INTRODUCTION

A prerequisite to the development of assisted reproductive technologies like in vitro fertilization, ICSI, cloning, is the availability of functionally competent oocytes. There is a limited information available on the oocyte physiology and maturation in the dromedary. The present study was, therefore, designed to investigate the chronological events and optimum time for in vitro maturation of oocytes in this species.

MATERIALS AND METHODS

- Follicles measuring 3-12 mm were excised from ovaries obtained from an abattoir and oocytes harvested by their dissection.
- Pooled oocytes were matured in vitro for 4 to 48 h.
- After every 4 h (starting from 0 to 48 h), batches of oocytes were denuded, mounted on glass slides and fixed in 3:1 ethanol: acetic acid.
- Oocytes were stained with 1% aceto-orcein and examined under a phase contrast microscope at 400x.
- Based on the visualization of the chromatin, oocytes were categorized as follows: germinal vesicle (GV), diakinesis (DK), metaphase-I (M-I), anaphase (Ana), metaphase-II (M-II) stages and others (degenerated, scattered or no visible chromatin).

RESULTS

The highest proportion of M-II oocytes (52%, 103/198) was obtained at 44 h of in vitro maturation, however, it was not different (P > 0.05) compared with those at 32 (42.4%, 50/118), 36 (45.2%, 47/104), 40 (48.7%, 57/117) and 48 h (45.8%, 55/120).

CONCLUSIONS

It is concluded that 40-44 h of in vitro maturation yields highest proportion of matured (metaphase-II stage) oocytes suitable for further use in assisted reproductive technologies in the dromedary.