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Carcinoma of The Fallopian Tubes A Rare Case Report And Revi ew of Literature.

Dr Chandrahas Dhruw[1] (Md), Dr. Manjula Kerketta[1] (Md),
Dr. Vikram Bali Rathore[1] (Phd), Dr. Vivek Choudhary[2] (Md),
Dr. Surendra Kumar Azad[3](Md), Dr. Pradeep Kumar Chandrakar[1]
(Md), Dr Rajeev Ratan Jain[1] (Md), Dr Neha Khetan[4](Md)

[1]*Assistant Professor, Department Of Radiotherapy, Regional Cancer Centre, Pt. J.N.M. Medical College, Raipur, Chhattisgarh, India.*
[2]*Professor And Head, Department Of Radiotherapy, Regional Cancer Centre, Pt. J.N.M. Medical College, Raipur, Chhattisgarh, India.*
[3]*Professor, Department Of Radiotherapy, Regional Cancer Centre, Pt. J.N.M. Medical College, Raipur, Chhattisgarh, India.*
[4]*Assistant Professor, Department Of Radio Diagnosis, Regional Cancer Centre, Pt. J.N.M. Medical College, Raipur, Chhattisgarh, India.*

Abstract: *Primary fallopian tube cancer (PFTC) is a rare gynecological malignancy and has similar clinical pr esentations like epithelial ovarian cancers (EOC).Treatment comprised multimodality approach using surgery, chemotherapy and radiotherapy. Surgery remains the mainstay of the treatment of PFTC. When considered inop erable neoadjuvant chemotherapy is used for down staging. Postoperative adjuvant chemotherapy improved loc al control in patients with adverse prognostic factors. Adjuvant radiotherapy improves outcome in patients with adverse factors.*

Keywords: *PFTC, EOC, gynecological malignancy, Treatment.*

I. Introduction

The fallopian tubes are a pair of thin tubes that transport a woman's eggs (ova) from her ovaries (where they are housed) to her uterus (aka "womb") where they are either fertilized by male sperm or discarded during menstruation. Typically, an egg is released from one of the ovaries into the adjacent fallopian tube once each mo nth during ovulation, which occurs in women who are of reproductive age. The tube helps to move the egg alon g its journey to the uterus with small hair-like projections called cilia that line the inside of the tubes. The etiolo gy of this cancer is unknown. Hormonal, reproductive, and possibly genetic factors thought to increase EOC risk might also increase PFTC risk. High parity has been reported to be protective (1), and a history of pregnancy an d the use of oral contraceptives decrease the PFTC risk significantly (2). It has been reported that there is no stat istically significant correlation between PFTC and age, race, weight, education level, pelvic inflammatory diseas e, infertility, previous hysterectomy, endometriosis, lactose intolerance, or smoking (2,3,4,). (5) Found a fivefol d higher bilateral occurrence in infertile patients than in fertile patients, and (6) reported a better prognosis in nul liparous women.

II. Case Report

A 53 year old postmenopausal unmarried woman who was addicted to tobacco chewing for last twenty two years presented to cancer opd with the history of bleeding per vaginum and pain over pelvis for 3months. T he bleeding was scanty in amount often mixed with watery discharge and came in interval of 2-3times per day th e color of bleed was dark red. Patient also felt pain over pelvic region gradually progressive,dull aching, non-rad iating type associated with off- on fever which was relieved after taking oral analgesics in the form of NSAIDS. On thorough per vaginal examination on lithotomy position upper vaginal wall looked healthy and at cervical os small nodularity was felt with multiple small bleeding points, fresh blood oozes on examination. On per rectal e xamination bilateral parametrium were smooth. On per abdominal examination asingle nodular mass was felt ov er right iliac region which was deep seated, non-tender and ill-defined, skin over abdomen was glossy no pucker ing or dimpling were noted.

There were no lymph node enlargements in bilateral inguinal regions. Her complete blood count, renal function tests, liver function tests, chest radiograph werewithin normal limits. Her contrast enhanced CT scan of whole abdomen and pelvis region(pretreatment)reveals an ill-defined hypo dense conglomeration of two septat e lesions in right iliac region measuring 5.0*4.0*4.0 &4.0*3.0*4.0cm.The lesion shows cystic component within and post contrast shows peripheral enhancement s/o right fallopian neoplastic mass. On departmental meeting

with multidisciplinary team. Patient was sent to oncosurgery unit. There she had undergone Total Abdominal H ysterectomy with Bilateral Salpingooophorectomy (TAH+BSO) on 05/01/14. Histopathology report of the speci men shows moderately diffentiated endometrioid adenocarcinoma of right fallopian tube ,tumor infiltrates up to muscularis propria, serosa was free ,LVI & PNI were negative rest uterus, bilateral ovaries, cervix ,left fallopian tube were unremarkable. After 4 weeks of operation post op radiotherapy was given to the tumor bed with 3DC RT technique to the dose of 50GY/25#, over 5 weeks with appropriate beam energies in Linear Accelerator .Las t fraction was given on 05/03/2014. Patient tolerated and responded well to radiotherapy she is on regular follow -up till the date and doing well.

