

Case of a locally advanced carcinoma cervix presenting with *protrusio acetabuli*: pre-screening era presentation rarely seen in modern times

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Introduction

Cervical cancer is the third most commonly diagnosed cancer, and the fourth leading cause of cancer deaths in women worldwide. In 2008, there were an estimated 529 000 new cases of cervical cancer, and 275 000 cervical cancer-related deaths.¹ Cancer of the cervix has been the most common cancer in women in India for the past two decades.²

The lungs, para-aortic lymph nodes and supraclavicular nodes are the most common sites of distant metastases. Bone metastases are not commonly seen, usually only in 0.8-23% of cases, and then mostly in the dorsal or lumbar vertebrae.^{3,4} Skeletal deposits were estimated to occur in less than 1% of patients in postmortem reports of large series of cases, such as those compiled by MacCormack.⁵ Matsuyama, Tsukamoto, Imachi and Nakano reported rates as high as 4-6.5%.⁶

Large fungating or invasive lesions are rarely seen since the advent of the routine use of screening procedures for cervical cancer in the Western world. However, such lesions are still commonly observed in developing countries. We describe a case of locally advanced cervical cancer, which had spread laterally to involve the left pelvic side wall, causing erosion and destruction of the left acetabulum and femoral head.

Case history

A 61-year-old woman, who had been postmenopausal for the previous five years, presented with complaints of bleeding from the vagina over the previous week, as well

as lower back and hip pain, especially during movement. A cervical biopsy reported non-keratinising squamous cell carcinoma. On clinical examination, the patient was found to have disease involving the entire cervix, extending to the lower third of the vagina, and bilateral pelvic side wall. The recto-vaginal septum was free of disease. The patient was staged with International Federation of Gynecology and Obstetrics stage IIIB disease. A contrast-enhanced computed tomography scan of the abdomen and pelvis (Figures 1 and 2) was performed, which showed extensive involvement of both pelvic side walls, especially the left. The mass lesion had invaded the left pelvic side wall to cause erosion and destruction of the left acetabulum and



Figure 1: Contrast-enhanced computed tomography pelvis axial view, showing destruction and invasion of the acetabulum

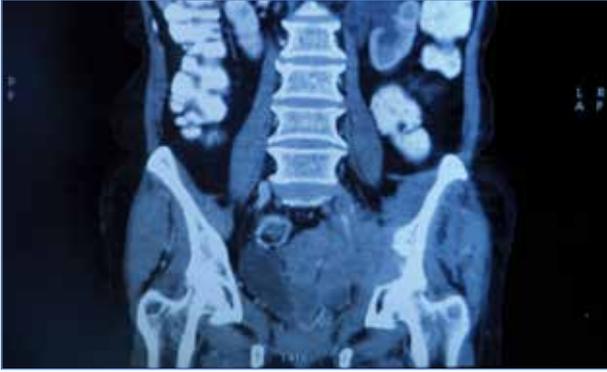


Figure 2: Contrast-enhanced computed tomography coronal view, indicating destruction and invasion of the acetabulum

femoral head. There was also anterior extension involving the base of the urinary bladder, but the patient did not have any complaints of haematuria or dysuria. There were no other sites of distant metastases or any lymph nodal involvement.

In view of the advanced stage of the disease on presentation and the severe pain, the patient was treated with local palliative radiation using anteroposterior-posteroanterior photon fields (6 MV photons to a dose of 45 Gy in 20 fractions @ 225 cGy per fraction). The treatment was completed over four weeks in March 2011, without any break. No further dose escalation was planned after sufficient pain palliation was achieved. The patient was then prescribed morphine tablets for pain relief and discharged. However, she was advised against weight bearing. At six and nine months follow-up, she was still unable to bear weight, and complained of a dull throbbing pain with occasional acute exacerbations over the left hip and gluteal area. The pain was controlled with oral morphine.

Discussion

Cancer of the cervix is the most common cancer in Indian women,² with an incidence of 19-44 per 100 000 women. Carcinoma of the cervix spreads locally and metastasises late. Death, as a result of uraemia from ureteric obstruction, usually supervenes before the distant disease manifests. Cervical cancer can manifest as superficial ulcerations, exophytic tumours in the ectocervix, or extensive infiltration of the endocervix. The tumour, if untreated, may spread to the adjacent vaginal fornices or to the paracervical and parametrial tissue, with eventual direct invasion of the bladder, the rectum, or both. Regional lymphatic or hematogenous spread may occur, depending on the stage of the tumour, but may not follow an orderly sequence.⁷ The lungs (21%), para-aortic lymph nodes (11%), abdomen (8%), and supraclavicular lymph nodes (7%) are the most common metastatic sites.

