camelus* has two species, one humped camel found in Africa, Arabia, Iran, Afghanistan and India and two-humped camel found in Central Asia reaching up to Mongolia and Western part of China. Camels have 70 chromosomes. Camels do not have sweat glands and can tolerate heat up to 49 °C to 50°C during the day time and 30°C during night time.

Keywords: Camel, Desert, Transport, Ecosystem, Mating, Rutting, Reproduction, Pregnancy.

Reproduction

Camel is a seasonal breeder and their reproduction is different as compared to other livestock as both male and female come into heat during the breeding season. The terminology used in case of males is "Thoot", "Rutt" or "Musth". Usually the heat period is from November to March. The female camel matures at an age of 3-4 years while males at the age of 4-5 years. During heat period the male emits a black pigment from his pole gland (skin gland) which helps him to attract the females. The male camel has a specialized inflatable diverticulum of the soft palate called as 'gula'. When the animal is angry or displaying this structure protrudes out from the mouth. The 'gula' is extruded when the camel is physically restrained and protrudes temporarily when the animal is chemically restrained (Flower, 1978). The gestation period in camels is 390 days with average birth weight 35-40 kgs. The adult camel weighs 450-750 kgs.

Mating

The act of mating in camels is called as "lakhana" in Rajasthan. Generally one stallion can cover 20 to 50 she camels in one season. More than 50 services should not be allowed in one breeding season. The duration of estrus cycle varies from 16-22 days and the duration of heat is for 3-4 days. Camels generally do not come in heat in the summer season.

The symptoms of estrus in camel are as follows:

- Excitement
- Bleating
- Want of male
- Swollen Vulva with slimy discharge
- Tries to smell urine and external genitalia of male and raises the tail.
- May show homosexual tendencies, also comes near the male and allows him to mount.

Generally mating occurs by natural method. The female sits down and keeps the external genitalia open thus allowing the male to copulate. While mating the male and female both make grunting sounds. The whole sexual act takes about 20 minutes and is accompanied by gurgling and frothing by male and bleating by the females.

If conception has taken place then after 15 to 25 days the she camel, especially when approached by a male or handled by an attendant, shows cocking of the tail but if she has not conceived then cocking of tail is not seen (G. S. Rathore, 1986).

Rutting in camel

Rutt is commonly known as MUSTH. In male camels the sexual instincts are suppressed for a long period throughout the year. Male camels come into "Rutt" for a few months only. After 8 years of age the male camel attains full 'musth' and is then used for breeding.

Rutt is generally seen in the later half of the cold weather (December to March) when the grazing

1. Associate Professor, Dept of LPM, KNPVC, Shirval, 2. Assistant Professor, Dept of LPM, KNPVC, Shirval
3. Assistant Professor, Dept of Medicine, KNPVC, Shirval

conditions are optimum. The sexual activity in general lasts for 3-6 months. Further, the rutt male camels remain silent for sexual activity throughout the year.

The strongest and vigorous male expresses 'musth' while the other male camels remain silent.

During the advancement of the rutt the camel shows the following symptoms:

- Loss of hair goes off feed
- Falling off in condition and tucked to a great extent diarrhoea and frequent urination
- Excitement in which male camel produces gurgling sound with grinding of teeth.
- Wind sucking, bleating and escapes confinement for the want of a female.
- Uncontrollable and throws out soft palate from mouth with protruding tongue.

After expression of rutt, a cord to hump to avoid spoiling due to urine, dung and semen should tie the tail of the male. In such camels, if put to hard work, helps in reduction of 'musth', but it is risky. (S. G. Narayankhedkar *et al.*, 1998).

Pregnancy

In camel 99% pregnancy occurs in left horn. The incidence of twin ovulation is 14%. Twin births occur to an extent of only 0.4% when both the ovaries ovulate at the same oestrus. Embryos develop initially in both horns but, unfortunately one in right horn dies when it reaches a size of 2-3 cms. In camel there is no record of freemartin. The foetal growth is of linear pattern. The posterior presentation predominates (54-66%) from early pregnancy, in camels. There is no tendency in late pregnancy for the amnion to separate from the allantochorion as it may happen in the cows.

Pregnancy diagnosis: There are various methods of pregnancy diagnosis in camel like:

- Physical changes, which are most common:
- Cocking of tail, Increase in body weight, Dark yellow coloured urine, pH of urine becomes 3.10, Specific gravity – 1.038 to 1.086.,
- Vaginal folds become prominent, Rectal palpation by 60 days.
- Chemical test: Two tests are generally carried out in camels:
 - Cuboni test,
 - Barium chloride test,
- Biologic test:
 - Detection of gonadotrophins,
 - vaginal cytology

Care during pregnancy

Once pregnancy is confirmed the care has to be taken to avoid abortion. Pregnant camel should not be

allowed to run extensively. Balanced nutrition with plenty of water is required. Feed quantity should be increased by 25% for growing foetus. Fighting in camels leads to rupture of uterus. Kicking and biting on the abdomen should be avoided as far as possible. Plenty of green and dry fodder is necessary. The diet generally prescribed during pregnancy is as follows:

- Concentrate Mix 5kgs
- Tree fodder 20-25 kgs
- Crushed barley 2 kgs
- Crushed gram 2kgs
- Bhoosa 7-10 kgs
- Salt 30gms

Excitement and over exertion may lead to abortion and hence in the last trimester of pregnancy the females must be given maximum rest. In few camels, heat during pregnancy is expressed and in such cases mating must be avoided.

Parturition in camel

In camels the normal signs of parturition are: Swelling of vulva, Restlessness, Frequent urination, Camel finds a corner or a dark place and cleans it with the help of fore legs. Goes off feed.

Generally, parturition occurs in sitting position. The fore limbs of the young one appear first followed by the head. The duration of the labour is more pronounced. Navel cord generally breaks by itself when the camel licks her young and the placenta is expelled soon after parturition. Securing of animal as soon as the symptoms are seen is advisable. The labour pains continue for 5 to 10 hours. She camel remains in recumbent position for few minutes after parturition. Camel calf stands on its own within 6-8 hrs after birth. The female generally produces one calf at a time.

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