

the focus of treatment of acute cerebral hemorrhage. At present, there are obvious inflammatory reactions in the brain hematoma and the surrounding tissues after intracerebral hemorrhage. In recent years, immunological studies have found that Toll like receptor 4 (TLR 4) biological function is the most prominent inflammatory reactions, TLR/ mediated nuclear factor (NF- K B) signaling pathway leads to brain injury and neurological deficit aggravate. In this experiment, through the establishment of rat autologous blood injection model of cerebral hemorrhage, observation of Baihui to Qubin effect on brain tissue in TLR - 4, TNF - alpha and IL 6 expression in rats and to explore the mechanism of hemorrhage in inflammatory injury in rats with cerebral hemorrhage.

Key words: acupuncture ,cerebral hemorrhage, tumor necrosis factor- α ,Toll like receptor 4

The pathogenesis of cerebral hemorrhage is not yet clear, but related to atherosclerosis, inflammatory reaction, lipid metabolism disorders, abnormal coagulation mechanism and other factors. Cell immune inflammatory effects in the central nervous system, activation in normal pathological response in the central nervous system helps to restore homeostasis, but excessive activation is the release of a large number of inflammatory cytokines and cytotoxic substances, has become an important cause of neuronal death

Objective To observe the effect of penetrative needling of “Baihui”(GV 20) to “Qubin”(GB 7) on neurologic functions and expression of tumor necrosis factor (TNF- α) interleukin (IL-6) and toll-like receptor 4(TLR-4) in the tissue around the local cerebral hematoma in rats with intracerebral hemorrhage (ICH),so as to provide evidence for clinical treatment of ICH.

Materials and methods 54 Wistar rats were randomly divided into sham operation group, model group and acupuncture group. Each group was divided into 3 subgroups according to the model of 1, 3 and 7d after the model was established, and each group was divided into 6 groups. The rat model of intracerebral hemorrhage was established by autologous blood injection. The acupuncture group were “Baihui” to “Qubin” treatment, 24h treatment 1 times. Using the Longa score and body symmetry experiment score of neurological function after intracerebral hemorrhage rats were assessed by immunohistochemical hemorrhagic tissue Toll like receptor 4 was detected in brain (TLR 4), tumor necrosis factor alpha (TNF alpha), interleukin (IL - 6) positive expression.

Results and discussion Neurobehavioral:Model rats have limb paralysis,the acupuncture group compared with the model group, the neurological deficits were significantly reduced, the difference was significant (($P < 0.01$). Immunohistochemical results: In the sham group shows a small amount of brain tissue TNF- α , IL-6 and TLR4 protein expression at each time point;The expression of TNF- α , IL-6 and TLR4 in the model group was higher than that in sham group (($P < 0.01$).At each time point, the positive expression of TNF- α , IL-6 and TLR4 in the acupuncture group was significantly lower than that in the model group (($P < 0.01$).Correlation analysis of TLR-4 and IL-6 expression was positively correlated, and the correlation coefficient was 0.871, TLR4 and TNF alpha expression was positively correlated, and the correlation coefficient was 0.982.Conclusion:Acupuncture Bai-hui through Qiu-bin can inhibit the expression of TLR-4 and reduce the content of organization of hematoma of TNF- α and IL-6, reduce the inflammatory injury and improve the neurological function defect performance after cerebral hemorrhage.

Through the study of rat IL - 6, TNF - alpha and TLR 4 intracerebral hemorrhage, TLR 4 can induce inflammatory reaction in rats with intracerebral hemorrhage, and TLR - 4 and IL - 6 and TNF alpha expression was positively related to signal transduction pathway that mediated by TLR 4 final the IL - 6, TNF - alpha production, they are involved in the inflammatory response of cerebral hemorrhage, and acupuncture at Baihui Qubin can inhibit the expression of TLR 4, reduce the inflammatory factor IL - 6, TNF - alpha release, reduce inflammation, relieve nerve of rats injury, play a role in brain protection.

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ADHESIVE ACTIVITY AND BIOFILM FORMING BY CULTURE OF ESCHERICHIA COLI

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Abstracts. It is known that adhesion is the starting point of development of infectious process. Specific adhesion is the result of molecular interactions between the receptor cells and microbial adhesion. At least 65% of hospital infections are related to biofilms [1]. And bacteria of the family Enterobacteriaceae, together, are the most common causative agents of nosocomial infections [6]. In this connection, the studied adhesive activity of wild strains of E.coli, the formation of biofilms on a plastic surface with the use of an antioxidant of the flavonoid dihydroquercetin and without it.The study found a direct dependence of the rate of formation of biofilm and adhesion activity of microorganisms.

