Drexel University Animal Care and Use Committee
Tumor-Bearing Animal Policy

OBJECTIVE: Drexel University Animal Care and Use Committee has established this policy to identify and resolve animal welfare issues related to experimentally induced tumors in animals.

RESPONSIBILITY: The Investigator is responsible for ensuring that each individual conducting research involving transplantable tumors or tumor induction follows this policy.

PROCEDURES:

1. For all tumor research involving animals, endpoints should be established that minimize the potential for pain and distress. The investigator should consult a veterinarian and must have a plan for preemptive euthanasia based on clearly defined endpoints in the IACUC protocol.

2. Animals bearing tumors should be observed at least twice weekly to assess their physical condition, and observed daily as tumors are nearing their endpoint, including weekends and holidays. Records of observations must be kept and made available upon request.

3. Without an specific exception justified in the IACUC protocol, animals must be euthanized under the following conditions:
   - when tumors have ulcerated.
   - when the tumor interferes with the animal’s mobility and/or its ability to acquire food or water.
   - when animals become emaciated or dehydrated due to a failure to eat and/or drink over a 24-48h time period.
   - when the animals become debilitated, e.g. due to hindlimb paralysis or general weakness.
   - when animals show persistent hypothermia.
   - when animals show bloodstained or mucopurulent discharge from any orifice.
   - when animals show labored respiration, particularly if accompanied by nasal discharge and/or cyanosis.
   - when animals become severely anemic, as indicated by symptoms such as pale feet, or hematological measures.
   - when animals become incontinent or have diarrhea over a 48-h period.

When ascites production leads to abdominal distension which interferes with movement or creates respiratory distress.
When it is necessary to maintain an animal with these conditions, the status of the animal’s overall condition must be assessed daily and in consultation with the veterinary staff.

4. The tumor burden should not exceed 10 percent of the animal’s normal body weight (10 percent for animals carrying a single tumor typically represents a subcutaneous flank tumor diameter of 15mm in a 25g mouse or 35 mm in a 250g rat). Calibration curves should be established as part of the characterization of the tumor system. Without a specific exception justified in the IACUC protocol, animals should be euthanized before tumors reach this size. For animals carrying several tumors, the total tumor burden must not exceed the maximum burden of a single tumor.

5. In tumor experiments in adult rodents, weight loss should not exceed 20 percent of the animal’s body weight at the start of the experiment. Young growing animals should maintain weight gain to within 15 percent of aged matched controls. Baseline body weights must be recorded for each animal on tumor studies at the start of the project and where weight loss is an expected event, the weight of the animal must be recorded periodically as specified in the IACUC protocol.

6. In the case of leukemias or internal, disseminated, metastatic or other occult tumors, determination of the tumor burden may be difficult. Endpoints including weight loss and other signs of distress must be described and followed. The development or use of appropriate laboratory methods to determine the onset of leukemia before the appearance of clinical signs is required. These methods should be described in the IACUC protocol.

Reference:


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