contact and at one m; the readings were 2.0–7.0 mR/hr and 1.0–5.0 mR/hr, respectively. A quick review of the literature revealed that this situation was unprecedented; a call to an NRC regional office was made to request guidance in handling of the cadaver and monitoring of personnel performing the autopsy.

The advice received from NRC was as follows: the radiation safety officer (RSO) was to instruct the staff performing the autopsy on the potential hazards of exposure to ionizing radiation, these individuals were to receive radiation monitors to record their exposure and autopsy personnel were to be advised as to the importance of adequate flushing with water during the procedure. Since approximately 500 gallons of water are used in the rinsing of excised organs and body cavities during an average autopsy, the dilution factor was considered adequate insofar as decreasing the body burden of radiation (most of which was localized in the abdominal area). The dilution factor also made it acceptable to flush unbound NaI-131 through the sewer system as a one time release (*3*).

The autopsy report stated the cause of death as exsanguination into the stomach and bowel secondary to a perforated gastric ulcer which eroded through the pancreatic artery. The patient had a past medical history of peptic ulcer disease (PUD), but after admission and consultation by radiation oncology, he was inadvertently placed on dexamethasone sodium phosphate (for possible brain edema after XRT) without adding an H2 antagonist. A higher than usual dose of steroid unopposed by H2 antagonists likely caused exacerbation of the patient's pre-existing PUD.

After the autopsy, the body was reassayed. Since exposure on contact at this time ranged from 1.0–2.0 mR/hr, the body was released to the family.

A thyroid bioassay was performed on all personnel (Radiation Safety and Pathology) exposed to the deceased patient within 48 hr of their exposure. Bioassays (thyroid counts) were performed using a collimated probe detector (Na-I (Tl) crystal) interfaced with a multichannnel analyzer. Readings were obtained at 15 cm from the thyroid cartilage. The obtained readings were in no instance above background radiation readings. The film badges and finger monitors that were assigned to Pathology personnel involved in the autopsy, as well as those carried by Radiaton Safety staff, recorded minimal superficial exposure and detectable deep exposure.

REFERENCES

1. Harbert, JC. Radioiodine therapy of differentiated thyroid carcinoma. In: Harbert JC ed. *Nuclear medicine therapy.* New York: Thieme Medical Publishers, Inc.; 1987:78.
2. Benua RS, Cicale NR, Sonenberg M, Rawson RW. The relation of radioiodine dosimetry to results and complications in the treatment of metastatic thyroid cancer. *Am J Roentgenol* 1962;87:171–182.
3. Nuclear Regulatory Commission, 10 CFR, Part 20.
4. Department of Veterans Affairs Medical Center, Hunter Holmes McGuire Medical Center's ALARA Program, Richmond, Virginia.

Jesse Balseiro
Nicolaos Perdikaris
Oscar F. Tercilla
Christina T. Tarry
Rosemary B. Thompson
Mary Moore
Department of Veterans Affairs Medical Center
Richmond, Virginia
Medical College of Virginia,
Richmond, Virginia

Acupuncture and Radioactive Pathways of Hypodermically Injected Technetium-99m

TO THE EDITOR: In our opinion, some of the interpretations of Scott (*1*) and Vernejoul and associates (*2*) are not supported by the data contained in a recently published study by our group (*3*). The aim of our study was to determine the specific nature and to investigate the biological substrate of radioactive migration pathways of hypodermically injected ^{99m}Tc into points of low electrical resistance. Given that the specific radioactive pathway detected was not the result of diffusion of the radiotracer through nerves, veins or lymphatic vessels, attention was drawn to the coincidence of its trajectory with that described for one of the acupuncture meridians in the dog. The methodology of our investigation was designed neither to define nor to assess the consistency of numerous philosophic principles on which the origin, development and application of procedures included under the term "acupuncture" are based. We believe that the results of our study show that further research is needed to clarify this specific spread pattern and to determine its eventual biological substrate and significance. They do not provide any data that could be used to assess the validity of the physiologic and philosophic theories from which "acupuncture" procedures arise.

REFERENCES

1. Scott JA. Anatomic divisions. *J Nucl Med* 1992;33:407–409.
2. De Vernejoul P, Albarede P, Darras JC. Nuclear medicine and acupuncture message transmission. *J Nucl Med* 1992;33:409–412.
3. Kovacs FM, Gotzens V, Garcia A, et al. Experimental study on radioactive pathways of hypodermically injected technetium-99m. *J Nucl Med* 1992; 33:403–407.

Francisco M. Kovacs
Victor Gotzens
Alicia García
Félix García
Nicole Mufraggi
David Prandi
Kovacs Foundation, Palma de Mallorca
University of Barcelona
Hospital Clinic i Provincial, Barcelona
Autonomous University of Barcelona,
Barcelona, Spain