

Gallium-67 Waste Management For Incontinent Patients

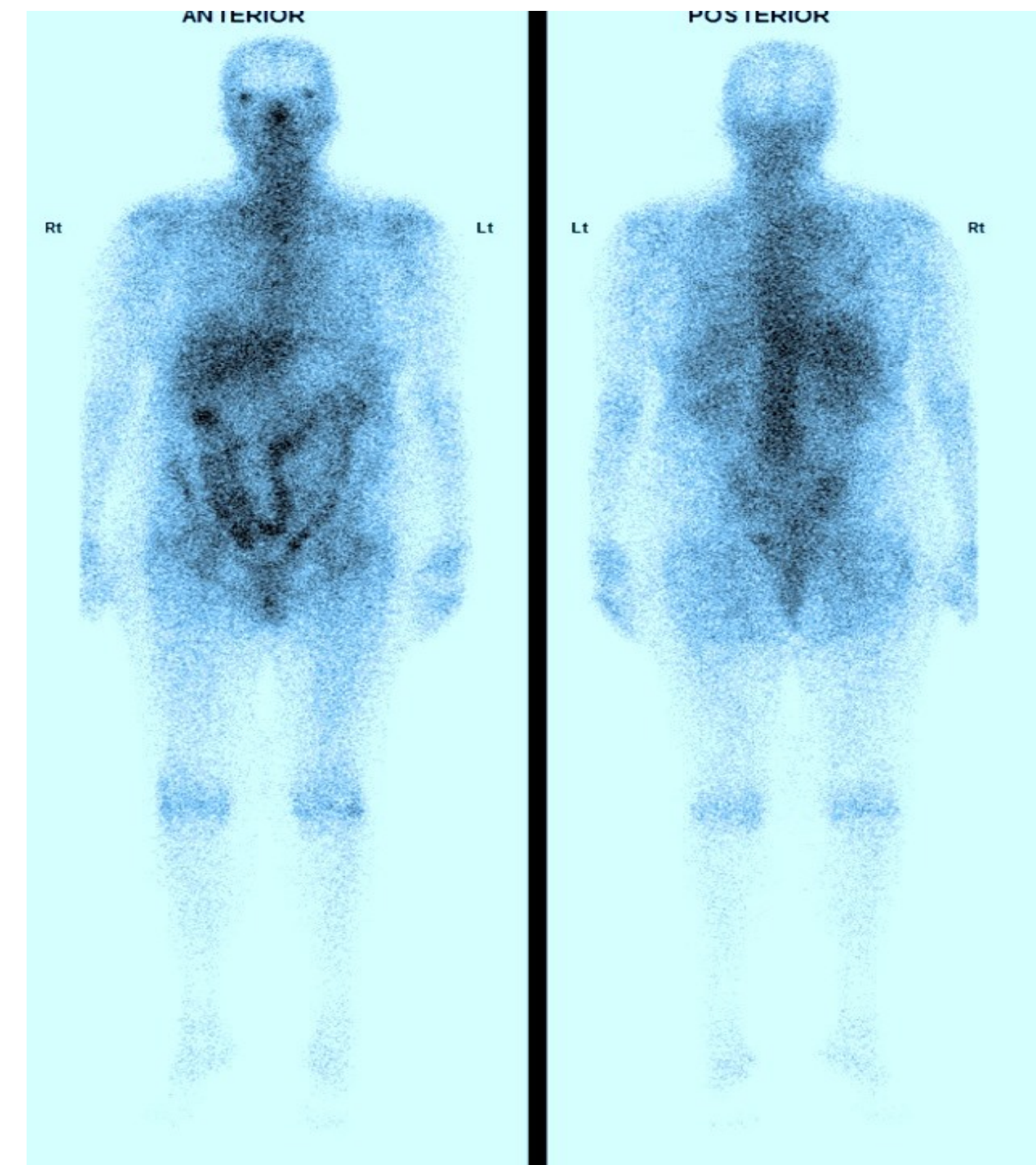
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Introduction:

Gallium-67 is a useful tool for the diagnosis of inflammation and chronic infection. The radiation dose from a Gallium study is low and it is considered a safe procedure. Gallium-67 has 78 hours half-life and is excreted relatively slowly from the body. The average whole body retention is 65% after 7 days, with 26% excreted in the urine and 9% in the stools (picture 1). The radioactive waste can be a problem in hospitals when a Gallium patient is incontinent. Radioactive excreta from Gallium-67 patients' disposable incontinence pads leads to solid radioactive waste.

Many waste transfer stations survey hospital waste with scintillation detectors which may result in rejection of hospital's waste and/or a fine for disposing of radioactive waste.



Picture 1. Gallium whole body scan

Methods

Gallium radiation safety protocol was developed in order to avoid problematic disposal of radioactive waste from incontinent Gallium patients to waste transfer stations as follows:

Upon a request for a Gallium-67 study the Radiation Safety Officer (RSO) investigates the prospective Gallium-67 patient for incontinence. Gallium-67 radiation safety protocol is followed when the patient's incontinence has been established. A Radiation Safety In-service is provided by the RSO to educate staff involved with the Gallium patients' treatment. A red rubbish bin with a radioactive symbol and the radiation safety protocol is placed in the patient room or in the pan room for radioactive waste collection (picture 2).

Urinal/Catheter bags should be emptied in the toilet and faeces on incontinence pads should be emptied into the toilet prior to disposal of incontinence pads in the radioactive rubbish bin. Disposable incontinence materials are handled using standard precautions – faeces is to be discarded into the toilet where possible and then the disposable waste (bagged, labelled and dated) placed in the pan room.

Gallium contaminated pads should not be discarded until the waste has decayed to background radiation levels, and that this has been verified by the RSO or NM Chief Technologist.

Picture 2. Rubbish bin and bags for Gallium incontinent patient radioactive waste



Results:

There has been no Gallium contaminated waste disposals to hospital general waste since the Gallium protocol was introduced in December 2017.

Conclusion:

This protocol reduces incidents of radioactive waste disposal from Gallium patients to hospital general waste facilities.

References:

Radiation Control Act 1990, Radiation Control Regulation 2013,
<http://www.epa.nsw.gov.au>