



Bilateral Ovarian Metastasis in Primary CA Cervix: A Rare Case Report and Review of Literature

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Abstract

Cervical cancer is the fourth most frequently diagnosed cancer and the fourth leading cause of cancer death in women. The most common histologic types are squamous cell carcinoma (SCC) followed by adenocarcinoma (ADC) and adenosquamous carcinoma. The common route of spread is by lymphatics or hematogenous. Most common site of distant metastasis is lung, liver, bone and supra clavicular nodes. Squamous cell carcinoma (SCC) of cervical origin with metastasis to the ovary is very uncommon. We had a case of carcinoma cervix with ovarian metastasis in 72 years old female, presented with chief complaints of foul smell watery discharge, lower abdominal pain for two months. Biopsy revealed moderately differentiated squamous cell carcinoma and PET CT Scan revealed about primary cervical disease with significant FDG uptake left ovarian mass. she underwent diagnostic laparoscopy with bilateral salpingo-oophorectomy. Post operative histopathology suggested that squamous cell carcinoma favouring metastatic cervix over primary. After multidisciplinary discussion, Patient received three cycles with chemotherapy with paclitaxel and carboplatin regimen followed by assesment clinically and radiologically. In view of good response, patient received external beam radiotherapy with concurrent chemotherapy followed by brachytherapy. Patient tolerated the treatment well and achieved complete response. Now our patient is on follow up with no evidence of any residual disease for past one year. There is limited literature available on isolated ovarian metastasis in a case of carcinoma cervix. Suspected site should always be proven by histopathological report. Risk factors for ovarian metastasis include Pelvic lymph nodes involvement, Lymphovascular space invasion, parametrial invasion, bulky tumor or age over 40 years.

Keywords: *Cervix, squamous cell carcinoma (SCC), adenocarcinoma (ADC), ovary, rare metastasis*

Introduction

According to GLOBOCAN 2020, Cervical cancer is the fourth most frequently diagnosed cancer and the fourth leading cause of cancer death in women, with an estimated 604,000 new cases and 342,000 deaths worldwide in 2020. Approximately, 604127(3.1%)cases of carcinoma uterine cervix are newly diagnosed and 341831(3.4%) deaths occurred among all sites in Globocan 2020.(1) Due to advanced screening programmes, cervical cancer can detect at an early stage, which could provide access to more effective treatments and improved prognosis.(2,3) The most common histologic types are squamous cell carcinoma (SCC) followed by adenocarcinoma (ADC), accounting for nearly 75% and 25% of all cervical carcinomas.(4) The common routes of spread are lymphatics or hematogenous. Most common sites of distant metastasis are lung, liver, bone and supra-clavicular nodes. SCC of cervical origin with metastasis to the ovary is rare. The proportion of cases presenting with ovarian metastases at the time of diagnosis ranges from 0.6 to 1.5% which may also affect survival.(5) In terms of histological type, adenocarcinomas are more likely to metastasize to the ovaries than SCCs. In different case series, 5–8% of cervical adenocarcinomas vs 0.4–1.3% of SCCs metastasized to ovary.(5-7) we encountered a similar case of carcinoma cervix with ovarian metastasis in our centre.

Case Presentation

A 72years old, diabetic and hypertensive female presented with chief complaint of foul smell watery discharge, lower abdominal pain for 2 months. On local examination: per vaginum: ulceroproliferative growth present involving whole cervix, growth extending to lower third of posterior and left lateral vaginal walls. Per rectal: both parametrium involved upto lateral pelvic walls. On cervical biopsy: moderately differentiated squamous cell carcinoma(figure1).

