Case Report

Primary Osteosarcoma of the Cervix Uteri: A Case Report

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Abstract

Osteosarcoma of the cervix uteri or corpus is usually found admixed with carcinoma and its considered to be an element of malignant mixed mullerian tumour (MMMT) or carcinosarcoma. Primary osteosarcoma of the uterine cervix is rare. There have been two previously reported cases of primary osteosarcoma of the uterine cervix in the literature. We are reporting a case of primary osteosarcoma of the cervix uteri in a 60yr old multiparous woman.

INTRODUCTION

Primary osteosarcoma of the cervix uteri, a rare neoplasm that presents as a form of extraskeletal osteosarcoma is a malignant mesenchymal neoplasm the produces osteoid or bone material and is in the soft tissue without attachment to the skeleton as determined by imaging modalities or physical inspection during surgical operation. There were two previously reported cases in literature.[1,2] Extraskeletal osteosarcoma constitutes only 1% of all sarcomas and 4% of all the osteosarcoma.[3,4] Osteosarcoma of the cervix uteri or corpus is usually found admixed with carcinoma and is considered to be an element of malignant mixed mullerian tumour (MMMT).[1,2,4]

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CASE REPORT

A 60-yr old P^9 + $0A^6$ presented to our hospital with a complain of one year history of weight loss and recurrent vaginal bleeding with associated discharge mixed with blood which is foul smelling in nature. She is not a known hypertensive or diabetic and there was no known family history of malignancy. On general physical examination she was found to be pale, afebrile and no pedal oedema. CVS: PR= 85bpm, BP =150/80mmHg, HS= S1 and S2 only. PCV 27%

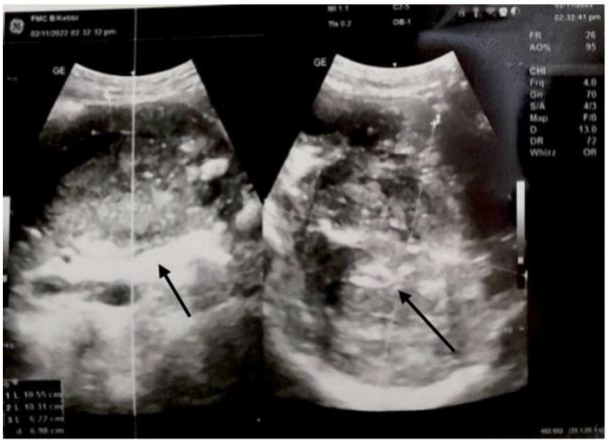

Fig. 1 Pelvic Ultrasound Scan. Showing echogenic cervical mass (Black arrow).

Abdominal examination showed the liver, spleen and kidneys were not enlarged.
E,U&Cr where within normal limit
Uterus = 12 EGA size.

Fig 2 Pelvic X-ray film. This demonstrates normal soft tissue and bony pelvis.

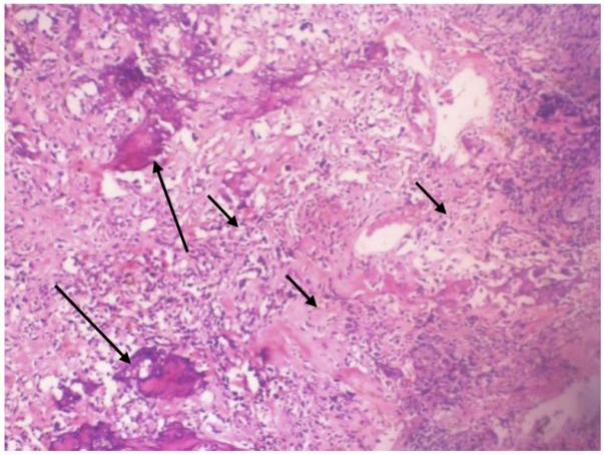

Fig 3: Sections showing a hemorrhagic, necrotic (short arrow) and osteoid forming tumour (long arrow). H&E X40.

Abdomino-pelvic ultrasound scan (Fig. 1) reveals a huge circumscribed echogenic cervical mass measuring 11 x 10 x 10 cm with multiple calcifications within it. The mass extends superiorly into lower uterine segment with no extension to adjacent structures. The chest and Pelvic x-ray (Fig2) done demonstrates normal findings. She had examination under anesthesia (EUA) + staging where an assessment of a stage 2b cervical cancer was made. Biopsy sample was taken and submitted for histologic analysis. The specimens' sections revealed a hemorrhagic, necrotic, and osteoid forming tumour (Fig 3).

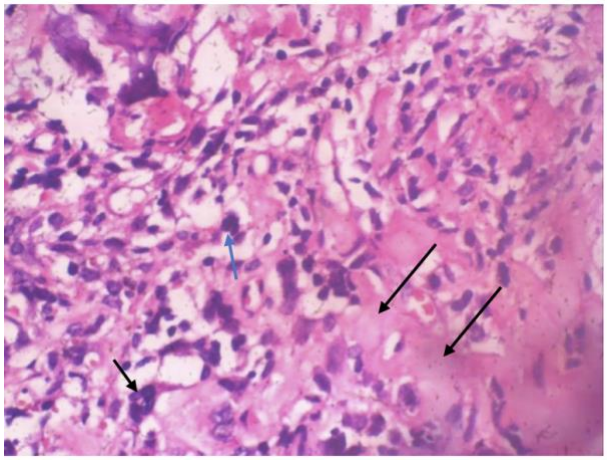

Fig 4: Section showing round to spindle cells having markedly pleomorphic hyperchromatic nuclei and moderate cytoplasm (blue arrow). Areas of bony trabeculae formation (black arrow) and multinucleated osteoclast giant cells are noted (short arrow). H&E X100.