III. Review Of Literature

3.1 Epidemiology

Epidemiological data on malignant fallopian tube tumors are adequate, even though only 0.3-1.1% of all gyneco logical malignancies are typically classified as primary fallopian tube carcinomas (7),mostly adenocarcinomas (8). In the U.S., the incidence is about 3.6 per million women per year (9). Stage-adjusted survival rates are gener ally better than for epithelial ovarian carcinoma (10).Underestimation of the real incidence might be due to fallo pian tube carcinomas being mistaken for ovarian cancers (11) which show a significantly higher prevalence. Stil l, Riska and colleagues reported an increasing incidence of fallopian tube carcinomas from 1.2 per million per y ear for 1953-1957 to 5.4 per million per year from 1993-1997 (12).

3.2 Histopathology and Pathogenesis

Tumours can either be benign or malignant. Although benign tumours may grow in an uncontrolled fas hion sometimes, they do not spread beyond the part of the body where they started (metastasize) and do not inva de into surrounding tissues. Tubal carcinoma spreads in much the same manner as EOC, principally by the trans celomic exfoliation of cells that implant throughout the peritoneal cavity. In approximately 80% of patients with advanced disease, metastases are confined to the peritoneal cavity (13). Tumor spread can also occur by means of contiguous invasion, trans luminal migration, and hematogenous dissemination (14). Bilateral tubal involvem ent has been reported in 10%–27% of cases(15). Gadducci et al. (16) reported that both tubes were involved in 3 1.8% of 88 cases (23.8% of stage I–II cases and 39.1% of stage III–IV cases) and Schiller and Silverberg (15) re ported bilateral involvement in 9.1% of 11 cases (5.3% of stage I–II cases and 30.4% of stage III–IV cases).Pen etration of the serosa is an ominous sign associated with a poor prognosis (17). Data from the literature indicate that patients with PFTC have a higher rate of retroperitoneal and distant metastases than those with EOC (18). Metastases to the Para-aortic lymph nodes have been documented in 33% of the patients with all stages of diseas e (19).

The PFTC is richly permeated with lymphatic channels that drain into the Para-aortic lymph nodes thro ugh infundibulopelvic lymphatic. The existence of anastomoses with lymphatics of the uterus in the round ligam ent may explain the development of inguinal node metastases (19). Semrad et al. (20) reported that a large numb er of patients with an unknown nodal status at the initial staging who later developed recurrence probably had pe rsistent disease in their lymphatic. On routine lymphadenectomy, 42%–59% of patients show lymph node metas tases, with almost equal involvement of the Para-aortic and pelvic lymph nodes (21). Compared with EOC, noda l spread is more common in PFTC, and therefore these observations provide the basis for recommending lymph node sampling as a mandatory procedure of surgical staging (22). This change in the appearance of cancer cells i s called the tumour grade, and cancer cells aredescribed as being well-differentiated, moderately-differentiated, poorly-differentiated, or undifferentiated. Well-differentiated cells are quite normal appearing and resemble the normal cells from which they originated. Undifferentiated cells are cells that have become so abnormal that ofte n we cannot tell what types of cells they started from. The vast majority of fallopian tube cancers are papillary s erous adenocarcinomas. Very occasionally, tumours can form from smooth muscle in the fallopian tubes, in whi ch case they are called sarcomas (leiomyosarcomas), or from other cells that line the fallopian tubes, in which ca se they are called transitional cell carcinomas.

3.3 Clinical Features

PFTC most frequently occurs between the fourth and sixth decades of life (23), with a median age ofoc currence of 55 years (range, 17–88 years).The symptoms are not specific. Latzko's triad of symptoms,consisting of intermittent profuse serosanguinous vaginal discharge, colicky pain relieved by discharge,and abdominal or pelvic mass has been reported in 15% of cases (21). Hydrops tubae profluens, apathognomonic feature, implies i ntermittent discharge of clear or blood-tinged fluid spontaneously or onpressure followed by shrinkage of an adn exal mass and occurs in 5% of patients. PFTC is rarelyasymptomatic, in contrast to EOC. In many cases, the pre operative diagnosis of PFTC is extremely rare
(24).