Application of a 1% solution of dihydroquercetin for treatment of the surface of the Petri dishes was significantly delayed the process of adhesion. Within 3 hours was recorded not only delay the adhesion, but the death of microbial cells. While the beginning of the formation of biofilm microbial culture also slowed in the two and a half times.

Keywords. Adhesion, bacteria, biofilm, *Escherichia coli*, dihydroquercetin

In the diagnosis and prevention of infectious diseases is important to the understanding of the etiological and pathogenetic aspects. Adhesion is the starting point of the infection process [2]. Specific adhesion is the result of molecular interactions between the receptor cells and microbial adhesion. The adhesins of the majority of gram-negative microorganisms enter the liposaccharide component of the pili and the fli, which is why they are called fimbrial adhesins.

In gram-positive bacteria adhesion is carried out by means fimbrial adhesins. Most of them are proteins of the cytoplasmic membrane and teichoic acids of the cell wall. Receptors for adhesins of gram-positive bacteria are most often fibronectin and proteins of the extracellular matrix. Fimbrial adhesins more effective than afimbrial ones [7].

Adhesion in the macroorganism triggers a cascade of complex reactions mediated by iron molecules. Strains of pathogenic *E. coli* can carry two types of villi: P villi and villi type I. P villas adhesives (PapG protein) bind to the Gal α (1-4) carbohydrate fragments of Gal epithelial cell membranes, and type I villi bind to mannose residues [8]. The concentration of iron ions, or rather its deficiency, for the *E. coli* serves as a marker of the ability to proliferate. The subsequent production of cytokine epithelium by the feedback signal influences the expression of siderophobes and iron binding proteins by the *E. coli* [4]. Binding of mannose receptors triggers apoptosis, which causes intense exfoliation of epithelial cells. But the apparent elimination of microorganisms does not occur. Because of the exposure of the deep layers of the epithelium to the microorganisms, the underlying cells that do not possess protective functions and are susceptible to invasion become accessible. Similar processes are described in the adhesion of enteropathogens to the epithelium of the gastrointestinal mucosa, and the *Neisseria* to the mucosa of the genital tract.

When the microorganism contacts the surface of non-biological materials, adhesion also occurs, but the main stages unfold according to another scheme. First, separate microcolonies are formed on the surfaces, and then expand into a continuous biofilm. Biofilm is a community of microorganisms, covered with a common glycocalyx — a complex polysaccharide polymer. The formation of a biofilm is not a purely mechanical fusion of microcolonies [9]. This process is subject to complex regulation, the leading role in which play autoinducers. The phenomenon of autoinduction, or cooperative sensitivity (quorum sensing). The vast majority of cells are at rest and are characterized by extremely low sensitivity to the effects of antibacterial agents. In some areas of the biofilm, breeding centers periodically occur, resulting in the release of free (plankton) cells of microorganisms into the environment.

In recent years, the influence of various substances on the course of biofilm formation has been studied. It is known, for example, that the processes of adhesion and formation of biofilms vary depending on the content of ions of calcium, magnesium, zinc and manganese in a dose-dependent manner [4]. In addition to inorganic substances, organic compounds also have an effect on microbial adhesion [5]. Biofilms can be created from a population that has evolved from a single species, or from a community that has occurred from numerous microbial species. Often biofilms are formed on the surface of medical devices, catheters, implants and are the cause of the development of infectious complications, often threatening the life of the patient. At least 65% of hospital infections are associated with biofilms [1]. And the bacteria of the family Enterobacteriaceae in aggregate are the most frequent pathogens of nosocomial infections [6]. Prevention of the development of biofilm infections and their control are topical areas of modern medicine. In this connection, we set the goal to study the rate of biofilm formation by the culture of Gram-negative bacteria with different adhesive activity on the example of *Escherichia coli* with and without the use of the antioxidant dihydroquercetin flavonoid and without it.