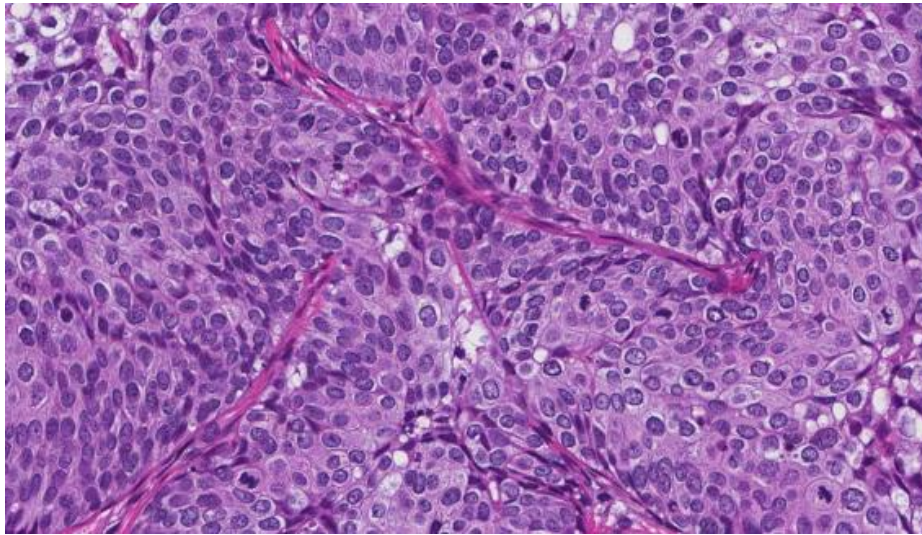


Figure 1: biopsy from cervical growth suggestive of squamous cell carcinoma

On PET CT Scan whole body: FDG avid heterogenous irregular thickening forming mass like lesion involving the cervix infiltrating upto the lower third of vagina inferiorly described as primary disease. FDG avid enhancing solid lesion in left adnexa as described likely malignant ovarian lesion- likely metastatic lesion FDG avid subcentimetric perilesional/mesorectal lymph node as metastatic disease. (figure2).

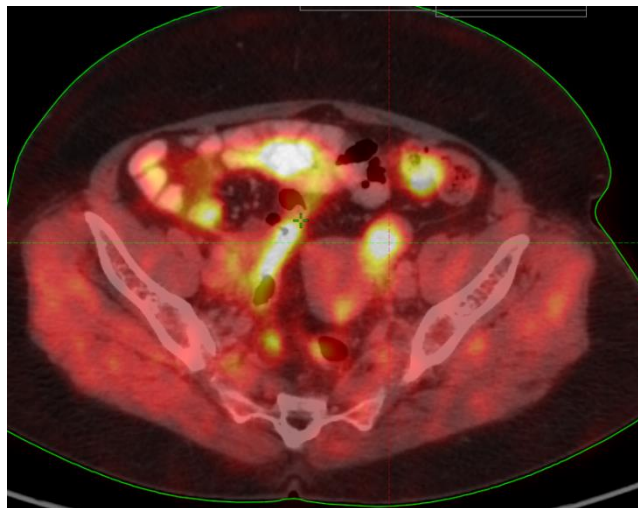


Figure 2: showing FDG uptake in left ovary

In view of ovarian mass, patient underwent diagnostic laparoscopy staging with bilateral salpingo-oophorectomy. On intraoperative findings: left ovary enlarged, size- 3*2.5cm, left and right fallopian tube, right ovary, omentum peritoneum normal. On post operative histopathology: poorly differentiated carcinoma with bilateral ovaries(figure 3)

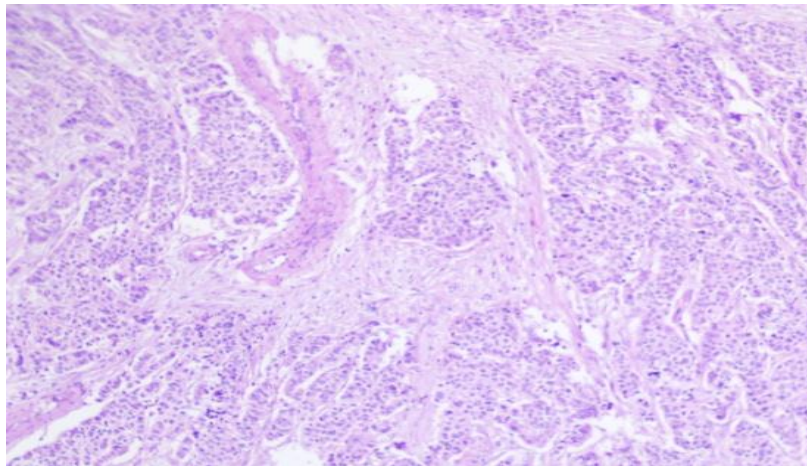


Figure 3: showing poorly differentiated carcinoma

And on immunohistochemistry: WT-1 negative, p16,p63 and p40 are diffusely positive, p53 and CK5/6 are focal positive, on final impression: favouring metastatic cervix(figure 4).