3.4 Treatment

Effective treatment of fallopian tube cancers requires cooperation among members of a multidisciplinary team including gynecsurgeons, pathologist, and radiation oncologist. The treatment modality for fallopian tube cancers will take into account the patient's stage of disease, medical history, current health and personal preference, among other things. The goal of treatment of fallopian tube cancer is to eradicate the cancer completely with minimal side effects. A gynecologic oncologist typically treats this cancer and performs surgery. Surgery for fallopian tube cancer is determined by the stage of cancer from previous imaging tests. A procedure called salpingo-oophorectomy is used in the treatment of early-stage fallopian tube cancers. A salpingo-oophorectomy is the surgical removal of the either one or both of the ovaries. In more advanced stages the surgical procedures will include total abdominal hysterectomy (removal of uterus), bilateral salpingo-oophorectomy, infracolic omenectomy (removal of abdominal lining), appendectomy (removal of appendix), peritoneal washing, and peritoneal biopsies. In patients with very advanced disease the goal is cytoreductive surgery. Radiation therapy refers to use of high energy x-rays to kill cancer cells. Radiation is not considered a primary treatment for fallopian tube cancer because of its low efficacy and side effects. However it may be used prior to surgery to help shrink a tumor in size make surgery more manageable. It may also be used in cases where chemotherapy is refused or contraindicated.

Chemotherapy is the use of anti-cancer medications that go throughout the entire body. Chemotherapy is rarely used as the only treatment for fallopian tube cancer, but rather given after surgery to kill any remaining cancer cells. Platinum based chemotherapies (carboplatin and cisplatin) are most commonly used in the treatment of fallopian tube cancer. The two most commonly used medications are carboplatin and paclitaxel. A platinum based chemotherapy may be given alone or in combination with another type of chemotherapy. There are currently studies being conducted to determine which chemotherapy regimens work best with the least amount of side effects. In some cases, chemotherapy will be given directly into the abdomen (called intraperitoneal chemotherapy). Your provider will decide on a regimen that will best treat your cancer and your specific needs.

IV. Staging

American Joint Committee on Cancer (AJCC) TNM and FIGO Staging System for Fallopian Primary Tumor (T)

TNM	FIGO	
TX		Primary tumor cannot be assessed
T0		No evidence of primary tumor
Tis		Carcinoma in situ (limited to tubal mucosa)
T1	I	Tumor limited to the fallopian tubes
T1a	IA	Tumor limited to one tube, without penetrating the sersosal surface; no ascites
T1b	IB	Tumor limited to both tubes, without penetrating the sersosal surface; no ascites
T1c	IC	Tumor limited to one or both tubes with extension onto or through the tubal serosa, or with malignant cells in ascites or peritoneal washings
T2	II	Tumor involves one or both Fallopian tubes with pelvic extension
T2a	IIA	Extension and/or metastasis to the uterus and/or ovaries
T2b	IIB	Extension to other pelvic structures
T2c	IIC	Pelvic extension with malignant cells in ascites or peritoneal washings

T3	III	Tumor involves one or both fallopian tubes, with peritoneal implants outside the pelvis
T3a	IIIA	Microscopic peritoneal metastasis outside the pelvis
T3b	IIIB	Macroscopic peritoneal metastasis outside the pelvis 2cm or less in greatest dimension
T3c	IIIC	Peritoneal metastasis outside the pelvis and more than 2cm in diameter

Regional Lymph Nodes (N)

NX		Regional lymph nodes cannot be assessed
N0		No regional lymph node metastasis
N1	IIIC	Regional lymph node metastasis

Distant Metastasis (M)

M0		No distant metastasis
M1	IV	Distant metastasis (excludes metastasis within peritoneal cavity)

Stage 0	Tis	N0	M0
Stage 1	T1	N0	M0
Stage IA	T1a	N0	M0
Stage IB	T1b	N0	M0
Stage IC	T1c	N0	M0
Stage II	T2	N0	M0
Stage IIA	T2a	N0	M0
Stage IIB	T2b	N0	M0
Stage IIC	T2c	N0	M0
Stage III	T3	N0	M0

Stage IIIA	T3a	N0	M0
Stage IIIB	T3b	N0	M0
Stage IIIC	T3c Any T	N0 N1	M0
Stage IV	Any T	Any N	M1

II. Conclusion

PFTC is a rare tumor accounting for <1% of all female genital tract cancers. Histologically and clinicall y, it resembles EOC. Both carcinomas have a similar age distribution, are more common among nulliparous wo men, and are often of serous papillary histology. Surgery should consist of total abdominal hysterectomy, bilater al salpingo-oophorectomy, omentectomy, and lymph node dissection from the pelvic and Para-aortic regions. B oth carcinomas have a poor prognosis with stage and residual tumor size and respond to platinum-based chemot herapy .In PFTC Stage and residual tumor are the most important prognostic factors for outcome. Patients with s tage I low-risk disease submitted to optimal surgical staging may not receive postoperative treatment. In contrast , patients with stage I low-risk disease not submitted to complete surgical staging, as well as those with stage I h igh-risk disease or stage IIA disease, should receive 3–6 cycles of adjuvant carboplatin plus paclitaxel. Patients with advanced disease should be treated with a combination of carboplatin plus paclitaxel, as with EOC. Second -line treatment for persistent/recurrent disease should be based on the platinum-free interval, whereas secondary cytoreduction should be considered only for highly selected patients with localized late relapse.

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