Case Report

An Unusual Case of Cancer Vagina – Our Experience

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Abstract: Primary vaginal cancer is a relatively rare gynecological cancer and usually affects the postmenopausal women. Prognosis is dependent on the stage at clinical presentation. Radiotherapy is the prime modality and surgery can be executed in special circumstances. Overall prognosis is poorer when compared to cervical and vulval cancer.

Keywords: squamous cell carcinoma, vaginal cancer, human papilloma virus.

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Introduction

Primary vaginal carcinoma accounts for 2% to 3% of the female genital tract malignancies.[1] According to the International Federation of Gynaecology and Obstetrics (FIGO), cases should be classified as vaginal carcinoma only when the primary site of growth is in the vagina. Any growth that has involved cervix or vulva should be classified as cervical cancer and vulval cancer respectively. More than 80% of the patients are older than 50 years, and squamous cell histology involves more than 80% of the cases.[2] The overall 5-year survival rate for vaginal cancer is 52%. Our case presents an unusual location of vaginal cancer and hence we had to recourse to a different management protocol.

Case Report

60 years old lady, postmenopausal for the last eight years, reported with postmenopausal bleeding off and on during the last six months. She also complained of vaginal discharge off and on of the same duration. The vaginal discharge remained moderate in quantity, whitish with a foul odor and had been associated with vulval itching and perineal discomfort. There had been no associated history of any backache, fever, vomiting, blood in stool or urine. Her appetite, sleep pattern, bowel and micturition were mostly continued undisturbed. There were no significant co-morbid illnesses.

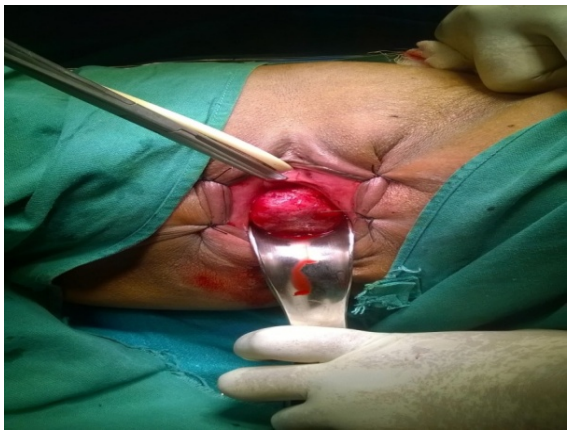

Figure 1

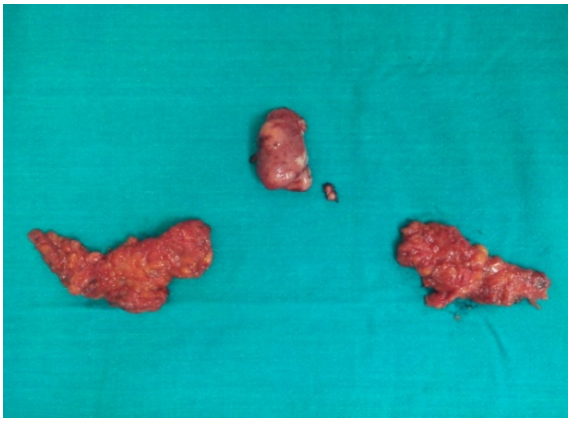

Figure 2

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She was initially evaluated by a gynecologist at a peripheral setup and then sent to the regional cancer center, Dr. B. Borooah Cancer Institute. Clinical and oncology workup including CT scan abdomen, MRI pelvis, cystoscopy and pap smear revealed a well differentiated, non-keratinising squamous cell carcinoma presenting as a polypoidal sub-urethral mass of approximately 4 cm × 4 cm, localized, which bled on touch and without any loco-regional spread of the tumor (Figure 1). Preoperative workup finally concluded a possible Stage I Ca Vagina as per FIGO 2009 staging.

Institutional tumor board planned and we proceeded with partial vaginectomy and bilateral superficial inguinal lymphadenectomy (Figure 2). Intra-operative frozen section confirmed more than 2 cm free margin on all sides of the tumor. Final histopathological examination revealed moderately differentiated large cell non-keratinising squamous cell carcinoma but with a positive margin towards the urethral side. Postoperative external beam radiotherapy of 50 Gy @ 200 cGy for 25 # followed by intracavitary brachytherapy @ 7.5 Gy for three # at one-week interval was given. Follow up period had been uneventful.

