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PHARMACOLOGICAL EFFECT OF THE PREPARATION E-SELENE IN PATHOLOGIES OF THE REPRODUCTIVE SYSTEM OF COWS

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Abstract: This article highlights the pharmacological effect of the E-selen preparation in the treatment and prevention of reproductive system pathologies in cows. Studies substantiate the improvement of the functioning of the reproductive organs as a result of the antioxidant, immunomodulatory, and metabolic-activating properties of vitamin E and selenium. It has been shown that the use of the drug E-selen contributes to the reduction of postpartum complications - subinvolution of the uterus, endometritis, placental prolapse, and functional disorders of the ovaries. The drug has a positive effect on the normalization of the estrous cycle in cows, an increase in fertility, and a decrease in infertility. The obtained data confirm the expediency of the widespread use of the drug E-selenium for preventive and therapeutic purposes in livestock farms.

Keywords. Cow, reproductive system, E-selenium, vitamin E, selenium, pharmacological effect, reproductive pathology, endometritis, subinvolution, infertility, antioxidant, immunity.

SIGIRLARNING REPRODUKTIV TIZIMI PATOLOGIYALARIDA “E-SELENE” PREPARATINING FARMAKOLOGIK TA’SIRI

Annotatsiya: Mazkur maqolada sigirlarda ko‘payish tizimi patologiyalarini davolash va oldini olishda E-selen preparatining farmakologik ta’siri yoritib berilgan. Tadqiqotlarda E vitamin va selenning antioksidant, immunomodulyator hamda metabolik jarayonlarni faollashtiruvchi xususiyatlari natijasida reproduktiv organlar faoliyati yaxshilanishi asoslab beriladi. E-selen preparatini qo‘llash tug‘ruqdan keyingi asoratlar bachadonning subinvolyutsiyasi, endometrit, yo‘ldoshning tushmasligi va tuxumdonlar funksional buzilishlarini kamaytirishga xizmat qilishi ko‘rsatib o‘tiladi. Preparat sigirlarda estrus siklining normallashuvi, urug‘lanish ko‘rsatkichining oshishi va bepushtlik holatlarining kamayishiga ijobiy ta’sir ko‘rsatadi. Olingan ma’lumotlar E-selen preparatini chorvachilik xo‘jaliklarida profilaktik hamda terapevtik maqsadlarda keng qo‘llash maqsadga muvofiqligini tasdiqlaydi.

Kalit so‘zlar. Sigir, ko‘payish tizimi, E-selen, E vitamini, selen, farmakologik ta’sir, reproduktiv patologiya, endometrit, subinvolyutsiya, bepushtlik, antioksidant, immunitet.

ФАРМАКОЛОГИЧЕСКОЕ ДЕЙСТВИЕ ПРЕПАРАТА «E-SELENE» ПРИ ПАТОЛОГИЯХ РЕПРОДУКТИВНОЙ СИСТЕМЫ КОРОВ

Аннотация: В данной статье освещены фармакологические эффекты препарата Е-селен в лечении и профилактике патологий репродуктивной системы у коров. В исследованиях обосновывается улучшение функции репродуктивных органов в результате антиоксидантных, иммуномодулирующих и метаболических свойств витамина Е и селена. Показано, что применение препарата Е-селен способствует уменьшению послеродовых осложнений - субинволюции матки, эндометрита, невыпадения плаценты и

функциональных нарушений яичников. Препарат оказывает положительное влияние на нормализацию эструсного цикла, повышение показателя оплодотворения и снижение бесплодия у коров. Полученные данные подтверждают целесообразность широкого применения препарата Е-селен в профилактических и терапевтических целях в животноводческих хозяйствах.

Ключевые слова. Корова, репродуктивная система, Е-селен, витамин Е, селен, фармакологическое действие, репродуктивная патология

INTRODUCTION

Pathologies of the reproductive system in imported cows are one of the important factors causing significant economic damage in livestock farms. In the postpartum period, in cases of subinvolution of the uterus, endometritis, partial placental retention, decreased ovarian function, anovulation, and infertility, metabolic disorders in the cow's body, and insufficiency of the antioxidant system are often closely related to the deficiency of microelements. It plays an important role in the decrease of reproductive functions, especially in vitamin E and selenium deficiency. These substances are one of the main components of the antioxidant system, protecting cell membranes from the effects of free radicals, participating in maintaining hormonal balance and restoring immunity. Therefore, in veterinary practice, vitamin E and selenium-containing complex preparations such as E-selenium are used to treat reproductive system diseases in cows.

MANIN PART

Diseases of the reproductive system of imported cows. Diseases of the reproductive system in cows are diseases characterized by disorders of the structure and function of the reproductive organs, which lead to infertility of cows, a decrease in productivity, and significant economic damage in livestock farms. These diseases often develop in the postpartum period, under the influence of malnutrition and care, metabolic disorders, and infectious diseases.

