Proceeding S.Z.P.G.M.I. Vol: 3 (1989), pp. 77-79.

Staging and Surgical Management of Ovarian Cancer

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OVARIAN TUMOR

There is no organ in the body which produce tumor of such a variety and complexity as does the ovary. This is due to development of the ovary from three groups of cells:

Coelomic epithelium
Mesenchyme
Germs cells

Ovarian tumors may be cystic or solid, bengin or malignant.

Malignant tumor may be primary or secondry, primary lesion somewhere else i.e. breast, stomach, bowel, uterus. Almost 94% ovarian tumors are bengin and 6% are malignant which may be primary or secondry malignant change in previously bengin tumor. This change tends to occur more commonly after climacteric than in reproductive years.

Exact etiology of ovarian tumor is unknown. Important point is that both bengin and malignant tumor grow silently slowly and without producing any symptoms. Even a patient with advanced ovarian carcinoma may be asymptomatic, and when symptoms do occur they are frequently not related to pelvis. Gastro-intestinal symptoms predominate and patient complains of nausea, vomiting, crampy abdominal pain, distension and enlargement particularly after eating. These symptoms may be due to wide spread intra abdominal metastasis. Weight loss and cachexia may be present. Pelvic pain and abnormal vaginal bleeding are not very common. These patients usually consult physician and general surgeon for their symptoms rather than gyanecologist. This late consultation makes malignant ovarian tumor so lethal that by the time medical advice is taken, the disease is incurable in 75% cases. Ovarian tumors both bengin and malignant are diagnosed either incidentally on pelvic examination by finding a painless mass in the culdesac or by the presence of abdominal mass only. A carefully performed annual pelvic bimanual examination can discover ovarian tumor in its early stages.

Symptoms in case of bengin tumors usually appear because of complications of ovarian tumor such as

* Torsion of tumor
* Heamorrhage into the cyst
* Rarely cystic tumor rupture or infection may occur or may undergo a malignant change.

Diagnosis is confirmed on laparscopy or lapartomy, ultrasonography and CAT scan can be helpful. In future biochemical screening for some tumor marker substances may help and diagnose ovarian carcinoma in early stages. Primary ovarian carcinoma accounts for about 20% of all gynaecological malignancies in American women but the number of deaths from this tumor is almost equal to number of deaths from cancer of cirvex and uterus combined. It causes more than 4000 deaths in England and Wales each year. Overall 5 years survival have not much changed and it is about 25-30%.

Mortality from cancer of ovary seem to be increasing at a rate of 15% per decade.

Nearly 2% of all women may be expected ultimately to die of cancer of ovary. Most deaths occur in women in their fifties and sixties and incidence appear to be higher in single that is three times more than in married multiparous women.

In our institution most of the patients almost 99% with ovarian cancer report first time in stage 3&4. It is extremely rare to come across a patient in stage Ia.

High mortality from ovarian cancer can only be reduced if malignant ovarian tumors are detected earlier in the course of the disease. This can only be achieved if women have regular annual bimanual pelvic examination to detect ovarian malignancy and if the gynaecologist always bears in mind the possibility of ovarian carcinoma in every patient whom he or she examins. In this way he may be able to pick up early tumor by careful pelvic examination. Any adnexal mass should be considered as possible cancer until proved bengin. Detection of palpable ovary in postmenopasual women should suggest strong possibility of ovarian carcinoma because most of the ovarian tumors are

relatively advanced when first detected. Therapy is best planned by a team consisting on gynaecological surgeon, chemotherapist and radiotherapist so that most appropriate regimen of treatment can be devised for individual women. Primary treatment of ovarian cancer is surgical. Pre-operative investigations which must be performed before lapartomy are haematological examination, urine analysis, liver function tests, urea and electrolytes, chest X-rays, IVP, barium meal studies, barium enema sigmoidoscopy, ultrasonography, CAT scan, pap and cervical smear.

Treatment

Primary treatment of ovarian cancer is surgical, lapartomy should be done in every case, for only then can the true situation be assessed. Lapartomy will usually establish.

1. The precise diagnosis
2. Will allow the staging of the growth,
3. and will provide the initial treatment according to stage of ovarian carcinoma.

Placing the carcinoma in correct stage is the single most important prognostic factors for planing of treatment and give some idea of likely result of such treatment and permits exchanges of informations between individuals

Stage I Growth limited to the ovaries

Stage.Ia Growth limited to one ovary, no ascites or negative peritoneal washings.
- (i) No tumor on the external surface, capsule intact.
- (ii) Tumor present on the external surface, capsule (s) ruptured.

