CASE REPORT

Unusual sites of metastases of carcinoma cervix

Renitha Miriam Cherian,¹ Jenifer Jeba,¹ Sramana Mukhopadhyay,²
Selvamani Backianathan¹

¹Department of Radiotherapy,
Christian Medical College and
Hospital, Vellore, Tamil Nadu,
India

²Department of Pathology,
Christian Medical College and
Hospital, Vellore, Tamil Nadu,
India

Correspondence to
Dr Selvamani Backianathan,
selvamani@cmcvellore.ac.in

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SUMMARY

We present a case of metastatic squamous cell carcinoma cervix with solitary bone metastases to the right tibia and multiple cutaneous metastases. A woman aged 52 years with cancer of the cervix and lung metastases, after 21 months of initial diagnosis and palliative chemotherapy presented with pain in the right knee and multiple nodular skin lesions. Bone scintigraphy revealed intense increased tracer activity in the proximal and mid shaft of the right tibia. Biopsy from the tibial lesion confirmed metastatic squamous cell carcinoma. The presentation, diagnosis and management of this rare case are discussed.

BACKGROUND

Bone metastasis in cancer of the cervix is uncommon, and indicates advanced disease with poor prognosis.¹ The incidence of bone metastases from cervical cancer ranges between 1.8% and 6.6%.^{1,2} Fagundes *et al*³ report a higher incidence of 16% in a retrospective analysis of 1211 patients, mostly involving the thoracic and lumbar spine and ribs. Bone metastases in cancer of the cervix usually involve the axial skeleton, mainly the spine, pelvis and ribs.² The incidence of bone metastases at various sites as reported by Yoon *et al*⁴ is lumbar spine 30.7%, followed by the pelvis 22.3% and the thoracic spine 15.1%. Isolated metastases to the appendicular skeleton are very rare. There are few reports of isolated metastasis of the tibia, fibula, humerus, calcaneum, tarsal and metatarsal bones.⁵⁻⁹

Cutaneous metastasis from cancer of the cervix is particularly unusual. The incidence ranges between 0.1% and 4.4%.¹⁰⁻¹²

We report a patient with cancer of the cervix with metastases involving two rare sites, isolated tibial metastasis and multiple cutaneous metastases.

CASE PRESENTATION

A woman aged 52 years was evaluated for symptoms of postmenopausal bleeding and white discharge per vaginum and diagnosed to have squamous cell carcinoma of the cervix. She was also found to have lung metastases at presentation. She was treated with palliative chemotherapy and continued to receive palliative care for mild cough and occasional constipation.

Later she presented with increasing pain and swelling in the right knee. Local examination revealed increased warmth over the right knee and proximal tibia.

Few months later, she noticed multiple skin nodules (figure 1) over the right gluteal region, right breast, left little toe and right thumb. The

nodule over the left little toe grew rapidly and ulcerated.

INVESTIGATIONS

A plain radiograph of the right knee and leg for right knee pain revealed a sclerotic lesion with long segment involvement of the proximal 2/3rd of the right tibia with aggressive periosteal reaction with associated soft tissue swelling (figure 2).

As infection was one of the differentials, a triphasic bone scan was performed. The vascular and tissue phase images of the lower limbs revealed increased tracer activity in the right knee and shin, in favour of Paget's disease (figure 3).

The patient had biopsy from the right tibia, histopathology of which revealed trabeculae of necrotic and viable cortical and cancellous bone with intervening fibrous stroma infiltrated by a tumour composed of clusters and nests of polygonal cells with moderately pleomorphic, hyperchromatic nuclei, moderate amount of eosinophilic to vacuolated cytoplasm, intercellular bridges with foci of tumour necrosis, consistent with metastatic squamous cell carcinoma (figures 4 and 5).

DIFFERENTIAL DIAGNOSIS

The differentials considered based on radiological features were infection or metastasis of the right tibia or Paget's disease.

TREATMENT

The patient had metastatic cancer of the cervix at presentation; hence, she was treated with palliative chemotherapy with paclitaxel and carboplatin. She received two cycles, but this was later deferred due to poor tolerance. When the isolated tibial metastasis was confirmed, she was treated with palliative radiotherapy 20 Gy in 5 fractions.

