

patients with various forms of pneumonia, including, if indicated - the timely appointment of adequate levels of antiviral therapy.

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#### ANTI-INFECTIVE ACTIVITY OF PLANT FLAVONOIDS: RESEARCH PROSPECTS

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**Abstract** A brief overview of the history of the study of non-trivial properties of plant flavonoids against microorganisms - causative agents of human infectious diseases. Antibacterial and antiviral properties are considered. Attention is paid to the ability of flavonoids to inhibit bacterial adhesion ability. The prospects of such research are discussed.

**Key words:** plant flavonoid; antioxidants; bacterial adhesion; antibacterial, anti-viral properties.

The search for new abilities that can oppose to pathogens of infectious diseases has not lost its relevance. Along with conventional pharmacological agents, substances such as flavonoids, also have antibacterial and antiviral properties. The study of flavonoids anti-infective properties began three decades ago [7]. It was found that the antiviral ability of flavonoids is correlated with the inhibition of histamine release from competent cells, such as basophils [12].

Scientist's interest to the antioxidant properties of flavonoids [3] is growing up, by its ability to identify their fungistatic by restoring lymphocytic reaction, reducing the deficit of CD4+ lymphocytes, B-cells stimulation to provide by basic classes of immunoglobulins and increase the efficiency of phagocytic reactions [1]. It was found that the antioxidant effect of the flavonoids made by different mechanisms. Flavonoids may act as classic phenolic radical inhibitors interacting with the lipid radicals; or reacting with reactive oxygen forms [8]. Another way is related to the inhibition of lipoxygenase, or linking Fe<sup>3+</sup> ions, which activates free radical oxidation [4].

There are catechins have antimicrobial activity against a broad spectrum of microorganism from known flavonoids. Particularly, their polymerized form — tannins can inhibit the growth of *Candida mycoderma* a concentration of 2 g/L. Catechins at concentrations of 0.25 g/L inhibit the growth of cariogenic bacteria streptococcal, thus inhibit the synthesis of bacterial peptidoglycan promoting destruction of tooth enamel. By themselves, flavonoids, binding with bacterial cell wall proteins, promote subsequent lysis of the bacterial cell [6].

All these properties are attributed big interest of flavonoids on the adhesiveness of microorganisms [5]. It is known that negatively affect the bacterial protein, reducing their adhesive properties, phenol carbonic acids. It is natural to assume a similar action in flavonoids as plant phenolic compounds are flavonoids — polyphenols. Thus, fairly well-known flavonoid naringenin is the plant growth retardant phenol [2].

The practical application of knowledge about these properties, such as reflected in clinical trials such as the causative agents of *Candida albicans* [14], *Helicobacter pylori* [13], *Streptococcus mutans* [9], *Staphylococcus aureus* [11], *Salmonella enterica* [15], *Escherichia coli* [10] etc. Everywhere took place ability of different plant flavonoids (such as procyanidins, Humulin, Morin, Quercetin, and others) to suppress microbial adhesion.

The work in this area there is a clear positive outlook. Scientific search for antibacterial, antiviral and anti-adhesive properties of the flavonoids appropriate to continue.

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#### OUR EXPERIENCE IN THE TREATMENT OF VENTRAL HERNIAE OF THE ANTERIOR ABDOMINAL WALL IN PATIENTS WITH MORBID OVERWEIGHT

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Herniae of anterior abdominal wall take considerable place in the structure of surgical morbidity among population. According to the world statistics operations on ventral herniae belong to the most frequent interventions. With the increase of the number of operations the frequency of postoperative ventral herniae formations increased especially in persons with abundant body weight.

113 patients with large and gigantic postoperative ventral herniae had been operated in surgical clinics of the Amur State Medical Academy and Moscow diagnostic centre №1 since 2007 till present days. It made 12% of all ventral herniae and 26% of cases were recurrences.

Sections were made according to the location of hernia. In large and gigantic postoperative ventral herniae and in a case of the presence of cutaneous and subcutaneous apron there were performed cross sections or sections in the form of anchor that allowed to remove cutaneous and adipose tissue. The mass of it may be from 3 to 9 kg (average 5±1,5 kg). Removal of the excess of cutaneous and subcutaneous apron improves cosmetic effect of the operation. The length of the incision may reach 450-900 mm.

During recent years unintentional way of strengthening of anterior abdominal wall in Onlay position is widely used by our physicians.

We used polypropelen nettings as a transplant of four firms: "Ethicon", "LantheCS", "Auto Suture" and "Cousin".

Laser affection on the wound with the "Milfa-F" device was used in the early postoperative period to improve the microcirculations and healings of wounds.

Magnetic infrared laser "Milfa-F" device is safe and simple in use that allows to perform procedures with-