

# COMPARISON OF SOME HORMONAL AND BIOCHEMICAL CONSTITUENTS IN FOLLICULAR FLUID OF PREDOMINANT FOLLICLE COEXIST WITH OVERSIZED FOLLICLE AND ITS COUNTERPART PRESENT IN THE ABSENCE OF OVERSIZED FOLLICLE IN CAMELS (*Camelus dromedarius*)

I.M. Ghoneim<sup>1,2</sup>, M.M. Waheed<sup>1,2</sup> and A.M.A. Meligy<sup>1,3</sup>

<sup>1</sup>Department of Clinical Sciences, College of Veterinary Medicine, King Faisal University, Al-Ahsa 31982, Al-Hufuf P.O. 400, Kingdom of Saudi Arabia

<sup>2</sup>Department of Theriogenology, Faculty of Veterinary Medicine, Cairo University, Giza 12515, Egypt

<sup>3</sup>Physiology Department, Plant Protection Research Institute (PPRI), Agricultural Research Centre (ARC), Giza, Egypt

## ABSTRACT

This study was aimed to compare between some hormonal and metabolic constituents in follicular fluids and serum of predominant follicles coexisting with oversized follicles and its counterpart present in absence of oversized follicle in camels (*Camelus dromedarius*). Follicular fluids and sera were collected from animals who had follicles size 0.5-1.0 cm (small; n = 10), >1.0-1.6 cm (medium; n = 10) and >1.6-2.0 cm (large; n = 10) which were present in absence or presence of oversize follicles. Follicular fluids and sera were subjected to biochemical and hormonal analysis. Results revealed increased concentrations of oestradiol 17- $\beta$  (E2) of follicular fluid from the various size antral predominant follicle which existed in the absence of oversize follicle. A significant ( $P < 0.01$ ) high concentration of P4 present in the follicular fluid of small size predominant follicle coexisted with the oversize follicle. A highly significant cortisone concentration was recorded in follicular fluid of small, medium and large predominate existing in absence of oversize follicles. The insulin like growth factor II (IGF-II) and general thyroxine in the follicular fluid from the small follicles that exist in the absence of the oversize follicles were significantly lower ( $P < 0.0001$ ) compared with that of the small follicles that coexisted with the oversize follicle. Ultra-sensitivity triiodothyronine concentrations were significantly high in follicular fluid collected from predominant small and medium size follicle ( $P < 0.001$  and  $P < 0.0001$ , respectively) existing in absence of oversize follicle. In conclusion, the presence of an oversize follicle alters hormonal and biochemical constituents of follicular fluid of predominant follicle coexist with it.

**Key words:** Camel, oestradiol 17- $\beta$ , follicles, hormones, metabolites