Bone metastases are observed in approximately 16% of patients, most commonly in the lumbar and thoracic spine, followed by the bones of the pelvis.⁸ Axial sites are frequently involved. Once bone metastasis develops, treatment mainly focuses on symptomatic relief and providing a good quality of life. Surgical stabilisation is indicated for isolated lesions, which are well localised in patients with a good performance status and a life expectancy of more than six months. A short course of hypofractionated radiation may provide adequate pain palliation in other cases.^{3,4}

Carcinoma of the cervix attacks the pelvic wall as the final stage in a continuous lateral spread. Such presentations are very infrequent in present clinical practice, but were common in the pre-screening era. Elder and Matheson⁹ and Bonney¹⁰ stressed the importance of the nodes high up in the obturator fossa, in the lymphatic spread of carcinoma of the cervix, and it is in that area that skeletal invasion by direct extension occurs. Usually, the region of the acetabulum is the most affected, but local extension in other directions may destroy other portions of the pelvis. Pathological dislocation of the hip, or *protrusio acetabuli*, may occur in extreme cases.⁹ Pain is often very severe in these cases and appears to be due to involvement of the sacrococcygeal plexus or the obturator nerve in the malignant process. However, the bone lesion can also contribute significantly in advanced cases. Such a degree of bony destruction is not frequently seen or expected in present-day clinical practice, with the availability of routine screening and imaging, although this may be because many patients die from sepsis, haemorrhage or uraemia before the lesions have time to develop.

The prognosis of these patients is poor. Most patients die within a year, irrespective of whether or not they have single or multiple organ metastases.³ Treatment is usually palliative in patients with bone metastases. Surgery, palliative radiotherapy, chemotherapy and bisphosphonates are treatment options that may be used. In this case, surgical fixation was not planned as there was no fracture or impending fracture. In addition, pain control was adequately achieved through local radiotherapy and opioid analgesia.

Conclusion

This case highlights the importance of screening for cervical cancer and timely intervention with regard to disease management. The extension of a cervical lesion through the pelvis into the acetabulum denotes a prolonged period of disease progression. This occurrence is not usually seen in the era of screening. The involvement of bone in cervical cancer is uncommon, and survival is

poor. Treatment options are limited to symptom palliation in such cases.

Conflict of interest

The authors report no conflict of interest.

References

1. Ferlay J, Shin HR, Bray F, et al. GLOBOCAN 2008: Cancer incidence and mortality worldwide. Lyon: International Agency for Research on Cancer; 2010.
2. Nandakumar A, Anantha N, Venugopal TC. Incidence, mortality and survival in cancer of the cervix in Bangalore, India. *Br J Cancer*. 1995;13(71):1348-1352.
3. Ratanatharathorn V, Powers WE, Steverson N, et al. Bone metastasis from cervical cancer. *Cancer*. 1994;73(9):2372-2379.
4. Kim RY, Weppelmann B, Salter MM, Brascho DJ. Skeletal metastases from cancer of the uterine cervix: frequency, patterns and radiotherapeutic significance. *Int J Radiat Oncol Biol Phys*. 1987;13(5):705-708.
5. MacCormack H. Malignant disease of the cervix uteri. *Arch Middlesex Hosp*. 1909;15:20.
6. Matsuyama T, Tsukamoto N, Imachi M, Nakano H. Bone metastasis from cervix cancer. *Gynecol Oncol*. 1989;32(1):72-75.
7. Ahmadloo N, Bidouei F, Omidvari S, et al. Bony calvarium as the sole site of metastases in squamous cell carcinoma of the uterine cervix. *Middle East Journal of Cancer*. 2010;1(4):185-188.
8. Fagundes H, Perez CA, Grigsby PW, et al. Distant metastases after irradiation alone in carcinoma of the uterine cervix. *Int J Radiat Oncol Biol Phys*. 1992;24(2):197-204.
9. Elder JR, Matheson NM. Invasion of the bony pelvis by carcinoma of the cervix uteri as a cause of pathological dislocation of the hip. *Ann Surg*. 1942;116(1):1-5.
10. Bonney V, editor. A textbook of gynecological surgery. 6th ed. London: New York: Paul B Hoeber; 1953.