PRIMARY PAPILLARY CARCINOMA OF THE FALLOPIAN TUBE

by

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Primary papillary carcinoma of the fallopian tube is a rarity and hence it is enigmatic in many respects, which requires the necessity for good documentation and reporting of every authentic case. It was in the year 1561 that Gabriel Fallopio described the oviducts correctly. He studied in detail the functions of the oviducts and hence the oviducts are known as the 'Fallopian tubes'. Three centuries passed before any publication was known regarding carcinoma of the fallopian tube. In the year 1847, Renaud presented an atlas of pathological drawings to the library of the Royal College of Surgeons which showed a probably malignant tube. Rokitanski described it as a separate clinical entity in the year 1861. However, the credit goes to Orthmann who described the first authentic case in 1886, followed by Albert Doran who published various articles in the years 1902, 1906 and a detailed record in 1910. In the year 1945, Mitchell and Moller compiled a record of 449 cases, while in the year 1960 Grey Hayden and Edith Potter mentioned a record of 663 cases from the literature.

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Incidence

The incidence of primary papillary carcinoma of the fallopian tube varies a great deal from institution to institution. Hu, Taymor and Hertig recorded 12 cases in 90,611 gynaecological admissions in a period of 45 years, while Finn and Jeavert at Women's New York College and Fullerton at Clevland recorded 5 cases and 4 cases respectively in about 22,000 gynaecological admissions at each institution in 16 years and 13 years respectively. Mitchell and Moller subjected 6747 salpingectomies, in a period of 47 years, for histological study and recorded one case. Mozley and Baker believe that it occurs once in every 1000 gynaecological admissions. It is discovered in 0.3% of all gynaecological laparotomies and accounts for 0.5% of all malignant growths in the genitals. From the Tata Cancer Hospital, Bombay, no case has been recorded. Its incidence in relation to primary gynaecological cancer is very low. Lawson Tait, the pioneer surgeon to perform large number of salpingectomies, has made no reference

regarding the primary papillary carcinoma of the fallopian tube. The incidence varies from 0.16% to 1.6%. Lofgren from the Mayo Clinic quoted 16 cases from 10,000 cases in a period of 40 years of primary gynaecological malignancies (0.16%). Frankel recorded an incidence of 1.6% in a study of 10 years. Ayer, Baird and Kerns recorded 2 cases in 30,000 gynaecological admissions in Royal Victoria Hospital. In our country, upto now one case has been published in the Journal of Obstetrics and Gynaecology of India in the year 1954 from Chittaranjan Seva Sadan by Dr. Rebati Dutta and others. One case was recorded by Dr. Reddy from Madras in the year 1957. In the year 1960, one case has been recorded in our Journal from S. N. Medical College, Agra, by Kehar, Vahi and Saxena. It is mentioned that 2 cases were observed at the K.E.M. Hospital, Bombay, in the last 25 years. Thus one learns that this is a very rare condition which requires continuous research to record. It is advisable that cancer should be a notifiable disease when diagnosed which would definitely step up the recording of the cases.

Aetiological Factors

No definite aetiological factors have been assigned to this condition. It is strange that the extreme portions of the Mullerian ducts (tube and the vagina) show rare inclination to malignancy compared to the high incidence of malignancy of the cervix and the body of the uterus. This postulates the hypothesis that a constant activity during the menstrual cycle and the trauma during the delivery may be responsible for predisposition to malignancy. A chronic inflammation of the adnexae has been claimed a responsible factor. Compared to the high incidence of chronic adnexal infection, the incidence of carcinoma of the tube is rare. Tuberculosis of the fallopian tube has been associated with carcinoma of the tube by various authors. Callahan, Schiltz and others have recorded the co-existance of tuberculosis and carcinoma of the fallopian tube. Novak and Willis doubt tuberculosis as an aetiological factor.

Age

From the literature, it appears that no age is exempt but a large number of cases occur between the ages of 40 and 55 years. Johnson and Miller recorded a case, in a girl aged 18 years, in the year 1931. Fullerton recorded it in a woman of 80 years. Most of the cases are at menopause or in the post-menopausal age.

Marital Status

Marriage does not lend any particular significance to this disease.

