Unusual presentation of more common disease/injury

Foot pain: uncommon presentation of lung cancer

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Correspondence to Dr Angela Lamarca, angelalamarca@hotmail.com**Summary**

Acrometastases is an unusual presentation of bone metastases, specially when they are the unique location of bone metastases. The authors report a case of a men diagnosed with a lung adenocarcinoma with a unique lytic acrometastases in his left foot. He has been treated with systemic chemotherapy with good local and systemic response. The most common sites of bone metastases are the vertebrae, pelvis, ribs, sternum and skull. Bone metastases in the distal regions of the extremities are unusual (from 0.007 to 0.3% of all patients with bone metastases), involving more frequently hands than feet.

BACKGROUND

Although bone metastases are frequent during the natural history of a large number of neoplasms; acrometastases are an unusual presentation, especially when they are the unique location of bone metastases. We report a case of a men diagnosed with a lung adenocarcinoma with a unique lytic acrometastases in his left foot.

Lung cancer is one of the most common neoplasms, being the first cause of deaths related to tumours.¹ Most cases are diagnosed with advanced stages with more than 20% being metastatic at diagnosis.² Bone metastases are usually lytic and symptomatic with significant decrease of the quality of life (pain, pathological fractures, spinal cord compression) and overall survival.

The most common sites of bone metastases are the vertebrae, pelvis, ribs, sternum and skull.³ Bone metastases in the distal regions of the extremities are unusual (from 0.007 to 0.3% of all patients with bone metastases),⁴ involving more frequently hands than feet.⁵ They usually are more common in men than in women.⁶ The first case of acrometastasis in the foot was published in 1920 by Bloodgood,⁷ since then the scientific evidence around this topic is based almost exclusively on case reports.

CASE PRESENTATION

We report a 68-year-old smoker, without other relevant medical history. The patient visited the emergency department because of a persistent pain in his left foot with functional impairment. He presented a 2-month mechanical pain without previous traumatism history, which was refractory to anti-inflammatory treatment. X-ray of the foot was performed (figure 1). A lytic bone lesion with poorly defined margins was found in the third metatarsal, which was suggestive of infiltrative origin versus osteomyelitis.

The study investigation included a MRI of the foot (figure 2). The findings (intramedullar expansive bone lesion with cortical insufflation and surrounding soft tissues oedema) suggested that the bone lesion was related to distant metastasis. Lung mass in the right upper lobe, mediastinal ganglionic affection and adrenal distant metastases were found in body-CT scan. These results were confirmed by PET-CT (figure 3). Bone scan was performed to rule out bone involvement at other levels. The transbronchial biopsy confirmed the diagnosis of lung adenocarcinoma.

The patient was admitted into our hospital with the diagnosis of metastatic lung adenocarcinoma (lung, adrenal

Figure 1 Foot x-ray.

Figure 2 Foot MRI.

and bone spread). First of all, for symptomatic approach, he was examined by traumatologist who rejected the surgical approach, and local radiotherapy was not administered because of the high rate of ankylosis especially in this location. The patient was treated with analgesia and bisphosphonates. Subsequently systemic chemotherapy with three-weekly cisplatin and pemetrexed schedule was initiated.⁸ So far, the patient received three cycles of this treatment with adequate tolerance and significant improvement of both pain and functional disability. Disease stabilisation was found in the revaluation CT.

DISCUSSION

Acrometastases most frequently occurs (50% of all cases) related to colorectal, renal and lung neoplasms followed, by a second group of tumours (bladder, breast and endometrium).⁵ Apparently, due to the haematogenous spread through the vertebral venous plexus, infradiaphragmatic neoplasms use to metastasise in the feet, while the supradiaphragmatic ones do in the hands.⁵ The most commonly affected bones in foot acrometastases, are the talus and calcaneus, followed by the tarsus, metatarsals and phalanges.⁹ These bones may also be affected simultaneously. These bone metastases have a significant delay in diagnosis because they can be misdiagnosed as benign pathology (osteomyelitis, fracture, plantar fasciitis, rheumatoid arthritis, etc).⁹ When the patient is already known to have bone disease, the suspicion comes earlier. In a small number of cases (10%),⁶ it can be the presentation of the disease. Patients with distal bone metastases have poor prognosis⁹ (they are thought to be long evolution patients). Nevertheless, those in which the acrometastases are the initial presentation of the disease have a poorer survival (median survival from 3–9 months).^{5 6}

Figure 3 Foot positron emission tomography-CT.

In such cases, it is important after a x-ray, a CT or MRI scan. In addition to the analgesic treatment, the therapeutic options available in these cases are¹⁰: biphosphonates, local radiotherapy, internal or external fixation or even amputation of the limb (in cases of pathological fractures). There have been described cases of cementoplasty in highly selected patients.¹¹

Learning points

- We must never forget the importance of image techniques in cases of unusual pains, in which sometimes, important diseases are misdiagnosed.

Competing interests None.

Patient consent Obtained.

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Please cite this article as follows (you will need to access the article online to obtain the date of publication).

Lamarca A, Hindi N, Belda-Iniesta C, de Castro J. Foot pain: uncommon presentation of lung cancer.

BMJ Case Reports 2012;10.1136/bcr.12.2011.5360, Published XXX

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