



**University of Zabol
Graduate school
Faculty of Veterinary Medicine
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The Thesis Submitted for the Degree of Doctor of Veterinary Medicine (DVM)

Factors affecting conception rate of Iranian ewes after laparoscopic insemination

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Abstract:

The aim of present study was to investigate the effect of three parameters of uterine turgidity status, body condition score and also administrating different types and doses of PMSG hormone on conception rate of ewes following laparoscopic artificial insemination. For this purpose, 366 Afshar ewes were included in the study from April to June 2021. Vaginal CIDR were inserted into vagina of ewes for 14 days and a single dose of cloprostenol (PG F2a analog) one day before CIDR removal were injected. Different types and doses of PMSG, including 400 (n=54), 500 (n=79) and 600 (n=53) IU of Gonaser hormone, 400 IU of Novormon hormone (n=132) and 500 IU of Folivon (n=48) were administered at the time of CIDR removal. The ewes were fed flushing diet during CIDR insertion. All ewes were laparoscopically inseminated 48 hours after CIDR removal using cooled semen collected from 4 rams whose fertility was evaluated and confirmed. At the time of insemination BCS of ewes were measured and recorded, and the uterine turgidity was scored based on laparoscopic observation. Pregnancy diagnosis of ewes was performed by abdominal ultrasonography 45 days after insemination. The effect of BCS, uterine turgidity and administration of different doses and types of PMSG on ewes' conception rate was analyzed using SPSS software in a univariate and multiple logistic regression model. There was no difference in conception rate between thin ewes ($BCS < 2.5$) and medium ewes ($2.5 \leq BCS$) as well as ewes with low and high uterine turgidity. Administration of 600 IU of Gonaser increased the chance of conception by more than 1.5 times compared to doses of 400 and 500 IU, as well as 500 IU of Novormon, but this increase was not significant, while increased significantly the chance of conception by 2.6 times compared to the dose of 500 IU of Folivon. Based on the results of the present study, BCS and uterine turgidity and different doses of PMSG hormone were not effective on the conception rate of the studied ewes following laparoscopic insemination, but administration of 600 IU of Gonaser hormone at the time of CIDR removal increased the conception rate compared to 500 IU.

Keywords: Artificial insemination, Laparoscopy, ewes, conception rate