Consequences of rat bites in the laboratory: A response to Etscorn and Blodgett

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Etscorn and Blodgett (1987) recently reported problems associated with rat bites in the laboratory. Specifically, they described an illness called rat-bite fever, involving fever, rash, arthritis, and significant mortality due to endocarditis if untreated. They also reported that the agents implicated in this condition (*Streptobacillus moniliformis* and *Spirillum minus*) could be isolated from the nasopharynx of symptom-free carrier animals.

Such a report is laudable, and workers should be aware of possible consequences of rat bites and not let such wounds go untreated. However, in the 15 years of our laboratory's experience with animal work, with over 40 students per year and several scientific staff handling rats on a daily basis, we have only once experienced any serious effects of rat bite. Indeed, in the entire biomedical research environment at the University of Bergen during the last 8 years, only six cases of rat bite with complications as sequelae have been reported. In the single case reported from physiological research, the infective agent was believed to be not of animal origin but rather an opportunist already present on the individual's skin, although no affirmative bacterial diagnosis was obtained. The other cases were due either to opportunist *Staphylococcus spp.* of human skin origin or to *Pastuerella pneumotropica* of animal origin.

We do not breed our own animals. Our laboratory rats are imported into the laboratory colony from accredited

professional animal suppliers, who are required to supply animals in accordance with defined microbiological quality standards. Our choice of supplier is also guided by spot checks made by a central national laboratory (National Institute of Public Health). Our animals are free of both pathogens identified by Etscorn and Blodgett as being implicated in rat-bite fever, as well as several other agents commonly implicated in zoonoses transferred from rats to man (*Hantaan virus*, *Leptospira spp.*, *Pseudomonas aeruginosa*, *Salmonella spp.*, *Streptococcus pneumoniae*, and *Dematophytes*) (Møllegård Breeding Center, 1988).

The remedies offered by Etscorn and Blodgett to deal with the risk of rat-bite fever involve "better handling techniques" to reduce the risk of animals' biting. In our opinion, what they describe as better handling techniques—use of heavy gloves and towels—hinder the taming of animals, and may indeed cause greater stress to the animals. A better approach it seems to us is to ensure the absence of the pathogens to start with. This calls for stronger controls over the supply and use of laboratory animals, both as to where animals may be purchased and as to the types of information that the supplier should provide the consumer. Researchers should insist on high-quality animals of known microbiological status from the suppliers, rather than have to deal with the problems once the pathogen has already reached the animal colony.

REFERENCES

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