

Letters to the Editor

REPORT OF A POSITIVE Mo-99 BREAKTHROUGH TEST

The Mo-99 breakthrough test on Tc-99m generator eluates is one we found to be typically within acceptable limits. On certain past occasions, however, we have observed unusually high radionuclidic contamination in eluates—initially assumed to be Mo-99 but later confirmed to be I-132, whose gamma energies are similar to Mo-99. More recently, we observed radionuclidic impurity during the Mo-99 breakthrough test. On a Monday morning an alert technologist eluted the 2.5 Ci-Mo-99/Tc-99m generator and observed a reduced Tc-99m yield (1,118 mCi) and excessive activity (7.1 mCi) during the “moly” test. The product was not used but the moly activity was initially radioassayed for several hours to rule out possible 2.3-hr I-132 contamination. Then it was radioassayed daily for one week. The results were plotted on semi-log paper and the physical half-life determined to be 67.8 hr; this is very close to 66.7-hr Mo-99. The generator was returned to the manufacturer for inspection and they reported it was improperly assembled, permitting the excessive Mo-99 breakthrough.

The need for daily quality control tests in the radiopharmacy laboratory is well recognized; yet many tests, such as for moly breakthrough, are frequently negative. A history of negative tests may lead to such complacency that occasionally a test is omitted. Our experience has taught us that omission of even one test renders the quality control program ineffective and in this particular instance would have resulted in use of a grossly adulterated product.

A good quality assurance program requires many tests but a vigilant effort is needed to make it effective.

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THE NUCLEAR MEDICINE TECHNOLOGIST AND THE COMMERCIAL CENTRAL RADIOPHARMACY

Editor's note: Pursuant to our intent to keep *JNMT* readers abreast of the latest in all aspects of the field, we have printed the following letter for your interest.

As a nuclear medicine technologist, do you take pride in your profession? Are you apathetic in regard to your

profession and its importance? Are you willing to let others make decisions that may have adverse effects on your economic and professional growth? What would be your reaction if your competency and ability were questioned? In short, are you ready to share your specialty?

It is time to address a topic of concern that may ultimately affect all of us in the profession of nuclear medicine technology: commercial central radiopharmacies.

We as individuals that practice the discipline of nuclear medicine technology are recognized as professionals; we assume leadership and address critical issues that affect the health care delivery system. We have studied and trained to become technologists in a field requiring many and varied disciplines—anatomy, physiology, nuclear physics, patient care, radiation safety, radiopharmacy, quality control, radioimmunoassay, and computer science.

These varied disciplines are what set us apart from any other allied health specialty. Are we ready to compromise our position and professional status by eroding the quality of work, giving up part of our expertise, weakening our professional status, and in the end jeopardizing that which we have worked so long and hard to establish. We must believe in our profession. We must believe in the indispensability of our perspective and our great capability to contribute in this time of challenge. Without these beliefs, all the good things that we have strived for may fall by the wayside. It is not strange that such an exuberance of enterprise should cause some individuals to mistake change for progress. Therefore, analyze the options and the ultimate effects of those options and proceed with caution.

Ask yourself these questions in light of what you know and practice:

- Who is liable for what I inject?
- What is in that syringe?
- What quality control measures have been taken?
- Can I rely on deliveries?
- How will I handle emergencies?
- Will I save any time?
- Whose radiopharmaceutical am I using?
- Will there be—compliance with package inserts, overloading of vials, and less working hours?
- Will there be—records available with delivery of material, and efficacy with variations in environment?
- What about cost?

The technologists of the greater Baltimore-Washington area have always been able to address controversial issues with a high degree of foresight and ability. The time has come again to be decisive in our actions and take a stand