Images in...

Oesophageal ^{131}I uptake in a patient with achalasiaGary Greene,¹ Irina Mezheritskiy²¹ Department of Radiology and Nuclear Medicine, Pennsylvania Hospital, University of Pennsylvania Health System, Philadelphia, Pennsylvania, USA² Department of Radiology, Pennsylvania Hospital, Philadelphia, Pennsylvania, USA

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DESCRIPTION

A 54-year-old female patient was referred to our hospital for a chest x-ray due to chest discomfort of 2 months duration. She had a history of thyroid cancer. The chest x-ray demonstrated a large posterior mediastinal mass with smooth borders, displacing the trachea anteriorly (figures 1 and 2).

Because of her history of thyroid cancer, a ^{131}I total body scan was ordered to exclude metastatic disease (figure 3).¹ Marked ^{131}I activity was identified within a dilated oesophagus. There were no other areas of abnormal uptake to indicate loco-regional or a distant metastatic disease (figures 4 and 5). CT of the chest was ordered after the nuclear medicine iodine scan. This confirmed diffuse marked oesophageal dilatation containing a large volume of fluid and debris, with a classic 'bird's beak' configuration at the oesophagogastric junction, pathognomonic of primary achalasia. A follow-up video swallow revealed marked stasis of the barium column within a dilated, sharply tapered distal oesophagus ('bird's beak' sign).

Radioiodine accumulation in the oesophagus due to achalasia has been rarely reported.² There are several postulated mechanisms, but the most common is stasis and accu-

mulation of radioiodine in an atonic oesophagus following ingestion of a ^{131}I pill. Typically, there is rapid transit of radiotracer into the bowel, with little if any activity in the oesophagus.

Figure 1 Frontal chest radiograph reveals large right paraspinal density.

Figure 2 Lateral chest radiograph demonstrates dilated oesophagus.

Figure 3 Whole body ^{131}I scan demonstrating classic 'bird's beak' sign on anterior and posterior images.

Figure 4 Coronal CT image of the chest shows dilated oesophagus with debris.

The case presented here clearly reveals accumulation of radioiodine in a dilated oesophagus. The CT scan and video swallow exam, performed after the iodine scan, confirmed the morphologic, anatomic and physiologic features of achalasia.

The nuclear medicine scan findings can easily be misinterpreted as an iodine avid posterior mediastinal tumour or metastatic thyroid carcinoma to the oesophagus itself. Our

Figure 5 Axial CT image through the gastro-oesophageal junction reveals the classic 'bird's beak' sign, pathognomonic of achalasia.

cases illustrate that patients with carcinoma of the thyroid (or indeed any cancer) may have co-existing benign conditions that may masquerade as abnormalities related to the cancer itself.

Competing interests None.

Patient consent Not obtained.

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