Discussion

Vaginal cancers predominantly affect the postmenopausal women and except for the clear cell vaginal cancers which are associated with diethylstilbestrol (DES) exposure. Invasive vaginal cancers are rare in women younger than 40 years.[3] Reported incidence of human papilloma virus (HPV) inflicting vaginal cancer is 60%-65% which is relatively less than that of carcinoma cervix because of the lack of transformation zone in the vagina.[4] History of prior pelvic irradiation and chronic use of vaginal pessary are considered as predisposing factors in vaginal cancers.[5,6] Vaginal cancers may appear as metastasis, recurrence or as a direct extension from other sites. 84% of the vaginal cancers were secondaries from other sites such as cervix, endometrium, colon, rectum, ovary and vulva.[6] Also one of the most common sites of vaginal metastasis is from choriocarcinomas. As many as 30% of patients with primary vaginal carcinomas have a history of in situ invasive cervical cancer treated at least five years earlier.[7] As many as 59% of patients with vaginal cancer have had a prior hysterectomy but there is no history of any vaginal cancer in patients who have had a hysterectomy for benign causes.[8]

Most patients with vaginal cancer present with painless vaginal bleeding and discharge. 14% of the cases may be asymptomatic but some cases may also present with bladder pain, micturition problem, tenesmus and pelvic pain.[9] Most of the lesions are situated in the upper vagina usually at the apex or in the posterior wall.[9] In patients with an abnormal pap smear and no gross abnormality, careful vaginal colposcopy and liberal use of Lugol's iodine to stain the vagina is necessary.

Direct spread may occur to the pelvic soft tissues, pelvic bones, bladder and rectum. Lymphatic dissemination occurs to the pelvic lymph nodes and then to the para-aortic nodes. Lesions in the lower one-third vagina involve the inguinofemoral nodes. Haematogenous spread to the lung (most common), liver and bones occur late in the disease course. However, only less than 10% of the cases present in the late stages.

Vaginal cancers present either as ulcerative, exophytic, nodular or plaque-type lesions. About 80% of vaginal cancers present as squamous cell carcinomas and the most common being the non-keratinizing and moderately differentiated squamous cell carcinomas type. Other less common variety noted in the literature are adenocarc inomas, clear cell carcinomas, leiomyosarcomas, endometrial stromal carcinomas, sarcoma botryoides, primary small cell carcinomas and primary vaginal melanomas.[10]

During the initial workup, a pelvic examination under anesthesia helps in planning the treatment. Preoperative evaluation includes cystoscopy, proctoscopy, complete blood cell count, biochemical profile, chest X-ray, CT scan of whole abdomen and MRI pelvis. Additional inputs from FDG-PET are helpful for assessing nodal involvement.

Prognostic factors for vaginal cancer are the FIGO stage, histological subtype and tumour size at the time of presentation.[11] Smaller sized exophytic tumors are associated with a better prognosis than the larger sized, infiltrating or necrotic tumors. Squamous cell carcinomas and DES-related clear cell carcinomas carry better prognosis than non-DES-related adenocarci nomas.[12]

FIGO staging of Carcinoma of Vagina

Stage 0: Carcinoma *in situ*, intraepithelial carcinoma.

Stage I: Carcinoma limited to the vaginal wall.

Stage II: Carcinoma has involved the subvaginal tissues but has not extended onto the pelvic wall.

Stage III: Carcinoma has extended to the pelvic wall.

Stage IV: Carcinoma has extended beyond the true pelvis or has clinically involved the mucosa of the bladder or rectum. Bullous edema as such does not permit a case to be allotted to stage IV.

Stage IV A: Spread of the growth to adjacent organs and/or direct extension beyond the true pelvis.

Stage IV B: Spread to distant organs.

Treatment options for vaginal cancers vary according to the site, size and extension of the lesion and that best results are obtained when the treatment is executed at specialized cancer center lead by a multidisciplinary team.

Surgical options can be exercised for the following situations

1. Stage I disease: Radical hysterectomy and partial or total vaginectomy along with bilateral pelvic lymphadenectomy.
2. Primary radical surgery for stage II disease with a history of previous pelvic radiotherapy.
3. Pelvic exenteration for medically fit advanced cases. Vaginal reconstructions using gracilis myocutaneous flap or rectus abdominis myocutaneous flap may be required especially where recto-vaginal or vesico-vaginal fistula is present.
4. Pre-radiotherapy: Ovarian transposition (optional), surgical staging and resection of any enlarged lymph nodes can be done.[12-15]

Radiotherapy comprises an integration of external beam radiotherapy and brachytherapy (intracavitary / interstitial) with a total tumor dose of about 70 Gy.[16,17] Extended field radiotherapy for the para-aortic lymph node metastasis and pelvic boost electron therapy for the groin nodes when the lesion involves the lower one-third of the vagina. The aim is to deliver 40 to 50 Gy to the pelvic nodes and 70 to 75 Gy to the tumor. For advanced cases, conformal radiotherapy with intensity modulated radiotherapy (IMRT) minimizes radiation damage to critical structures. However, complications of radiotherapy like proctitis, hemorrhagic cystitis, vaginal stenosis, and fistulae should be kept in mind during the follow-up of the treated patients.

