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THE USE OF VAGINOSCOPY IN RABBIT DOES FOR UNDERSTANDING OF DEEP CATHETER INSERTION DIFFICULTIES IN SOME CASES DURING ARTIFICIAL INSEMINATION

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Artificial insemination (AI) is a widespread and accepted method of rabbit modern reproductive biotechnology in meat production farms. Before insemination semen should be collected, evaluated and diluted and afterwards deposited into paracervical area of the doe's vagina using specially designed catheters about 15 cm deep. The place of diluted semen deposition is highly correlated with fecundity rate, so the care should be taken to achieve paracervical area in does. In some cases it's extremely difficult to pass through the vaginal lumen deeper then 5–6 cm beyond the urovaginal valve down to the cervixes. In such cases trying to get deeper with catheter causes irritation, signs of bleeding and general discomfort to the does.

Therefore, the goal of this study was to find out what causes such difficulties of deep catheter insertion in “problem” does during AI procedure by comparing its vaginoscopic findings with “normal” does.

In order to achieve the aim of the study Californian breed does ages 5–8 month kept in one of the farm situated in Lviv region (Ukraine) were used. During routine AI “problem” does were identified and separated from the other ones and two groups which consisted of “problem” and “normal” does were formed. Vaginoscopy was performed with 5 mm outer diameter 0° laparoscope 32 cm in length inserted into slightly modified standard insemination pipette for rabbits (IMV, France), as a sheath, for better visualization and air pumping ability. During the vaginal examination we paid attention to the mucosal edema level, curvature of the vaginal tube and urovaginal valve position.

Revealed, during insemination of 182 does, 12 of them were identified as “problem” which is 6.6 % and 93.4 % of “normal” does accordingly. Vaginoscopic examination showed no visual significant difference in the level of mucosal edema between these two groups of does as they all at the time of examination were in oestrus. Edema of the vaginal mucosa did not seem to be the problem for catheter or laparoscope introduction along the vaginal tube, but in some does of both groups it was difficult to enter the caudal part of the vagina. At the same time, the curvature of vaginal tube during laparoscope passage had some variability but it was mostly due to the slight difference in animal fixation and laparoscope position as the vaginal tube is easily drawn in different directions with pressure. So the difference in curvature of the vaginal tube also does not seem to be the case regarding some difficulties in deep catheter introduction despite the visual variability. Analyzing the urovaginal valve position in both studied groups of does, which divides vaginal tube into two parts (uretrovagina and cervicovagina), we revealed the significant difference between “problem” and “normal” does related to the deep catheter insertion difficulty. The position of the urovaginal valve in most “normal” does was close to the middle or slightly above the mucosal fold, while in the “problem” does it was situated on the side of the mucosal fold, closely the vaginal wall. This difference might explain the problems related to the catheter insertion in some does during AI. Also, it seemed to us that the urovaginal valve has an ability to open depending on the agitation level of the doe, not only due to the mechanical pressure, but it needs further research to carry out.

In conclusion, edema of vaginal mucosa and curvature of the vaginal tube do not influence the deepness of the catheter insertion in rabbits during AI, and the most probable cause of such problem is an abnormal position of the urovaginal valve so it's difficult to get in it and deposit the diluted semen next to the cervixes.