CAUSES, SYMPTOMS OF CALF ANEMIA AND CHANGES IN BLOOD

[1]Eshburiev B. M, [2]Botirova Sh. A, [3]Ruzikulov F.E
Professor SamVMI[1], Independent researcher SamVMI [2], student, SamVMI[3]

ABSTRACT

The article presents the etiology, nature of the course, clinical signs and some morpho-biochemical arguments of blood in case of anemia in calves in conditions of intensively developing farms.

Basic terms: alimentary, hypoplastic, hemolytic, posthemorrhagic, anemia, symptom, hypohemoglobinemia morphobiochemical indicators, leukocyte, erythrocyte, hemoglobin, leukoformula.

RELEVANCE OF THE TOPIC

Lack of active mats and sunlight in the care of calves leads to metabolic disorders, as well as frequent anemia, growth retardation of sick calves, increased susceptibility to various diseases due to decreased resistance of the organism, increased costs for the treatment of sick calves, and the inability to replenish the herd due to a decline in breeding characteristics are causing significant economic damage to farms.

According [5] to the data, hypoplastic anemia is most often noted in 1-3-month-old calves. This is due to the fact that the food base of the farm is not standardized for digestible protein, carbohydrates, calcium, phosphorus, carotene, and especially trace elements (iron, copper, cobalt, zinc, manganese) and the incidence of calves from 16.3 to 26.1% can be observed.

According [1,3] to the literature, alimentary anemia is mainly characterized by impaired hematopoiesis. Calves get sick mainly in late autumn and winter, and the main factors in the origin of the disease are the lack of iron, copper, and cobalt elements, vitamins, and proteins in the newborn, the lack of storage conditions at the level of zoohygienic requirements.

Hyperplastic anemia in calves is characterized by general weakness, loss of appetite, whitening of the mucous membranes, palpitations and rapid breathing, digestive disorders, dryness of the oral cavity and nasal mucosa, hemoglobin concentration in the blood, erythrocytes, leukocytes, platelets, platelets, characterized by erythropoiesis, leukopoiesis, and thrombopoiesis, leading to worsening of hemoglobin saturation of erythrocytes [2].

Analysis of the literature shows that to date, the prevalence of anemia among calves of different ages, causes, and importance of nutritional factors, developmental features, early diagnosis and treatment, and prevention of diseases in the rapidly developing farms of the country has not been fully studied.

VERIFICATION METHODS AND MATERIALS

Our research on the causes of hyperplastic anemia in calves, trait characteristics, and changes in the blood was performed on farm-aged 1–4-month-old calves.

In order to study the causes and pathogenesis of anemia in calves and to identify changes in the blood, 8 heads of 1-month-old Holstein-Friesian calves were isolated, and clinical and hematological examinations were performed once every 20 days until 4 months of age. Clinical examinations revealed body temperature, heart rate and respiration rate, skin and skin lining, appetite and mucous membranes condition, daily increase in body weight.

Blood samples from calves showed erythrocyte and leukocyte counts (Goryaev count type), hemoglobin content (using Sali hemometer), blood clotting rate (using Panchenkov instrument), hematocrit (using hematocrit instrument) [2]. A qualitative reaction to determine the number of immunoglobulins in blood serum was conducted [7].

In order to study the level of satisfaction of the needs of calves in the farm for nutrients, vitamins, as well as macro-and micronutrients, zoo technical analysis of the composition and nutrition of calves' rations was carried out.

The results obtained and their discussion

On the farm, calves are kept in individual cages for 1–10 days, in cages with 10 head of calves for 10 days to a month, and the zoohygienic characteristics of the calf are characterized by excess moisture, lack of light, and litter. Calves were fed 2 times a day for 10 days using special milking engines, from 10 days to 4 months of age with the end, and calves should be fed at least 3 times a day. Calving of calves older than 4 months of age was discontinued and switched to silage, roughage, and mixed feeds.

Weaned calves are fed manually twice a day. Irrigation is done using water ends.

The calf ration during the growing season consisted of 44.4% of corn silage, 22.2% of alfalfa hay, 22.2% of wheat straw, and 11.1% of mixed fodder, with a total fat content of 2.60 feed units. In comparison with the dietary norms, the ration is less than 1.4 units of nutrients, digestible protein 121 g, sugar - 179.5 g, carotene - 88.2 g, phosphorus - 12.6 g and 267.4 grams of fiber, calcium - 1.3-gram excess was found. Satisfaction of calves with nutrients is 65.0% in terms of nutrients, digestible protein - 71.2%, sugar - 48.6%, carotene - 53.5%, phosphorus - 68.5%, calcium - 103.7% and fiber. - 78.2%.

The sugar-protein ratio in the diet was 0.53 instead of 0.8-1.5:1, and the phosphorus-calcium ratio was 0.75 instead of 2.0:1.

In adolescent calves, the clinical signs are severe growth retardation (60% in calves), whitening of the mucous membranes (68% in calves), decreased appetite and changes (lizards), the roughness of the skin in almost all calves, decreased gloss and skin elasticity, the skin around the eyes characterized by pathognomonic symptoms for anemia, such as discoloration of the lining ("like glasses").

Some morphobiochemical parameters of blood in the experimental group of calves at the end of the study compared to the beginning of the experiment, the amount of hemoglobin was 75.6 ± 1.15 g/l, erythrocytes - 4.43 ± 1.3 million/ml, glucose - 1.55 ± 0.06. mmol/l, total protein - 63.2 ± 1.72 g/l, erythrocyte sedimentation rate - to 03 h/mm, immunoglobulins to 500 mg/l.

These indicators suggest that calf anemia is accompanied by a decrease in hemoglobin concentration and erythrocyte count (normochromic anemia), a decrease in erythrocyte sedimentation rate, and decreased immunity.

CONCLUSIONS

1. The main causes of hyperplastic anemia in calves of breeding age are the transition from calving to calving without feeding and training with poor and nutritious foods, imperfect rations, low content of nutrients, vitamins and minerals, sugar-protein, and phosphorus-calcium ratios.

2. Calf anemia is characterized by growth retardation, pale mucous membranes, decreased appetite and changes, skin luster and decreased skin elasticity, decreased heart rate and respiration, erythrocyte count, hemoglobin, glucose, total protein, erythrocyte sedimentation rate. characterized by a decrease in the rate and hematocrit, as well as a decrease in the amount of immunoglobulins.

REFERENCES

1. Irgashevich, D. A. (2019). Development of national network and corporate networks (in the case of Tas-IX network). *International Journal of Human Computing Studies*, *1*(1), 1-5.

2. Rustamovich, K. M. (2019). The Impact of Economic Sanctions on Well-being of Vulnerable Populations of Target Countries. International Journal on Economics, Finance and Sustainable Development, 1(1), 17-20.
3. Ismoilova, N., & Sharapova, M. (2019). Effective Use of Financial Control in the Public Finance Management (Pfm). International Journal on Economics, Finance and Sustainable Development, 1(2), 8-10.
4. Ugli, K. S. F., Ugli, I. B. I., & Ugli, A. D. A. (2020). Website Development with New Technology. International Journal of Human Computing Studies, 2(3), 1-7.
5. Abdinazarovna, B. S. (2019). Contents of improvement of educational education and problems of education. American Journal of Economics and Business Management, 2(4), 74-87.
6. Abdurahmanovna, S. M., & Zaripova, R. The Image of Women's Experiences in the Stories of Jamila Ergasheva (on the Example of Jamila Ergasheva's Story" Death"). International Journal on Integrated Education, 3(9), 235-236.