

INCREASE IN THE COMPLEMENTARY ACTIVITY OF HUMAN SERUM AFTER ADMINISTRATION OF A WATER-SOLUBLE ANALOG OF VITAMIN K (VIKASOL)

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Changes in Complement Titer of Blood Serum of Subjects after Administration of Water-Soluble Analog of Vitamin K (Vikasol)

Statistical index	Before administration	2-3 days after beginning of administration
n	64	36
M ± m	0.22 ± 0.0007	0.17 ± 0.009
	P < 0.001	

The results of experiments undertaken in the authors' laboratory showed that vitamin K is not only an activator of the biosynthesis of certain enzyme proteins concerned in the process of blood clotting, but also a factor influencing the metabolism and properties of other proteins [1,3-5].

The influence of vitamin K on the properties of proteins also extends to the proteins of the blood plasma, and is shown in particular by a marked decrease in the viscosity of whole blood and plasma of rabbits receiving Vikasol in the absence of any simultaneous change in the ratios between the protein fractions [2].

As an object for further observations, the group of serum proteins responsible for complementary activity was chosen.

EXPERIMENTAL METHOD

Observations were made on 22 clinically healthy persons (10 males and 12 females) aged from 18 to 25 years (19 persons) and from 30 to 36 years (3 persons). For a period of 2-4 days the complementary activity of serum from blood taken from the cubital vein was determined daily. For the next 2-3 days the subjects received Vikasol in a dose of 10 mg twice daily by mouth, during which time the daily investigations of the complementary activity of the blood continued. This was determined by the usual method [6]: the test serum was poured into 14 tubes in increasing doses, from 0.1 to 1.4 ml.

EXPERIMENTAL RESULTS

The results of the observations are given in the table. They show that, after administration of Vikasol, the titer of complement in the blood serum increased significantly.

The results of these observations are in agreement with those reported by Büsing and Zuzak [7], who observed a decrease in the complement titer of the blood in chickens fed on a diet with a low vitamin K content, and an increase in titer when the diet was enriched with this vitamin.

It may be concluded that the beneficial therapeutic effect of vitamin K observed in some infectious diseases, and especially in dysentery, may perhaps be due to the increase in the complementary properties of the blood caused by this preparation.

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