Cisplatin (50 mg/m^2 every three weeks) based chemotherapy may be used for metastatic diseases. Concurrent chemoradiation like that is used in case of cervical carcinoma has been routinely employed in some institutions.[18]

Conclusions

The overall 5-year survival rate for vaginal cancer is approximately 52%, which is 15% poorer than that for cervical or vulval cancer and reflects the difficulties involved in treatment and the late stage of presentation.[20] Primary vaginal cancer is a rare clinical entity and hence should be treated at an experienced cancer center by the gynaecologist. The most important prognostic factor is the FIGO stage at the time of diagnosis. Radiotherapy is usually the primary mode of treatment. Surgery is possible in a particular subset of presentation as in our patient.

Conflict of Interest: None

References

1. Jemal A, Siegel R, Ward E, Hao Y, Xu J, Murray T, et al. Cancer statistics 2009. Ca Cancer *J Clin ac.* 2006;56(2):106-130
2. Beller U, Benedict JL, Creasman WT, et al. Carcinoma of the vagina: FIGO 6th Annual report on the results of treatment in gynaecological cancer. *Int J Gynecol Obstet* 2006;95: S29-S42.
3. National Cancer Institute. SEER stat fact sheets: Corpus and uterus, NOS. http://seer.cancer.gov/statfacts/html # risk.
4. International Agency for Research on Cancer (IARC). Monograph on the evaluation of carcinogenic risks to humans. Human Papillomaviruses Vol. 64. Lyon, France: IARC; 1995.
5. Pride GL, Buehler D A. Carcinoma of vagina 10 or more years following pelvic irradiation therapy. *Am J Obstet Gynecol* 1977; 127: 513-518.
6. Fu YS. Pathology of the uterine cervix, vagina and vulva, 2nd ed. Philadelphia: Saunders, 2002:531.
7. Benedet JL, Murphy KJ, Fairey RN, Boyes D A. Primary invasive carcinoma of the vagina. *Obstet Gynecol* 1983; 62:715-719.
8. Herman JM, Homesley HD, Dignan MB. Is hysterectomy a risk factor for vaginal cancer ? *JAMA* 1986; 256:601-606.
9. Hellman K, Lundell M, Silfversward C, et al. Clinical and histopathological factors related to prognosis in primary squamous cell carcinoma of the vagina. *Int J Gynecol Cancer* 2006; 16: 1201-1211.
10. Creasman WT, Phillips JL, Menck HR. The National Cancer data base report on cancer of the vagina. *Cancer* 1998; 83(5):1033-1040.
11. Sulak P, Barnhill D, Heller P, et al. Nonsquamous cancer of the vagina. *Gynecol Oncol* 1988;29:309-320.
12. Ball HG, Berman ML. Management of primary vaginal cancer. *Gynecol Oncol* 1982; 14:154-163.
13. Al-kurdi M, Monaghan JM. Thirty-two years experience in management of primary tumours of the vagina. *BJOG* 1981;88(11):1145-1150.

14. Cutillo G, Gignini P, Pizzi G, et al. Conservative treatment of reproductive and sexual women with squamous cell carcinoma of the vagina. *Gynecol Oncol* 2006; 103:234-237.
15. Otton GR, Nicklin JL, Dickie GJ, et al. Early stage vaginal carcinoma – An analysis of 70 patients. *Int J Gynecol Cancer* 2004:14(2):304-310.
16. Stryker J A. Radiotherapy for vaginal carcinoma: a 23-year review. *Brit J Radiol* 2000; 73(875):1200-1205.
17. Reddy S, Lee MS, Graham JE, et al. Radiation therapy in primary carcinoma of the vagina. *Gynecol Oncol* 1987; 26:19-24.
18. Dalrymple JL, Russell AH, Lee SW, et al. Chemoradiation for primary invasive squamous carcinoma. *Int J Gynecol Cancer* 2004; 14:110-117.
19. Neville F. Hacker : Vaginal Cancer; Bereck & Hacker's Gynecologic Oncology, 5th edn; Jonathan S. Berck and Neville F. Hacker. Wolters Kluwer: Lppincott Williams & Wilkins, 2010, pp 582-583.
20. Agarwal S, Malhotra KP, Sinha S, Rajaram S. Profile of gynaecologic malignancies reported at a tertiary care centre in India over the past decade: Comparative evaluation with international data. *Indian Journal of Cancer* 2012:49 (3): 298-302.