Figure 1 Nodular lesion in the lower back.

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Figure 2 Radiograph of the right knee shows heterogeneous predominantly sclerotic lesion with long segment involvement of the proximal 2/3rd of the right tibia with aggressive periosteal reaction and permeative margins of the cortex and associated soft tissue swelling with an area of cortical irregularity involving the lateral right tibial condyle.

OUTCOME AND FOLLOW-UP

She reported more than 50% pain relief after radiotherapy.

The patient continued to follow-up in the palliative care outpatient clinic. She needed analgesics for pain due to bone and cutaneous metastases, which was titrated based on the WHO analgesic ladder. Her overall survival was 2 years and

Figure 4 Bony trabeculae and adjoining fibrocollagenous tissue infiltrated by tumour nests. (H&E stain at x40 magnification.)

10 months, her survival after the bone and cutaneous metastasis was 5 months.

DISCUSSION

The skin and appendicular bone are two unusual sites of metastases from cervical cancer. Metastases to bones occur through haematogenous spread or via the Batson's plexus. Poorly differentiated histology has higher chance of bone metastasis and carry poor prognosis.¹³ Our patient's tumour histology showed moderate differentiation. The median survival after bone metastasis in cervical cancer ranges between 7 and 10 months.^{4 14} Our patient survived for 5 months after the diagnosis of bone and cutaneous metastases.

A study carried out on 105 patients with cervical cancer with bone metastases revealed advanced stage and adenocarcinoma histology as the contributing factors to earlier bone metastasis. The incidence of bone metastasis in the lower extremities was as high as 9.6%, but only one of them had metastasis in the tibia.⁴

Figure 3 Bone scintigraphy showed intense increased tracer activity in the proximal and mid shaft of the right tibia.

Figure 5 Intertrabecular nests of tumour composed of malignant squamous epithelial cells with moderate nuclear pleomorphism and eosinophilic to vacuolated cytoplasm. There are foci of tumour necrosis. (H&E stain at ×200 magnification.)

The beneficial role of palliative radiotherapy in painful bone metastasis is proven with no significant difference in pain relief between single and multiple fractionation schedules.¹⁵ Our patient also reported good pain relief with palliative radiotherapy to the right tibia.

Cutaneous metastasis from carcinoma of the cervix is an uncommon occurrence. When it occurs, it is mostly through lymphatic spread.¹⁶ Cutaneous metastasis presents macroscopically as single nodule or as small cluster of papules, plaques and inflammatory telangiectatic lesions.^{16–17} There have been reports of cutaneous metastases to the vulva, anterior chest wall, palm and thigh.^{10–18–20}

Pertzborn *et al*²¹ report skin metastases involving the hand as two lesions, at primary presentation of cervical cancer, two lesions on the hand. Our patient had multiple cutaneous metastases many of them were nodular lesions, but the one over the left toe was ulceroproliferative. Cutaneous metastases are more commonly seen with adenocarcinoma. Undifferentiated carcinoma and squamous cell carcinomas rarely metastasise to the skin.¹⁰

The prognosis of patients with cutaneous metastases is very poor and indicates terminal stage.²¹

Learning points

- Isolated metastasis involving the appendicular skeleton is rare in cancer of the cervix.
- Extensive cutaneous metastasis with squamous cell carcinoma cervix is very uncommon and indicates poor prognosis.
- Patients with cancer cervix, presenting with unexplained symptoms or signs should be evaluated with appropriate investigations to rule out metastases.
- Palliative radiotherapy for pain and good symptomatic care can enhance quality of life.

Treatment of patients with such extensive metastasis is palliative, as with our patient. If the performance status is good, palliative chemotherapy with single-agent cisplatin or combination chemotherapy with cisplatin and paclitaxel may be tried to improve progression-free survival.²²

Isolated long bone metastasis and cutaneous metastases in cancer of the cervix is rare and has poor prognosis. Metastases to unusual sites should be considered if the patient is symptomatic and appropriate investigations and palliative treatment should be offered.

Contributors RMC, JJ and SB were involved with clinical care of the patient. RMC wrote the manuscript. JJ and SB reviewed the manuscript. SM was involved with providing the photomicrograph of the histopathology slides, reviewing the manuscript.

Competing interests None declared.

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