Interesting images

Aberrant lymphatic drainage from a melanoma located in epigastric area

Drenaje linfático aberrante en un caso de melanoma en zona epigástrica

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ARTICLE INFO

Article history:
Received 17 December 2013
Accepted 13 January 2014

An 18-year-old woman with superficial spreading melanoma in the epigastric region arising from a congenital nevus (Clark level III, Breslow thickness 3.56 mm, mitotic rate 2 mitoses/mm²), previously removed, was referred for a sentinel lymph node biopsy.

After intradermal injection of 111 MBq of 99mTc-nanocolloid (Nanocoll®) around the excisional biopsy scar, lymphatic mapping was initiated. Dynamic (30-seconds-per-image for 10 min), early (15 min) and delayed (2 h) planar images were performed. These images showed bilateral axillary drainage (Fig. 1). They also showed an increased uptake in the upper abdomen; therefore a SPECT/CT was performed (following the 2h-images). SPECT/CT revealed a faint left parasternal focal tracer accumulation not visualised in the planar images and enabled the location of the upper abdominal uptake in the perihepatic area (Fig. 2).

During the surgery the following day, the exeresis of two right and two left axillary sentinel lymph nodes was achieved with the aid of a portable gamma camera and a gamma probe. A mapping of the perihepatic uptake was conducted (and confirmed), but in order to prevent morbidities, it was not surgically pursued. The intraoperative evaluation in the parasternal area did not show significant activity. Thus, this focal area of increased tracer retention was considered a lymphatic channel with a slow tracer washout.

Focal perihepatic uptakes are not common. Vermeeren et al. described a case of breast cancer with retrograde lymphatic flow via the internal mammary chain towards the falciform ligament.1 This ligament is part of the superficial lymphatic drainage pathway of the liver, with lymphatic vessels heading towards the anterior diaphragmatic and retrosternal lymph nodes. In some cases, they can also drain towards the hepatic hilar nodes or towards nodes located near the deep superior epigastric chain. SPECT/CT shows the exact anatomical location, allows the visualisation of unexpected drainages and of those close to the site of injection or with low activity, thus facilitating the surgical approach.2 Uren et al. observed this drainage pathway towards the internal mammary chain in just 1% of their patients with anterior trunk melanomas.3 This drainage pattern is related to previous surgeries and/or radiotherapy that modify the lymphatic flow pressure.

Our case shows an unusual drainage pathway rarely described in literature and underlines the significance of previous treatments over the lymphoscintigraphy results as they increase the likelihood of aberrant drainages.
Fig. 1. Early planar (A) and delayed images (B–D) depict the injection site and several lymphatic channels (arrow heads) towards both axillae (A). Bilateral sentinel lymph nodes (red arrows) (B) and increased uptake in the upper abdomen (circle) (C and D). No increased uptake in pelvic area was visualised (D).

Fig. 2. 3D SPECT/CT view (A, C) showing left parasternal focal uptake and upper abdomen increased uptake. Two-dimensional fusion images show the proximity of the injection site (red arrow) and the parasternal tracer uptake (green arrow) (B). These images also confirm the location of the abdominal uptake in the perihepatic area (green arrow) (D).

References

