FACTOR OF CANNIBALISM IN GUINEA PIGS WHEN PLANNING LONG-TERM EXPERIMENTS IN PHTHISIATRICS

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Relevance of the topic. Cannibalism, as a general biological phenomenon inherent in carnivorous and omnivorous animals, from mice to humans, is well known. Cases of cannibalism have been described even in such large and dangerous predators as bears, and eating their own kind in mice, rats and pecking in chickens are banal phenomena in zooecology and are widespread [1, 2].

In guinea pigs, like in all highly organized mammals, when kept together, especially in large groups and during long-term stay in a confined space, rigid hierarchical relationships arise, accompanied by violent clashes, but cases of cannibalism or fatal outcomes of hierarchical clarification of relationships have not been recorded, and in the available not described in the literature. Moreover, guinea pigs, being herbivores, have a body and mouth structure that does not provide potential opportunities for effective traumatic attacks, including fatal ones and subsequent consumption of corpse material [1–4].

However, practical observations of the behavior of guinea pigs during a period of long quarantine and rearing when preparing animals for a bioassay for tuberculosis showed the presence of unmotivated cruelty and fatal fights with subsequent cannibalism [3, 4].

Purpose of the work: monitoring the behavioral reactions of guinea pigs in quarantine and rearing before setting up a bioassay for tuberculosis.

Materials and methods. Physiological studies were carried out in the infectious vivarium of the educational and scientific laboratory of the Department of Infectious Animal Diseases of the Faculty of Veterinary Medicine of the DSAEU.

For two months, ethological observations were carried out on the behavioral reactions of guinea pigs in non-stationary groups during the period of rearing and quarantine in preparation of animals for infection with *Mycobacterium tuberculosis*.

When conducting experimental biological studies on guinea pigs, we were guided by the Convention for the Protection and Humane Treatment of Vertebrate Terrestrial Animals (Strasbourg, 1986), the requirements of the legislation of the European Union (EU) and Directive 2010/63/EU of 08/22/2010.

Research results. When planning long-term experiments on guinea pigs in the form of a bioassay for tuberculosis, it is necessary to keep the animals in quarantine and prepare them physiologically for the possibility of enduring a long, debilitating infectious process with high mortality. To do this, during the period August-September, a large batch of guinea pigs was formed, consisting of 30 heads with a live body weight of 156 ± 14 g, and placed in a common enclosure. Feeding was carried out ad libitum, twice a day, and succulent feed, grass and oats were given. The animals came from the FVM vivarium, where they were kept in the same room. Within a week, the guinea pigs got used to the new place, stopped being afraid when being served, and they established favorable relationships; no fights were observed. The guinea pigs were very small, thin, asthenic, with eczematous skin lesions. Within a month, there was a natural loss of weakened and non-viable animals. Of the 30 guinea pigs, 12 animals died from non-infectious causes due to genetic abnormalities and asthenia. Those who remained became stronger and grew up. In the second month of their stay in the enclosure, corpses of guinea pigs with their throats cut open began to appear from time to time, and there were 5 such cases. No strict hierarchical relationships were observed, there was enough living space, and they were fed abundantly. All fatal events occurred in the absence of staff in the vivarium, so it was believed that the guinea pigs were killed by a rat.

Indisputable evidence of cannibalism was obtained by keeping the following batches of guinea pigs in individual metal cages in small groups in a laboratory where there were no rats, and there were 3 such groups. In one group there were 18 guinea pigs with 7, 6 and 5 animals per cage, in the other 12 guinea pigs with 6 animals per cage and the last group of 16 animals with 6, 5 and 5 animals per cage. The pigs were very small, body weight ranged from 126 g to 142 g, thin, of poor fattening condition, some had eczematous skin lesions. With subsequent maintenance and abundant feeding, the general condition of the animals improved within a month, but some of the weakened individuals died, and some were killed and eaten by their relatives. The throats of the guinea pigs that were killed were torn out. Complete consumption occurred in 4-5 hours, leaving only the skin and bones of the skull turned inside out 6 guinea pigs were subjected to cannibalism. (Fig. 1). With growing up and body weight increasing above 220-250 g, cases of intraspecific killing stopped.

Fig. 1. Cannibalism among young guinea pigs

Conclusions.

1.Guinea pigs, despite the fact that they are very timid and non-aggressive towards humans, can commit intraspecific murders and cruel hierarchical pressure, even cannibalism, and do not have the anatomical structures in the body structure necessary for effective mechanical destruction of the opponent.

2.In young guinea pigs, with a live body weight of 120-150 g, when kept together in cages as a result of the increased needs of an intensively growing organism for proteins, fatal collisions and cannibalism are possible; a large group size does not increase the risk of aggressive behavior, but it has been experimentally established to be lethal the result of aggressive behavior at a level of up to 4 individuals.

3.Provoking factors are inadequate feeding and protein starvation, inbreeding, asthenic body architecture, closed housing space and high stocking density (crowding), uncomfortable indoor temperature and non-biological technological stress factors of the external environment.

References.

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