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Evaluation of Serum IGF-1 in Infertil Cows with Subclinical Endometritis and Health

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Abstract
IGF-1 is highly associated to energy balance, follicular growth, resumption of ovarian cyclicity and predicting reproductive performance in cattle. In this study, it was aimed to investigate insulin IGF-1 in healthy and infertile cows. Endometrial smear specimens were taken from 40 cows with fertility problems for cytological examination, and the cows were randomly divided into two groups. Group I (n = 20) was subjected to intrauterine administration of 40 mL (0.25 g/mL) of MC extract, group II (n = 20) was subjected to intrauterine
administration of 40 mL of pure olive oil. The control group; group III (n = 20) was formed from a heifer without any gynecological abnormalities. Blood samples were taken to determine the level of IGF-1, starting with the day of intrauterine administration (day 0) and then for two weeks at weekly intervals (days 7, 14). Smear samples were stained with Giemsa and immunohistochemically to determine cytological changes and inflammatory status. According to cytological findings, subclinical endometritis was a prevalent disorder in cows
with infertility problem (82.5%; 33/40). There was statistically significant difference between groups for IGF at
all weeks ($p<0.05$). Also in groups II and III; the change in the measured values according to week was statistically significant ($p<0.05$). Results herein remark the impotant role of the IGF-1 in the fertility of dairy cows and MC application may affect treatment.

Key Words: Cow, Infertility, Insulin-like growth factor 1, Momordica charantia L.