On-line Case Report

Isolated calcaneal metastasis from prostate cancer

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ABSTRACT

We report the first case of an isolated calcaneal metastasis from prostate cancer. This case highlights the importance of considering metastatic disease in patients with persistent bone pain in the presence of known cancer, however unusual the site.

Keywords: Prostate – Calcaneal – Metastasis

Prostate cancer is the second most commonly diagnosed cancer in men world-wide and the most common in men in the UK, accounting for 26,798 cases in 2003.¹ It occurs at a microscopic level, in up to 80% of men in their eighties (autopsy-based prevalence).² Untreated, tumours eventually extend beyond the prostate and metastasise to lymph nodes and bone. Common sites for bony secondaries are the back, pelvis and ribs.

Case report

A 74-year-old man presented 10 years ago with a T2a carcinoma of the prostate. His presenting prostate specific antigen (PSA) was 37 ng/ml; biopsy revealed Gleason 2+3(5) adenocarcinoma. He was treated with radical external beam radiotherapy (54 Gy in 27 fractions over 38 days). He had a good PSA response reaching a nadir of 0.6 ng/ml, but 3 years later suffered biochemical relapse and was started on three monthly implants of goserelin (Zoladex) 10.8 mg. Response was maintained for 4 years until a further relapse (PSA 5.25 ng/ml); bicalutamide (Casodex) 50 mg daily was then added to effect 'total androgen blockade', his PSA rose again (13.22 ng/ml), and bicalutamide was replaced by stilboestrol 1 mg daily.

A subsequent TURP for severe obstructive symptoms showed that his cancer had advanced to Gleason 4+4(8), his PSA was 5 ng/ml. He was found to have obstructive uropathy; investigations showed locally advanced disease with enlarged pelvic nodes and hydronephrosis requiring ureteric stenting.

He subsequently presented with left foot pain and was unable to bear weight. Examination demonstrated swelling, marked tenderness, redness and heat. A bone scan showed a notable increase in activity of the whole calcaneum and left cuboid with increased blood flow and pooling; no other bony lesions were identified. Appearances were slightly atypical for metastatic bone disease, the intensity of which raised the possibility of infection. A plain radiograph showed soft tissue swelling over the ankle, a coarsened and sclerotic bony texture over the calcaneum, which would be an unusual site for, but consistent with prostatic metastasis (Figs 1–3).

Rheumatological and orthopaedic opinions were sought and Depo-Medrone and non-steroidal anti-inflammatory drugs were tried, but found to be of no benefit. He went on to have a fluoroscopic guided biopsy. Histology showed marked osteoblastic activity and confirmed the presence of a poorly differentiated adenocarcinoma. This

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Figure 1 Plain radiographs of left foot.

Figure 2 Computer tomography scan of left foot.

was treated with radiotherapy (6 MV photons, dose 20 Gy in five fractions over one week). His pain settled in a most gratifying manner. He is currently receiving docetaxel chemotherapy (PSA 40 ng/ml at induction), for progressive disease that has become 'hormone unresponsive'.

Discussion

Isolated foot pain can present a difficult diagnostic dilemma. The differential diagnosis in this case included osteoarthritis, Paget's disease, osteomyelitis and metastatic carcinoma. An

Figure 3 Technetium 99m MDP bone isotope study demonstrating blood bone uptake in the tarsus with marked continued activity on the static frontal and lateral images.

additional difficulty in diagnosis was a relatively low PSA, which did not give a true reflection of the advanced nature of his disease.

Conclusions

We believe this to be the first reported case of metastatic prostate cancer of the calcaneum presenting as isolated foot pain. Similar clinical scenarios have been reported in

other cancers as either the primary presentation or primary site of metastases, including carcinoma of the breast, endometrium, cervix, kidney and stomach.³⁻⁵

In patients with known cancer who present with isolated bone or joint pain, it is always worth considering the possibility of bony metastasis even if the site is unusual. Early diagnosis and treatment may help to reduce morbidity and aid palliation.

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