Materials and methods. For the study used wild strains of *Escherichia coli* isolated from feces of healthy people. The study was conducted by microbiological methods. Isolated cultures were incubated in the meat-peptone broth. Daily microbial culture was adjusted to a concentration of 10⁷ CFU and brought to the surface of a plastic Petri dish with a diameter of 40 mm, pre-treated in 1% solution of dihydroquercetin and dried under ultraviolet irradiation. As a control used the cups with the microbial culture of the same concentration, but without treatment with dihydroquercetin.

Results and discuss. Adhesive activity of strains of *Escherichia coli* were studied by application of 3% suspension of erythrocytes O(I) group and determining the average adhesion (DAA). The intensity of biofilm formation was evaluated microscopically after 30 minutes, 1, 1.5, 2, 2.5, 3 hours and 6 hours of incubation of culture. The color was produced by gentian-violet.

In *Escherichia coli* with a moderate adhesive activity, the DAA was 3.6 microbe cell / Er. In *E. coli* with low adhesive activity, the DAA was 1.9 microbe cell / Er. In the course of the study, a direct relationship between the rate of biofilm formation and the adhesive activity of microorganisms was found. Thus, in *E. coli* with medium adhesive activity, the onset of biofilm formation was observed after 2.5-3 hours of incubation. In strains with low adhesive activity, this process lagged behind and was observed only after 6 hours of incubation. The use of dihydroquercetin for the treatment of Petri dishes significantly delayed the adhesion process. Within 3 hours, not only delayed adhesion, but also death of microbial cells was recorded. What can be explained by both natural causes (elapsed life time of a cell individual) and by a harmful change in the osmotic pressure of the medium during the transition of dihydroquercetin into the soluble phase, that is, the known antibacterial properties of flavonoids [3]. Surface treatment with dihydroquercetin slowed the start of biofilm formation by a microbial culture almost two and a half times.

Thus, the result obtained on the ability of dihydroquercetin to inhibit the adhesion process in microorganisms and the formation of a biofilm can serve as a contribution to the further study of the use of flavonoids, including for the treatment of instrumentation and intravenous systems as a means of preventing catheter-associated infections.

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DISCUSSION ON THE DEVELOPMENT OF CLINICAL PHARMACY IN TRADITIONAL CHINESE MEDICINE HOSPITAL

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Abstract In order to improve the quality of pharmaceutical care in traditional Chinese medicine hospital, it is necessary to carry out clinical pharmacy work. This paper analyzes the present situation of clinical pharmacy in Chinese medicine hospital, and points out that traditional Chinese medicine practitioners should participate in the treatment of traditional Chinese medicine. It plays an important role in the safe, effective and reasonable application of traditional Chinese medicine, and provides the source for the development of traditional Chinese medicine.

Keywords: Clinical Chinese pharmacy; Drug safety; Chinese pharmacist; Clinical efficacy

Discussion In the development of clinical pharmacy work, first hospital leaders attach importance to work in medicine and medicine can not be divided on hospital pharmacy work attention, at the same time, pay attention to personnel training, election of a strong sense of responsibility, a high level of business personnel to participate in the professional learning, better service for clinical pharmacy. In the pharmacy management, should be regularly informed of the general assembly to prescription analysis, problems and hazards exist, in order to improve the level and quality of medical prescription, clinical significance of pharmacokinetics to the hospital medical staff academic report, introduces the main contents of clinical pharmacy, such as the importance and principle of the blood concentration monitoring, and the comprehensive analysis of the new drug safety to achieve medicine combination to improve the quality of medical treatment; set up to the pharmacist in charge for the leadership, as the backbone of the pharmacist pharmacy consultation department, the establishment of the pharmacy information room, provide information to the hospital pharmacy; set up to Dean LED the subjects responsible for the backbone of the Hospital Pharmacy Committee, carries on the macroeconomic regulation and control the whole hospital pharmacy work, avoid drug abuse, chaos into the purchase of medicines. In addition, it is necessary to strengthen the study of pharmacoeconomics, so that the drug is efficient, safe and economical to serve patients, to reduce the burden on patients.

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ELECTROACUPUNCTURE INCREASES AWAKE EEG ACTIVATION AND IMPROVES DAYTIME SLEEPINESS PERFORMANCE IN OBSTRUCTIVE SLEEP APNEA AFTER STROKE

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Abstract Objective: The study aimed to observe the waking electroencephalography (EEG) biomarkers before and after electroacupuncture on the treatment of patients with OSA after stroke, and