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Use of Tris and lactose extenders in preservation of camel semen at refriferated temperature

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Introduction

Camel is an important livestock component of arid and semi arid zones. It has low reproductive efficiency and is a seasonal breeder (Khanna et al., 1990). Development of artificial insemination in this species will greatly help in genetic improvement of this species. The technique of artificial insemination was reported in bactrian camel by Chen et al., (1984) and in dromedary by Musa et al., (1990). Sieme et al., (1990) et al., have reported 11% lactose extender to be best for camel semen preservation in liquis state. In the present study, an attempt was made to use tris and lactose extenders for preservation od semen of Indian camel at refrigerated temperature (+ 5 ^{0}C).

Materials and methods

A total of 48 split semen samples of 24 ejaculates, 8 each from three adult male camels aged 10 to 12 yrs and maintained under intensive management conditions at the National Research Centre on camel, Bikaner were included in the present investigations. A she camel restrained in sitting posture was used as dummy. The ejaculates were collected in the bull A.V., whose inner temperature was kept at 40-42 ^{0}C. The semen was collected twice a week during breeding season. The ejaculates were evaluated for pH, volume, presence of gel (consistency), and sperm concentration. Thereafter, the semen sample was split into equal parts and were extended (1:3 ratio) using tris and 11 percent lactose (Sieme et al., 1990) extenders. The extended semen was then preserved in a refrigerator at +5 ^{0}C for 72 hrs. The preserved semen was re-evaluated for sperm motility and live sperm count using conventional methods at 0, 24, 48,and 72 hrs of preservation. The statistical analysis of the data was done as per Snedecor and Cochran (1967).

Results and Discussion

The color of the semen varied from yellowish white to creamy white and white. Thick gel was present in 87.5 per cent of the ejaculates, which persisted after extension in tris and 11%lactose extenders. The pH varied from 7.5 to 8.5. Fifty eight percent ejaculates were observed to be static. Mass motility in rest of the ejaculates was also not vigorous. However, addition of tris and lactose extenders in ejaculates rendered them motile. The mean values of volume (ml), motility (%), and sperm concentration (X10^6) in neat semen of three bulls were 5.91?1.46, 38.33?11.58 and 146?78.24 respectively for B1 (No. 188); 7.50V1.38, 16.87?7.75 and 68.53?26.37 respectively for B2 (No. 66) and 2.78?0.54, 13.75?9.20 and 127.35?67.73 for B3 (No. 153) respectively. The values for mass motility and sperm concentration varied from ejaculate to ejaculate of the same camel. Agarwal et al., (1955) and Khan and Kohli (1973) reported higher sperm concentration

but no motility in neat semen. The mean (?S.E.) values for motility and live sperm on preservation at 0, 24, 48 and 72h in tris and lactose extenders are shown in table 1.
The mean values for motility for its tris extender were significantly higher than those for lactose extender at zero hour ($P<0.05$) and 24 hrs ($P<0.01$) of preservation. The difference in the percentage of live spermatozoa on preservation was not significant. Tris extender was observed to be superior to lactose extender for camel semen preservation at $+5\ ^{0}C$.

Summary
Tris and extenders were used to extend the camel semen for preservation at refrigerated temperature. A total of 48 split semen samples of 24 ejaculates from 3 adult male camels were examined. The preserved semen samples were evaluated for motility and live sperm at 0, 24, 48, and 72 hrs of preservation. Tris extender was observed to be superior to lactose extender.

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