2011 Column E Explanations

Rabbits- Heart Pacing model

The aim of this project is to evaluate if cardiac imaging with an imaging agent can be used to stratify progression of heart failure (HF). Thus, heart uptake of the imaging agent needs to be assessed at early and late stages of HF to determine if the NET uptake levels are different. In this regard, a rabbit model of HF is being developed by surgically implanting pacemakers followed by rapid cardiac pacing to induce heart failure which may be associated with some level of pain and stress as the animal develops HF.

Potential signs of pain and distress may include change in activity level, a hiding posture, vocalization, failure to eat or drink, cowering in a guarded condition, or a change in behavior especially an increase in aggressiveness. These will be assessed in consultation with the Attending Veterinarian and the Principal Investigator. The PI/designee/or Veterinary Science staff will record daily observations for each of these rabbits. Additional procedures will be added to these animals, such TLC (tender love and care by Veterinary Science staff for at least 5 minutes daily) and daily food supplements (e.g. providing Critical Care™, alfalfa supplements, fresh vegetables and fruit). Depending on the severity, intervention steps to alleviate pain and distress will include euthanasia.

Justification-Drug treatment, such as narcotic analgesics, may further depress respiration in dyspnic animals or administration of SQ fluids may exacerbate ascites. Other modes of pain alleviation such as administration of anti-inflammatory drugs would not be acceptable as this may interfere with the heart failure endpoint. These interventions may alleviate some discomfort, but will impair the HF model development.