

## **The use of Honey Bee Seal in the Protection of Organisms Exposed to Embryotoxic Compounds**

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### **Abstract:**

Because of intensive chemicalization of environment it seems necessary to take preventive measures that protect body. One of this actions is using apitherapeutics – biopreparations obtained from products collected by bees and contain a number of pharmacologically active substances (including flavonoids and polyphenolic compounds). The aim of study was to assess the potential protective effect of bee seal in fetuses exposed to embryotoxic compounds, such as acetylsalicylic acid, carbon tetrachloride and buserelin. Bee seal is a natural product made by honeybees from wax, beebread, propolis and honey. It is used to closing the cells of the comb. The experimental material consisted of 100 pregnant female rats of Wistar tribe, which were divided into three groups – control A and two experimental groups: B and C. In group A rats received bee seal, saline or nothing. In group B, animals received hepatotoxic and embryotoxic agents (buserelin, carbon tetrachloride and acetylsalicylic acid). In group C rats received hepatotoxic and embryotoxic agents and bee seal extract. On the 21st day of pregnancy, before the planned delivery, the animals were euthanized and subjected to thorough autopsy examinations. Fetuses were collected for histopathological evaluation. The results obtained during experimental studies and histological analyses allow for conclusion that the active substances contained in the bee seal extract have a detoxification and protective potential in relation to the organism of the developing fetus, exposed to embryotoxic compounds. At the same time, they do not have a negative impact on the course of pregnancy and the development of the fetus.

### **Keywords:**

Honeybee seal, apitherapeutic agent, embryotoxicity, rats.