The histological diagnosis of Primary osteosarcoma of the cervix was made.
The patient was subsequently referred to the clinical radio-oncologist by the gynecology managing team. The plan of the management by the clinical radio-oncologist was that of concurrent chemotherapy and radiation (External Beam Radiotherapy plus Brachytherapy). However as at the time of the diagnosis this service was not available, and the patient complained of financial constraints to afford the service elsewhere! Thus, the patient was planned for chemotherapy consisting of IV Cisplatin at 70mg/m2 and IV Epirubicin at 50mg/ m2 to be given every 3 weeks for 6 cycles. Currently, the patient has had 4 cycles and she is responding well to the treatment. Response to chemotherapy is also monitored after each administration. Thereafter, external beam radiotherapy plus brachytherapy will be done when funds are available.

DISCUSSION

Primary osteosarcoma of the cervix uteri is quite a rare neoplasm as there has been two reported cases in the literature.[1,2] The age at diagnosis of primary osteosarcoma is between 30 years and 65years. This index case is 60years which is within the age limit as seen in previous cases. Osteosarcoma of the cervix has poor prognosis as most patients present with distant metastases[1,2]. This current case however, as at the time of presentation and evaluation has no evidence of metastases as evident by the clear chest, pelvic X-ray films and abdomino-pelvic ultrasound. Positron Emission Tomography (PET) scan will show bony

abnormalities including metastases, but this was not available and where available is not affordable.[2] Weight loss is one of the common presenting symptoms of patient with malignancy or chronic debilitating illness in 30% of cancer patient[5,6], and this index case presented with history of weight loss. The risk factor for this index case might have been from the low socio-economic status which leads to nutritional insufficiency and the cancer associated basal metabolic rate activities and inflammatory response which led to increase energy demand in both tumour and host tissues.[5] However it is important to know that decreased energy intake and physical functioning also remains contributors to cachexia pathogenesis.[5]

The index case presented with sign of anemia as evidence by pallor on general physical examination. Even though the patient had recurrent vaginal bleeding which if the volume of blood loss per episode is more than 50mls is enough to cause anemia, but also anemia is a frequent finding in cancer patients in more than 40% of cases which may rise to up to 90% in patients treated with chemotherapy.[7] Causes of anemia in cancer patients are multifactorial among which are blood loss, nutritional insufficiency, renal insufficiency or underlining inflammatory diseases.[7] The index case has associated history of blood loss and the patient is from low socio-economic class which is a predisposing factor for nutritional insufficiency, even though the renal function tests are within the normal range as at the time of presentation. Evaluation of the patient at follow-up is needed to avoid severe anemia as the disease progresses and when chemotherapy is commenced. Few available studies have shown good prognosis and favorable outcome if extra skeletal osteosarcoma is managed like its conventional skeletal counterpart.[8,9,10]

REFERENCES

1. Bloch T, Roth LM, Stehman B, HullMT, Schwenk GRJ. Osteosarcoma of the uterine cervix associated with hyperplastic and atypical mesonephric rests. Cancer 1988; 62: 1594–1600
2. Keita Tsuji, Yoh Watanabe, Hideki Tokunaga, Muneaki Shimada, MikaWatanabe, Nobuo Yaegashi. Primary osteosarcoma of the uterine cervix: A case report. J. Obstet. Gynaecol. Res. 2017;1-3. doi:10.1111/jog.13443
3. Ahmed SA, Mohammed U, Garba ES, Calvin B, Shehu MS. Primary mesenteric extraskeletal osteosarcoma. Niger J Basic Clin Sci 2013;10:95-7.
4. Agnieszka K. Witkiewicz, Thomas C. Wright . Alex Ferenczy, Brigitte M. Ronnett, Robert J. Kurman. Carcinoma and Other Tumors of the Cervix in (Robert J. Kurman, Lora Hedrick Ellenson and Brigitte M. Ronnett (Eds.) Blaustein's Pathology of the Female Genital Tract 6th edition. Springer New York Dodrecht Heidelberg London.Pp 294-295
5. Law ML. Cancer cachexia: Pathophysiology and association with cancer-related pain. Front. Pain Res. 2022; 3:971295.
6. Claire L. Donohoe, Aoife M. Ryan, John V. Reynolds. Cancer Cachexia: Mechanisms and Clinical Implications. Gastroenterology Research and Practice 2011;13 doi:10.1155/2011/601434
7. Dicato M, Plawny L, Diederich M. Anemia in cancer. Annals of Oncology, 2010; 21(7): vii167–vii172.
8. Goldstein-Jackson, S.Y., Gosheger, G., Delling, G. Wolfgang E.B, Ulrich GE, Gernot J. *et al.* Extraskeletal osteosarcoma has a favourable prognosis when treated like conventional osteosarcoma. *J Cancer Res Clin Oncol* 2005 ; **131**, 520–526.
9. Nystrom LM, Reimer NB, Reith JD, Scarborough MT, Gibbs CP Jr. The Treatment and Outcomes of Extraskeletal Osteosarcoma: Institutional Experience and Review of The Literature. Iowa Orthop J. 2016;36:98-103
10. Paludo J, Fritchie K, Haddox CL, Rose PS, Arndt CAS, Marks RS, et al. Extraskeletal Osteosarcoma: Outcomes and the Role of Chemotherapy. Am J Clin Oncol. 2018 ;41(9):832-837.