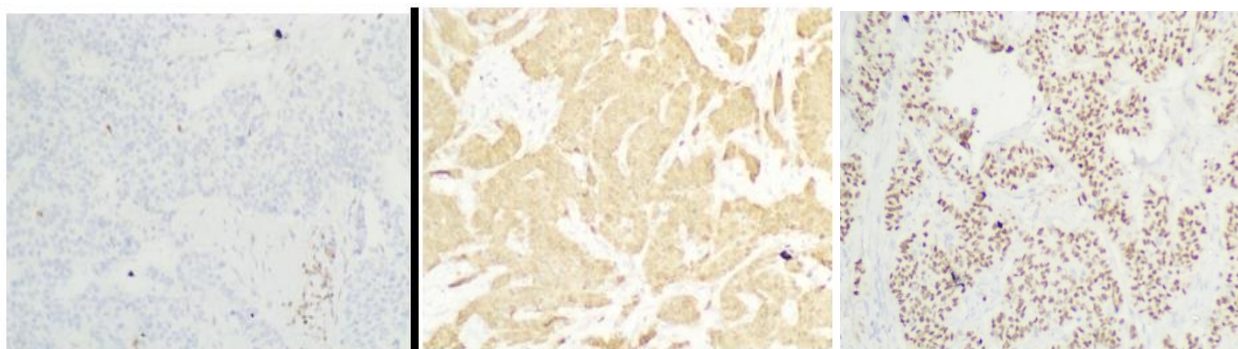


Figure 4: showing WT 1 negative, p40 and p16 diffusely positive

After tumour board discussion, she was planned for 3 weekly regimen of paclitaxel 75mg/m² and carboplatin 5 AUC. Patient received 3 cycles with paclitaxel and carboplatin. On intrim PET CT Scan: significant response to therapy was observed. In view of good response to therapy, patient received chemo-radiation. Total dose of radiotherapy patient recieved was 50.4Gy/28#/5.2weeks(1.8Gy per fraction) along with 5 cycles of concurrent chemotherapy with injection cisplatin 50mg(40mg/m²) followed by intracavitary brachytherapy, dose 9Gy per sessions in two sessions. Patient tolerated the treatment well and achieved complete response. Now our patient is on follow up for past one year with no evidence of any residual disease or local recurrence.

Discussion

Isolated ovarian metastasis in a case of cervical malignancy is seldom encountered. Shimada M et al reviewed published studies indicating that the incidence of ovarian metastasis from uterine cervix cancer ranges between 0.6-1.5%.⁽⁵⁾ The type of histology is important determining factor. Adenocarcinoma is more frequently associated with ovarian metastasis as compare to SCC variant. Literature has reported 5–8% cases of ovarian metastasis in cervical adenocarcinomas and 0.4–1.3% in SCCs.⁽⁵⁻⁷⁾ Our patient had histology of SCC.

Toki N et al suggested that the mean age of presentation with ovarian metastases is 57.4 years for SCC and 50.2 years for adenocarcinoma.⁽⁸⁾ Most of the patients presents with bleeding per vaginum, abdominal pain or abnormal smear.⁽⁶⁾ Our patient was 72years old, presented with vaginal bleeding and lower abdominal pain since 2 months. Jaiman S et al reported most ovarian metastases are usually microscopic, unilateral, confined to ovarian parenchyma and detected post-operatively.^(9,10) but our patient had bilateral ovarian metastasis which was radiologically evident as well. The most common route of spread to ovaries are lymphatics followed by hematogenous or transtubal. For cervical cancer, hematogenous spread leads to visceral metastasis. As our patient had bulky pelvic lymph nodes, probably retrograde lymphatic transmission was contributory cause for ovarian metastasis in our case. Wu HS et al postulated that there is strong association between uterine corpus involvement and ovarian metastasis through transtubal implantation.

Kim et al demonstrated that various predictive factors that has relation with ovarian metastasis like age (≤ 45 vs. > 45 years: $p=0.347$), histologic types (squamous vs. non-squamous, $p < 0.0001$), FIGO stages (IA1-IIA ≤ 4 cm vs. IB2-IIB > 4 cm, $p=0.054$), stromal invasion ($\leq 1/2$ vs. $> 1/2$, $p=0.788$), lymph node metastasis (positive vs. negative, $p=0.007$), parametrium (involved vs. uninvolved, $p=0.145$), upper vagina (involved vs. uninvolved, $p=0.003$), uterine corpus (involved vs. uninvolved, $p < 0.0001$), and margin status (involved vs. uninvolved, $p=0.017$) and concluded that uterine involvement of cervical cancer is an independent predictor for ovarian metastasis other than histological types. Even after extensive review of literature we could not find much evidence having isolated ovarian metastasis in primary cervical origin malignancy. As there are case reports highlighting ovarian metastasis along with other systemic disease spread.

Conclusion

Isolated metastasis to ovaries in carcinoma cervix is rare and unusual presentation. With this type of presentation upstages the disease and changes intention of treatment many a times. Suspected site should always be proven by histopathological evaluation. The incidence of ovarian metastasis is extremely low in squamous cell carcinoma cervix patients. Risk factors for ovarian metastasis include Pelvic lymph nodes involvement, Lymphovascular space invasion, parametrial invasion, bulky tumor or age over 40 years, with the first 3 contributing more to risk of ovarian metastasis. Always keep in mind for rare sites of metastasis and dig deeper for exact characterization and evaluation of unusual findings on radiological images.

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