

Radiological pharmacology medicines. Message 3

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Bemithyl (patent №1,334,666 USSR) is a representative of pharmacological agents of a group of **Antihypoksants (actoprotectors)**. The idea to create it was realized at the Department of Pharmacology of the Military Medical Academy named after Kirov in the 70s of the XXth century [1].

Industrial synthesis technology is worked out at the Institute of Organic Chemistry, NAS, by Professor Lozinsky M.O. The drug release was initially carried out at Kiev Vitamin Plant until 2001. For many years the drug was manufactured to order of the USSR Ministry of Defense, the structures of which used it as a means of improving and accelerated recovery of efficiency (combat efficiency) and in the treatment of somatic pathology. Since 1992 it has been released in the pharmacy network and applied in almost all fields of clinical medicine, in sport, etc. In 2001 the drug release in Ukraine was stopped. Discontinuation of bemithyl production, applied in clinical, military and sports medicine, deprived medical practice of model antihypoxic (actoprotector).

The purpose of the article – to outline compendiously an information quintessence on bemithyl. in the framework of establishing the database on radiological pharmacology/

Pharmacological effect [1-4]. Bemithyl has antihypoxic, psychostimulant, anxiolytic, anti-astenic effect, increases organs' and tissues' resistance to hypoxia, stimulates brain function, physical and mental activity, efficiency in physical activities, processes of physical endurance, increases the level of intentions, normalizes attention. Psychotropic activity manifests itself in psychostimulant and tranquilizing action. In borderline neuropsychiatric disorders psychostimulant effect shows itself in improved health and mood, the tranquilizing one - in reduced anxiety and emotional stress.

Bemithyl improves overall endurance as well as body weight. The higher the physical activity is, the stronger is bemithyl's effect. Efficiency increase under the influence of bemithyl can reach 200%, especially in oxygen deficiency.

Bemithyl's direct anabolic effect on muscle tissue is weak, but the drug has a strong indirect effect since it allows increasing dramatically physical load which has that effect. Under the influence of bemithyl the glycogen content in the liver increases, so the drug is anabolic of an indirect action.

Bemithyl also has energy-saving, antioxidant, meteoadaptogenic, antimutagenic, immunomodulatory effects; increases resistance to high-temperature environment; stimulates the regeneration of pulmonary epithelium and mucociliary transport in bronchopulmonary diseases; potentiates the action of other adaptogens nootropics psychomodulators.

Furthermore, lowering a little blood sugar, bemithyl, to some extent, promotes the secretion of somatotropin. Actoprotectors in general and bemithyl in particular are compounds of economizing action, contributing to the implementation of a certain amount of work at minimum cost. They reduce the speed of the breakdown of proteins, fats and carbohydrates. At the same time synthesis speed of short-living proteins responsible for urgent adaptation of the organism increases in the liver.

During the treatment or the period of taking bemithyl for toning it is desirable to adhere to carbohydrate-rich diet. Not recommended to take it in the evening if not needed. The drug causes vivacious state, so there is a high probability of sleep disorders.

Action of the drug shows itself already in 1-1,5 hours after a single dose. The efficiency of bemithyl under normal conditions is quite comparable with the one of psychomotor stimulant sydnocarb, but the effects of it is more physiological; negative effects characterizing sydnocarb, namely, excitation with elements of euphoria, mental stability reduction, excessive stimulation of the cardiovascular system are not observed.

In hypoxic hypoxia and high temperature bemithyl excels sydnocarb in physiology and efficiency of action: a positive impact of sydnocarb

on the exercise performance in such conditions is reduced or even transformed into a negative one and a positive effect of bemithyl becomes more visible.

Indications (in a complex and mono-therapy): heavy exercises (including those in high temperature), severe intellectual load (including the one the Chernobyl disaster liquidators had), chronic hypoxia, radiation sickness, acute phase of explosive injury, poisoning by organophosphorus compounds; traumatic brain injury; residual period infections (meningitis, encephalitis), vegetative state, neuromuscular disease (primary myopathy, muscular dystrophy Becker, Erb-Roth, Landuzi-Dejerine, Davidenkov, Kilo Nevin secondary myopathy - Charcot-Marie neural amyotrophy, Kugelberg-Welander spinal amyotrophy): atherosclerosis of cerebral vessels; sensorineural hearing loss in workers in noisy environments; labyrinthopathia, Meniere's disease, viral hepatitis, recurrent erysipelas, pyoderma, to accelerate recovery of the body after surgery.

Contraindications: hypertension, hypoglycemia, glaucoma, epilepsy, arrhythmia and tachycardia, pregnancy and lactation, coronary heart disease, acute kidney and liver diseases.

Publications

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The purpose of the article – to outline compendiously an information quintessence on bemithyl in the framework of establishing a database on radiological pharmacology,

Bemithyl has antihypoxic, psychostimulant, anxiolytic, antiasthenic effect, increases organs' and tissues' resistance to hypoxia, stimulates brain function, physical and mental activity, efficiency in physical activities, processes of physical endurance, increases the level of intentions, normalizes attention. Bemithyl also has energy-saving, antioxidant, meteoadaptogenic, antimutagenic, immunomodulatory effects; increases resistance to high-temperature environment; stimulates the regeneration of pulmonary epithelium and mucociliary transport in bronchopulmonary diseases; potentiates the action of other adaptogens, nootropics, psychomodulators.

ЛІКАРСЬКІ ЗАСОБИ ФАРМАКОЛОГІЧНОЇ РАДІОЛОГІЇ. ПОВІДОМЛЕННЯ 3

М.М. Колотілов

Мета статті – в межах формування бази даних по радіологічній фармакології компактно викласти інформаційну квінтесенцію по бемітилу.

Бемітил чинить антигіпоксичну, психостимулюючу, анксиолітичну, антиастенічну дію, підвищує стійкість органів та тканин до гіпоксії, стимулює функції головного мозку, психічну та фізичну активність, працездатність при фізичних навантаженнях, процеси фізичної витривалості, підвищує рівень спонукань, нормалізує увагу. Бемітил також має енергозберігаючу, антиоксидантну, метеоадаптогенну, антимутагенну, імуномодельючу дію; підвищує стійкість до високих температур оточуючого середовища; стимулює регенерацію легеневого епітелію та мукоциліарний транспорт при бронхолегеневих захворюваннях; потенціює дію інших адаптогенів, ноотропів, психостимуляторів.

**ЛЕКАРСТВЕННЫЕ СРЕДСТВА
РАДИОЛОГИЧЕСКОЙ
ФАРМАКОЛОГИИ. СООБЩЕНИЕ 3**

Н.Н. Колотилов

Цель статьи – в рамках формирования базы данных по радиологической фармакологии компактно изложить информационную квинтэссенцию по бемитилу.

Бемитил оказывает антигипоксическое, психостимулирующее, анксиолитическое, антиастеническое действие, повышает устойчивость органов и тканей к гипоксии, стимули-

рует функции головного мозга, психическую и физическую активность, работоспособность при физических нагрузках, процессы физической выносливости, повышает уровень побуждений, нормализует внимание. Бемитил также обладает энергосберегающим, антиоксидантным, метеoadаптогенным, антимутагенным, иммуномодулирующим действием; повышает устойчивость к высоким температурам окружающей среды; стимулирует регенерацию легочного эпителия и мукоцилиарный транспорт при бронхолегочных заболеваниях; потенцирует действие других адаптогенов, ноотропов, психомодуляторов.