Parity

Various observers have paid attention to this factor. Whitehouse and Doren found this more common in nulliparous women, while Hu, Taymor and Hertig recorded a greater incidence in multipara (4 children). In Sanger's series, 44% were sterile while Curtis recorded 32% sterile, Vest 29% and Hu 27%.

Symptoms

Serous to sero-sanguinous vaginal discharge is very common in these

cases in the post-menopausal age. Pain in the lower abdomen, more unilateral, cramplike in nature, radiating to the thighs or back, is a characteristic feature. Menstrual function is unchanged. Some cases have amenorrhoea preceding the onset of pain. Menorrhagia and meno-metrorrhagia is very infrequent. In the year 1915 Latzko described a clinical entity—Hydrops tubal profluens. This condition was characterised by a palpable pelvic mass with increasing tension and pain relieved by a spontaneous gush of vaginal discharge and disappearance of the mass. Ascites has been associated in 10% of cases, Peham.

Clinical Findings

A palpable mass in either of the two fornices. The incidence is the same on either side. In a small percentage of cases we find bilateral masses, though Bland Sutton claims a higher incidence (bilateral) which is supposed to be metastatic by other authors. Roddick and Danforth have recorded a primary growth in the second tube after 10 years which they believe as not metastatic but a new growth in the second tube.

Diagnosis

Most of these cases are diagnosed either on the operation table or in the laboratory or at autopsy. Preoperative diagnosis is extremely difficult except when facilities for cytological study of the vaginal and the cervical secretions is possible. Persistent presence of atypical cells with a negative cervical biopsy and study of endometrial curettage might favour the diagnosis which may be either tubal or ovarian malignancy. Colposcopy and cul-de-sac aspiration study have been advised, but laparotomy with frozen section will be ideal for diagnosis. Funk et al adopted hysterosalpingography for diagnosis which has been decribed by all authors as useless and frightening for fear of dissemination of malignant cells. Dannruethor first made pre-operative diagnosis as reported by Baren in the year 1940. Joe Meigs suggested examination of the discharge microscopically as early as 1934 and advised the histological study of all the tubes removed at the operation. Bret, Vassy and Neovo diagnosed cancer of the fallopian tube by the presence of atypical cells in vaginal smear. Iscultzer diagnosed carcinoma of the tube with a history of amber-coloured vaginal discharge and a palpable adnexal mass.

Differential Diagnosis

A few conditions require consideration like

1. Chronic inflammatory adnexal mass.
2. Malignancy of the corpus of the uterus.
3. Ovarian cyst.

Pathological Findings

Macroscopic appearance: A globular or elongated distended tube with greyish appearance and a smooth peritoneal surface.

Histological examination: Certain criteria are necessary for the histological diagnosis of papillary carcinoma of the fallopian tube.

1. There must be change in the epithelium from normal to malign-

ancy with all its characteristics.

2. No involvement of the muscle layer of the tube by the neoplastic cells.

3. No evidence of primary lesion in ovary or endometrium. Types of papillary carcinoma of the fallopian tube: 1. Papillary. 2. Papillary alveolar. 3. Solid medullary or alveolar. These three types of the endothelial carcinoma are but a stage in further development called grades I, II and III by some authors. Histologically, the cell grading has been done from the discharge examination by the Papanicolau method.

Prognosis

It is extremely hopeless. 75 to 80% of women die from 1 to 4 years. 5 years survival rate is hardly 20%. Early diagnosis by all the available methods can improve the survival rate. It is said that 26,000 women die from genital cancer each year in the U.S.A. It is also believed that about 10% of all women develop some cancer during their life time. Hence it is pertinent that every woman should undergo a pelvic examination once in six months to a year after the age of 40. Svatasky from Russia said that as there is compulsory periodic examination, death from cancer of the uterus and breast is more or less extinct. Unfortunately, carcinoma of the fallopian tube presents a diagnostic challenge and hence bears a gloomy prognosis.

Treatment

Early diagnosis and radical surgery are the key notes to the survival rate. Bilateral salpingo-oophorectomy with total hysterectomy and lymphadenectomy is the treatment of choice. Radiation therapy, pre-operatively or post-operatively, is useless. E. Block reported intra-uterine use of radium in these cases at Radium-hemmet in Stockholm.