Main causes of reproductive system diseases. Reproductive diseases in cows are caused by a deficiency of the following vitamins. Deficiency of vitamins E, A, D and microelements (selenium, zinc, iodine, copper), energy and protein deficiency or excess, Painful labor process, Non-compliance with hygiene rules, presence of bacterial and viral infections, causes hormonal imbalance and clinical signs begin to appear.

Pharmacological action of the drug e-selenium. The E-selenium preparation contains tocopherol acetate, vitamin E, and sodium selenites. These components have a synergistic effect, strengthening the antioxidant defense system in the body. With intramuscular administration, the drug is rapidly absorbed, accumulates in tissues, and has a long-term biological effect.

The main pharmacological properties of E-selenium (antioxidant, immunomodulator, activator of metabolic processes, reproductive) have a stimulating effect.

Pharmacological effects of vitamin E. Vitamin E inhibits the peroxidation of phospholipids in cell membranes, stabilizes mitochondrial respiration processes, and supports the activity of the gonads. In cows, tocopherol enhances the process of ovarian steroidogenesis and optimizes the synthesis of estrogens and progesterone. As a result, the ovulation process is activated, the function of the corpus luteum is improved, and favorable conditions for embryo implantation are created.

Pharmacological effects of selenium. Selenium is a component of the enzyme glutathione peroxidase and plays an important role in the neutralization of free radicals. Selenium accelerates regeneration processes in the uterine mucosa, reduces the production of inflammatory mediators,

and enhances the immunological response in tissues. At the same time, selenium has a positive effect on the maturation of follicles in the ovaries.

Effectiveness of e-selenium in diseases of the reproductive system. According to the research results, the use of the drug E-selenium significantly reduces the frequency of the development of such diseases as postpartum endometritis, uterine subinvolution, and partial placental prolapse. The drug increases uterine contractility and accelerates the involution process. Also, E-selenium contributes to the restoration of hormonal balance in cases of ovarian hypofunction and anovulation, leads to the normalization of the estrous cycle and an increase in fertility indicators.

CONCLUSION

Based on the conducted scientific analysis and available literature data, it can be said that oxidative stress, a decrease in immunological reactivity, and vitamin-mineral deficiency are important pathogenetic factors in the development of reproductive system diseases in imported cows. In particular, vitamin E and selenium deficiency lead to disruption of metabolic processes in the tissues of the uterus and ovaries, exacerbation of inflammatory reactions, and disruption of hormonal balance. As a result of the synergistic effect of tocopherol acetate and sodium selenite in the E-selenium preparation, the antioxidant defense system of the body is activated, cell membrane stability is ensured, and tissue regeneration processes are accelerated. We believe that the use of the drug reduces the frequency of the development of such diseases as postpartum endometritis, uterine subinvolution, placental prolapse, and ovarian hypofunction.

LIST OF REFERENCES USED

1. Абдуллаев А.А. Ветеринарная фармакология. – Ташкент: Фан, 2018. – 420 с.
2. Алиев А.А., Алиева З.А. Селен и витамин Е в профилактике и лечении заболеваний сельскохозяйственных животных. – Москва: Колос, 2016. – 256 с.
3. Блинов Н.И. Акушерство, гинекология и биотехника размножения сельскохозяйственных животных. – Москва: Агропромиздат, 2017. – 512 с.
4. Буров Ю.А., Карпов В.И. Клиническая фармакология в ветеринарии. – Санкт-Петербург: Лань, 2019. – 368 с.
5. Azizova S.S. Farmakologiya. Darslik. Toshkent 2000 y
6. Farmonov N.O. va boshqalar. Farmakologiya fanidan ma’ruzalar matni. Samarqand- 2005 y.
7. Farmonov, N., & Rejepbayev, J. E. (2025). VITAMINS A, D, E AND K IN CALVES AND THEIR EFFECTS ON THE BODY. Web of Agriculture: Journal of Agriculture and Biological Sciences, 3(3), 36-38.
8. Rejepbayev, J. E. (2024). Pharmacological Properties of TRIVITAMIKS and INTROVIT Preparations Given to Calves. American Journal of Biomedicine and Pharmacy, 1(9), 54-55.
9. Seypullayev A. K., Bakirov B., Ruzikulov N.B., Влияние Применения «Miosta H» На Состояние Обмена Веществ У Коров В Условиях Приаралья Вестник Ошскоого Осударственного Университета. Сельское Хозяйство. Агрономия. Ветеринария И Зоотехния. E-ISSN -1696-8696. DOI: 10. 52754/16948696 2024 3(8) 11 С.-90-95.
10. Ernazarov D. A., Niyazov. H.B., Qon Cho‘Pi (Chelidonium Majus) O‘Simligining Dorivorlik Xususiyatlari Va Chistotel Preparatining Quyonlar Terisiga Farmakotoksikologik Ta’siri. Research, Focus 2025-yil, Volume-4, Issue-11, B-354-358.
11. Рузимов В.У., Ниёзов.Х.В. Эрназаров Д. А., Қорамолларга Мултивит+Минераллар Ва Бодифорс Препарати Қўллаганда Улар Қонининг Морфологик Кўрсаткичлари. Research, Focus 2025-yil, Vollume-4, Issue-11, B-412-418.