

After ovulation, the ruptured follicle collapses and fills with a blood clot (corpus haemorrhagicum) which then forms the corpus luteum. The granulosa cells enlarge and become vesicular, and now are called the granulosa lutein cells. They become folded, as you can see here.

The spaces between the folds are filled with theca interna cells, which also enlarge and become glandular, and are now known as the theca lutein cells.

THE INFLUENCE OF ENDOTOXEMIA ON THE CHANGE OF HOMEOSTATIC PARAMETERS AFTER A SURGICAL TREATMENT OF GASTROINTESTINAL PATHOLOGIES IN HORSE

Lobanova Viktoriya, student

Scientifics advisors – Annikova L.V., Kozlov S.V.

Saratov State Agrarian University, Saratov, Russia

lobanova_v_r98@mail.ru

Currently, gastrointestinal tract disease in horses is the most talked about in the world. On the average, 80% experience colic during life, and endotoxemia is accompanied in 40% of cases and is the main cause of euthanasia in this disease [2]. This study of the pathogenesis of endotoxic shock and the evaluation of some criteria for the parameters of homeostasis after surgical treatment of colic may serve as a future direction for improving and creating a treatment strategy for endotoxemia.

In this regard, the aim of our research was to study the pathogenesis of endotoxic shock and evaluate the change in the dynamics of homeostasis parameters after surgical treatment of colic horses.

The experimental part of the studies was carried out in the period from 2018. to 2019 in the Moscow region, on the basis of the veterinary clinic and equestrian center "New Century". The 1 control group consisted of 9 clinically healthy horses of equestrian center "New Century". The 2 experimental group included 9 horses with pathologies of the gastrointestinal tract, which underwent surgical treatment. All

clinical and laboratory abnormalities were symptoms of progressive endotoxic shock, which arose as a result of the death of a large number of gram-negative bacteria, and consequently massive resorption of toxic lipopolysaccharide into the systemic circulation [1, 2]. Laboratory results were obtained on the 10th day after the abdominal surgery.

As a result of a hematological study, we can note changes in the leukocyte formula, namely an increase in the concentration of neutrophils, which is directly related to an increase in the synthesis of cytokines. They also found a decrease in the concentration of lymphocytes and eosinophils of the experimental group, which most likely can be the result of both absolute neutrophilia and an increased concentration of cortisol in this period [5]. In addition, a change in the concentration of red blood cells, hemoglobin and hematocrit was established, which is due to the pathological action of cytokines, which contribute to the inhibition of hematopoiesis, and postoperative infusion therapy [3].

In the analysis of biochemical parameters in the experimental group, we revealed a significant increase in the concentration of bilirubin, which is directly related to the initial inflammation of the liver parenchyma with endotoxemia and is a cytokine-mediated activation of sinusoidal cells, their expression of adhesive molecules, further release of pro-inflammatory cytokines and mobilization of circulating leukocytes [1]. An increase in creatinine concentration also reflects the effects of a systemic inflammatory reaction and a decrease in the functional capacity of the kidneys. A significant increase in the concentration of cortisol in horses in the experimental group, as a rule, indicates a systemic suppression of inflammation [6].

According to the dynamics of immunological parameters in the experimental group, a decrease in the phagocytic activity of neutrophils was found [4]. This dynamics of the indicator correlates with an increase in the concentration of cortisol, and also undergoes a change under the influence of antibacterial drugs. A significant decrease in the overall level of IgG and IgM can also correlate with an increased concentration of cortisol, which has an inhibitory effect on the immune system [2, 6].

According to the results of gas and electrolyte blood composition, we note a decrease in pH and pO₂, of the experimental group of horses.

Such dynamics can be explained by a strong vasoconstriction of arterial vessels in case of endotoxic shock, which causes dilatation at the capillary level and, consequently, leads to hypoxia and, ultimately, to cell acidosis [1].

According to the results of a bacteriological study of feces, we found reliable dynamics of a decrease in lactobacilli, which was most likely previously caused by cell acidosis, the use of antibacterial and anti-inflammatory drugs [2]. In addition, we found an increase in the concentration of opportunistic microflora, such as Clostridia, Klebsiella and Hemolytic Escherichia coli, this dynamics is associated with a decrease in the concentration of resident intestinal microflora, as well as the use of the above drugs in the postoperative period [1, 3].

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