Radiation therapy pre-operatively renders surgery difficult in these cases. Use of Nitrogen Mustard has been recommended by some post-operatively. Now we refer to our case notes.

Mrs. M. K., serial No. 3055, aged 50 years, wife of a solicitor, was seen by us on 8-9-1958 with a history of pain in the lower abdomen since eight days. She was married 30 years ago, sterile. Menstrual history: 5-6/30 days, regular, with dysmenorrhoea and continuous backache and slight whitish discharge per vaginum occasionally. L.M.P. 15 days ago preceeded by 7 weeks' amenorrhoea. No history of any irregular vaginal discharge or intermittent bleeding. Per abdominal examination, irregular vague lump in the lower abdomen left side. On p.v. examination, third degree prolapse with a healthy cervix. A vague tender mass felt in the left fornix. Blood report: Total W.B.C. 16,150 cu. mm; P. 72%, L. 22%, E. 2%, M. 4% with premature neutrophils. Urine report showed a trace of albumen, sugar a trace, r.b.c. 1 to 4 per field, pus cells 2 to 5 per field. Stool report, n.a.d. Provisional diagnosis: left-sided tubo-ovarian mass. Advised laparotomy. As she did not consent for the operation, she was advised Inj. Penstrep and short wave diathermy because of the leucocytosis and a pelvic mass on the left side (chronic inflammatory).

She did not report for 5 months and was again seen on 20-2-1959 for pain in the lower abdomen. She did not tell us regarding any other consultation. On examination, acute tenderness was elicited in right iliac fossa. On p.v. examination, the same mass but little bigger in size was palpable in the left fornix. She was advised laparotomy. She had no fever on admission. She was kept on Inj. Streptopenicillin and analgesics for 3 days. But

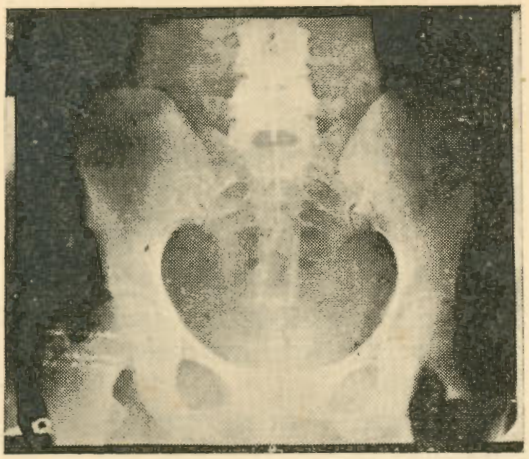

Fig. 1
A plain X-ray of the abdomen. A soft homogenous mass in the pelvis left side.

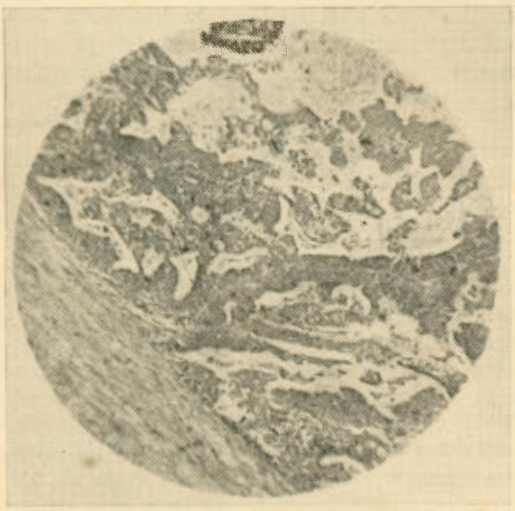

Fig. 2
A section of the fallopian tube showing tree like papillary processes arising from the wall.

as she did not show any relief of the pain, she was advised plain X-ray of the abdomen. The X-ray report is as follows:

A soft homogeneous mass is seen in the pelvis. This may be in connection with the uterine or pelvic adnexa. Should be confirmed clinically. No bony lesion detected in the lumbar spine and the pelvic bones.

