EXPERIMENTAL NEOPLASIA IN RODENTS

Experimental induction of neoplasia may present concerns for animal welfare. In particular, the endpoint for the animal bearing the tumor must be clearly described and that endpoint must be approved by the IACUC prior to the initiation of any procedures.

Experimental neoplasia can be broadly divided into two categories: biology and treatment.

1. Biology is the study of how tumors grow and behave. This policy is intended to limit the tumor burden an animal experiences to that which does not cause excessive pain or distress, but achieves the research goal.

2. Treatment is the study of the response of tumors to chemical, radiologic or immunologic therapy. In this class of study, not only must the tumor burden be considered, but the effect of the treatment modality must also be evaluated.

Outcomes of tumor studies, including "death as an endpoint" studies, vary depending on the species and strain of animals used, the route of administration used for the growth of transplantable tumors and the subsequent chemotherapy or other modality employed in cancer treatment studies. It is up to the investigator to decide which alternatives to using live animals are available and appropriate for their study and present these to IACUC for approval. Death as an endpoint (ie. survival studies) may be allowed by the IACUC only after full consideration of alternatives and a subsequent finding that none are scientifically acceptable for the proposed outcome. At all times during this process, the well-being of the research animals must be balanced against the requirements of the study.

All protocols involving experimental neoplasia in rodents must be consistent with the Humane Endpoints Policy (#19). In addition to the default endpoints listed in Policy #19, the percentage of tumor mass to body weight and the animals' well-being must be considered for those superficial tumors that can be monitored by palpation and measurement. The following general tumor guidelines must be followed and euthanasia is required when:

1. tumor size (as estimated in cubic cm) is greater than 20% of the animal's body weight (as measured in grams). (As an example: In the case of a mouse weighing 25g this would represent a single subcutaneous nodule of approximately 1.5cm in diameter or two tumor nodules, neither of which

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measures > 1.0 cm in diameter. Additional examples are available at the LARC website.)
2. The animal is unable to drink, ambulate, defecate or urinate due to a tumor burden.
3. The tumor is ulcerated and/or infected.

After the study has begun, any deviation from the default endpoints (including death as an endpoint), must be reported immediately to the LARC veterinary staff for clinical evaluation. For example, if the tumor severely impairs normal bodily functions or the animal appears to be in distress, the veterinarian will either prescribe treatment/monitoring that may include humane euthanasia. At all times, the well-being of the research animals must be balanced against requirements of the study.


Assignment of pain category by the IACUC for studies involving tumor-bearing animals shall be in accordance with Policy # 4: Pain Categories for Experimental Protocols. However, because each study and each tumor line is unique, the TTUHSC IACUC will review each protocol individually and consider circumstances that may impact the assignment of the appropriate pain category.