Epidiomalogy and Diagnosis of Ovarian Cancer.

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Ovarian malignancy poses the greatest of challenge to the gynaecologists today, not only because it is the leading cause of death from gynaecological malignancy but also because majority of the cases present themselves very late. Also the therapeutic modalities available today to deal with advanced stage disease are not very satisfactory.

Cancer of ovary is the 5th leading cause of death from cancer in women preceded by carcinoma of breast, colon, lung and pancreas. The risk of death from ovarian carcinoma has surpassed the combined risk of death from cancer of cervix and uterine corpus. In the United States 6,800 death occur per year from cervical carcinoma, 2,900 deaths per year from carcinoma of corpus uteri as against 11,600 deaths which occur yearly from cancer of ovary; 18,500 new cases of ovarian cancer are diagnosed each year in U.S.A. The death rate from ovarian cancer has doubled in the last 50 years, survival rate of about 30% has changed very little for the passed many dacades. The cancer of ovary is primarily the disease of pre and post menopausal women with peak number of cases at age 54 years. The incidence rate increases from one case per 100,000 women per year before age 20 years to 33 per 100,000 at age 55 years.

The two depressing features of ovarian cancer are that:-

1. This disease presents itself late, 75% of cases being in stage III or IV at the initial laparotomy.
2. The success of treatment of disseminated disease has been extremely poor with a 5 years survival rate of only about 10%.

At birth every female has 5-7% risk of developing ovarian neoplasm, sometimes in life and 15% of these will be malignant. The highest incidence of ovarian cancer is in Sweden followed by Norway, U.S.A. Germany and lowest incidence is in Japan. It is more common in industrialized society. It has been reported that second generation Japanese in America have same incidence as Americans indicating that environmental factors may have a role to play. Epithelial ovarian cancer has been found to have a risk relationship to the reproductive status of the women.

1. The risk is higher in women:-

   i) Who do not marry.
   ii) With no or few children.
   iii) Older at first pregnancy.
   iv) Who are relatively infertile.

2. The disease in supposed to be related to higher socioeconomic status though however this is not our experience.

3. Some studies have shown a positive correlation of cancer of ovary with history of endometrial carcinoma breast or colon cancer.

4. Familial relationship has been reported to dysgerminoma arrhenoblastoma and mature cystic teratoma.

5. Talc and asbestos have both suspected of being relevant to etiology of ovarian cancer.

6. Breast feeding is supposed to play a protective role against ovarian carcinoma.

7. Early menarche and late menopause are associated with an increased risk.

8. The longer the oral contraceptives are used by a women, the less likely is she to develop an ovarian cancer.

9. Women whose mother and sisters have ovarian cancer runs 20 folds risk of having the disease.

Considering the protective role of oral contraceptives and breast feeding and the high risk involved with nuliparity & infertility would indicate that women who ovulate for longer periods of time somehow or other get themselves exposed to increase risk of developing ovarian malignancy.

DIAGNOSIS

Ovarian malignancy has unfortunately a very nonspecific symptomatology. 50% of the women with ovarian cancer present themselves initially to the wrong

doctor who may be either a general physician or general surgeon. For a long time the tumor may give rise to no symptom and when it does it may be related to gastrointestinal tract like loss of appetite, nausea, discomfort in lower abdomen or constipation. Others may complain of gradual enlargement of abdomen and or pain in the abdomen. Despite the great mortality associated with ovarian cancer unfortunately no reliable, non invasive, easily applicable and cost effective screening tests are as yet available for ovarian cancer. The main stay of a programme for early diagnosis are:-

i. To be conscious of the women who are at high risk.

ii. An adequate and proper pelvic examination where unfortunately even a gynaecologists can be very wrong in making a proper diagnosis. It is discouraging to know that a one centimeter tumor in the ovary contains a billion cancer cells which may already by associated with intra-abdominal seedling. Macfenlan and his group discovered only 6 cases of ovarian carcinoma during 18,753 routine pelvic examinations performed on 1,319 women at ages 30-80 from 1938-1952. So even a pelvic examination is not necessarily enough to detect ovarian cancer.

As for as the role of prophylactic oophorectomy is considered during operations for other non-gynaecological diseases, 500 oophorectomies are needed to save one woman from ovarian cancer (0.2%).

Despite of what have been said above, a proper evaluation of adnexal mass at present is only available tool for the diagnosis.

Classification Of The Pelvic Masses
* Gastrointestinal
* Genito-urinary
* Body wall and abdominal cavity.
* Gynaecological

Gastrointestinal
The mass may be :-
- Low lying caecum
- Impacted faeces
- Diverticulitis
- Appendicular mass
- Adherant bowel and omentum
- Carcinoma of colon.

Urinary
* Full bladder
* Pelvic kidney
* Polycystic kidney

Body Wall and Abdominal Cavity
- Haematoma of rectus muscle
- Retroperitoneal abcess or neoplasum
- Ascitis

Gynaecologic

A: **Uterine**
* Pregnancy
* Hydramnios
* Hydatidiform mole
* Haemetametra
* Pyometra
* Uterine anomalies
* Fibroids

B: **Gynaecologic Nonovarian Adenexal**
- Ectopic pregnancy with haematocele.
- Inflammatory process involving tube and ovary.
- Para ovarian cyst.

C. **Gynaecolgic Ovarian Non Neoplastic**
* Functional follicular cyst.
* Corpus leuteum cyst and its complications
* Theca leutin cyst
* Polycystic ovaries.
* Endometriosis

D. **Gynaecologic Ovarian Neoplastic**
- Commonly seem with
- History of ovarian cancer in family.
- Symptoms may or may not be present.
- Age group 40-60.
- History of ovarian dysfunction.
- Nuliparity.
- Infertility.

Findings Noted in Ovarian Cancer
* Bilateral masses, solid, fixed irregular, nodularity in culdesac. Diameter 7 cm, above presence of ascitis and or pleural effusion, stigmeta of abnormal hormone production & lymph node involvement.

F. **DIAGNOSIS STUDIES**
* Complete blood count.
* Urine analysis.
* Liver function tests (LFT'S).
* Serum and Urinary HCG.

* X-rays chest and abdomen.
* I.V.P.
* Barium Enema.
* Liver scan.
* Proctoscopy.
* Ultrasonography (U.S.G.).
* Laparoscopy

* Lymphangiography
* Venography.
* Aoteriography.

Though comprehensive pre-operative work up is desirable, but, not always these studies are necessarily feasible.