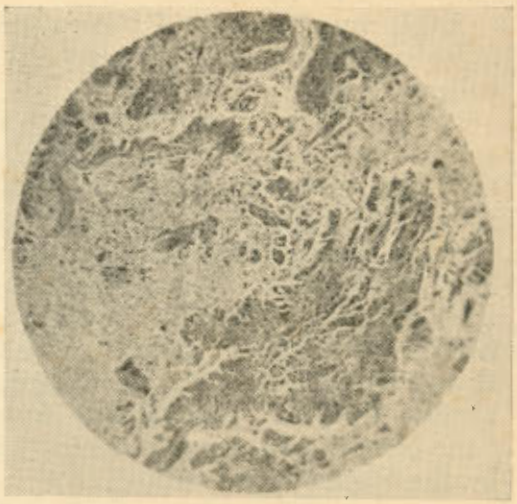

Fig. 3
Compressed ovarian tissue overlayed with malignant papillary processes.

No evidence of urinary calculi. On 24-2-1959, blood was sent for routine examination which showed moderate degree hypochromic anaemia with leucocytosis (r.b.c. 5.00 mill/cu. mm. Hb. 74%, total w.b.c. 14,050/cu. mm. P. 75% L. 15% E. 2% M. 8%). Stool examination did not show any ova and cyst. She was submitted for laparotomy on 26-2-1959 under spinal anaesthesia. A left-sided tubo-ovarian mass 3″ x 3″ in size was removed. Some portion of the adherent omentum was excised along with the mass. Not much of free fluid was seen in the peritoneal cavity. The right appendages were thickened. The omentum showed high vascularity. The histo-pathological report of the specimen is as follows:

Specimen: A mass consisting of a globular tumour and one fallopian tube.

Macroscopic examination: The specimen consisted of one fallopian tube and a rounded mass 7 x 7 x 6 cm. in size attached to its fimbriated end. The mass had a softish feel and was rather dull in appearance. On cutting open the mass, 70 c.c. of thick bloody fluid welled out. The wall of the mass was thin and was not lined by any processes or solid tissue; at the base of the mass the wall was rather thick and gave an impression of compres-

sed ovary. The fallopian tube was fairly big in size giving an impression of pyosalpinx, however the serous surface was smooth and shiny. On cutting open the tube, a whitish solid mass was found to completely fill the lumen.

Histological examination: The sections of the fallopian tube taken at three places show large tree-like papillary processes springing from the wall of the tube and filling the whole of the lumen; some of these processes are lying free within the lumen. The papillae are lined by one and in some cases several layers of atypical cuboidal cells, which have heavily staining nuclei some showing mitosis. The stroma of the papillary processes is infiltrated with mononuclear cells and a few polymorphonuclear cells.

The wall of the tube is almost free of the malignant cell infiltration; only a few fields show the malignant processes on the outer wall of the tube. The ovarian tissue is compressed and overlayed with malignant papillary processes.

The examination of the specimen indicates the pathology to be **a primary papillary carcinoma of the fallopian tube.**

The radical operation was not performed at that time as the malignancy was not suspected, moreover, she had a third degree prolapse with a very low general health, and we thought would do the prolapse operation later on. She had a very smooth post-operative period except loose stools on the 10th day of the operation. She was discharged on 12-3-1959.

After the receipt of the histo-pathological report, Dr. Borges was consulted for further guidance and he was shown the histology slides. He concurred with the histological diagnosis. He advised that radiation therapy is useless and, if the patient's condition permits, a second operation may be undertaken to remove the uterus. However, the patient did not consent for the second operation. It was reported after about 3 months that she was deteriorating in health.

She expired on 13-7-1959, i.e. 10 months after she was first seen and advised an operation which unfortunately she did not consent and expired 5 months after the operation.

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Comments

Unlike the cases recorded from Calcutta, Agra and Madras, the age of the patient was 50 years as compared to the age of 35 recorded by them. The patients were sterile as recorded by all the authors. The triad of symptoms, pain, vaginal discharge and lump, was common with the other authors. Our patient had pain and lump, but the vaginal discharge was not complained of, probably because she had third degree prolapse. All the patients have died within a period of 8 to 10 months in the published series.

Conclusion

A plea is made to report every case of papillary carcinoma of the fallopian tube. It is advisable to perform laparotomy for a pelvic mass instead of treating it conservatively at menopause. It is advisable to risk an operation than to treat cancer conservatively.

Acknowledgment

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