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IMMUNOMODULATORY FUNCTION OF DIBAZOL DRUG

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Abstract. Dibazol (2-benzylbenzimidazol hydrochloride or bendazol) is a drug possessing vasodilatation, antispasmodic and hypertensive properties [13], [14]. It has been commonly used in the treatment of hypertension, angina pectoris and cerebral vasospasm. However, it may not be used for elderly patients as a means of anti-hypertensive for a long time because of the anti-hypertensive effect of the decrease in cardiac ejection and possible deterioration of the electrocardiogram. Hence, investigating the binding of dibazol to BSA is very helpful for pharmacokinetics and the design of dosage.

Keywords: dibazol, dicyclohexylnaphthalene sulphonate, papaverin hydrochloride

We studied changes in transmembrane calcium, sodium and potassium ion currents under the influence of dibazole (2-(phenylmethyl)-1H-benzimidazole hydrochloride) and its two new derivatives at extracellular application at concentrations of 1, 10, 100 and 1000 mM. The method of intracellular dialysis and membrane potential fixation on isolated neurons of the pondweed Lymnaea stagnalis was used. They are based on ion-pair complexes of dibazol with dicyclohexylnaphthalene sulphonate, diisopentylnaphthalene sulphonate, diisobutylnaphthalene sulphonate and tetraphenylborate. During beta-adrenostructure blocking in patients with hyperkinetic type of hemodynamics, arterial pressure dropped due to a decrease of the cardiac output. Medication with dibazol, papaverin hydrochloride and reserpine during beta-adrenergic block led to more marked drop in arterial pressure because these agents prevented an increase of total peripheral resistance encountered when only beta-adrenergic blocking agents are given. The assays of 21 lots of interferon showed that its average titer in the experiments with dibazol was 3 times higher than that in the control. It is suggested that an increase in the protective properties of interferon in the presence of dibazol and ascorbic acid is connected with their capacity for stimulating the intracellular production of DNA and protein. The data obtained indicate that dibazol and ascorbic acid may be recommended in the complex of therapy and prophylaxis of antiviral infections. Coincidentally, the health condition improves and physical work capacity increases. Dibazol also exerts a

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beneficial effect on the adaptive process and morbidity rate of the subjects. The data obtained suggest that dibazol affects favorably the nonspecific resistance of the human body. In view of this, it can be recommended as a stimulating and training agent. An increase in the duration of sexual activity and a decrease of the total amount of spermatozoons were registered irrespective of the course of drug administration in a dose of 5 mg/kg. In males treated with bendazol in a dose of 160 mg/kg, the behavior varied depending on the duration of treatment: the sexual activity decreased upon a 5-day treatment and increased after a 2-month course. A protracted introduction by the subcuataneous route of halidor and nospanum in a dose of 10 mg/kg, of dibazol--in 5 mg/kg and of euphylline intramuscularly in a dose of 24 mg/kg depresses in animals the activity of the proteolytic process. It was found that in vitro nospanum, halidor and dibazol accelerate fibrinolysis, whereas the presence of euphylline in the blood plasma deccelerates this process.

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