Stage.Ib Growth limited to both ovaries no ascites
- (i) No tumor on the external surface capsule intact
- (ii) tumor present on the external surface or/and capsule (s) ruptured.

Stage.Ic Tumor either stage Ia or stage Ib with a scites present or positive peritoneal washings.

Stage II Growth involving one or both ovaries with pelvic extension

Stage IIa Extension and/or metastases to the uterus and/or tubes

Stage IIb Extension to other pelvic tissues

Stage IIc Tumor either Stages IIa or Stage IIb, but with ascites present or positive peritoneal washings.

Stage III Growth involving one or both ovaries with intraperitoneal metastases outside the pelvis and/or positive retroperitoneal nodes or tumor limited to the true pelvis with histologically proven malignant extension to small bowel or omentum.

Stage IV Growth involving one or both ovaries with distant metastases. If pleural effusion is present there must be positive cytology to allot a case to stage IV.Parenchymal liver metastases and equals stage IV.

Special category

Unexplored cases which are thought to be ovarian carcinoma.

In case of malignant tumor accurate staging should be carried out by extensive staging procedure. For this adequate left paramidiline incision is very essential which may extend above the umbilicus. A checked methodically and meticulously samples of check list used at Royal Marsden Hospital is follows

After careful inspection of the abdominal and pelvic organs at laparatomy biopsy must be taken from following areas.

1. Pelvic peritoneum near the site of tumor.
2. Drainage lymph nodes if possible.
3. Biopsy of other ovary if that ovary is going to be left.
4. Multiple biopsies of peritoneum, diaphragmatic peritoneum.

Chances of involvement of other ovary are 10-12%, uterus cervix and andexae frequently contain microscopic deposit particularly subserosal tissue. Ovarian cancer spread throughout the abdominal cavity as well as the pelvis probably due to movement of intra peritoneal fluid which drains through lymphatic channels located in diaphragm. Transperitoneal spread is due to change in intraperitoneal hydrostatic pressure produced by movement of rib cage during respiration. Surgical treatment of ovarian tumor depends on:-

1. Age of the patient
2. Nature of the tumor.

1. Age of the Patient: As a general rule younger the patient, the more conservative the surgical procedure, older the patient, more radical is treatment.
2. Nature of the tumor: Tumor may be apparently benign but on histological examination may be either borderline malignant or frank carcinoma.

Borderline Tumor: Borderline tumor is characterized by complicated glandular pattern, atypical cells are preset which are 2-3 cells is thickness. On the

other hand, tumor may appear frankly malignant. signs of malignancy are (1) solid tumor or cystic tumor with solid areas is more likely to be malignant (2) malignant tumors tends to be fixed due to extension into surrounding structures (3) they appear to be fungating with areas of haemorrhages on the surface and engorged vessels (4) both ovaries tends to be involved in large number of cases and ascitic haemorrhagic fluid is present (5) in advanced cases metastasis in upper abdomen may be present.

Treatment over the age of 40 years is bilateral salpingo oophorectomy and hysterectomy. Under the age of 40 years is unilateral salpingo oophorectomy and biopsy of the other ovary. Prognosis is 96% survival at 10 years.

Treatment of stage Ia:

Frank carcinoma

Over the age of 40 years: Bilateral salpingo oophorectomy, hysterectomy and omentectomy.

Under the age of 40 years: unilateral salpingo oophorectomy and biopsy of other ovary. Uterus must be curetted. This procedure is carried out in cases when

I. Histology proves the tumor to be (1) disgerminoma (2) mixed mullerian tumor or (3) Well differentiated mucinous adeno-carcinoma grade-1 (4) Granulosa cell tumor
II. Extensive staging process has to prove it as stage Ia and multiple biopsies have been taken.
III. Age, young woman desirous to produce children.
IV. Patient has full knowledge of risks involved.

As soon as family is complete, re-operation and different surgery carried out. After Surgical treatment patient is followed up closely for 2 years. It is recommended that patient should be examine and with laparascope every four months for 2 post-operative years. If peritoneal washings are positive even without peritoneal nodules chemotherapy is given. If recurrence occurs in the pelvis then patient receives chemotherapy or radiotherapy.

Treatment of stage Ia, Ic and 2a:

Bilateral salpingo oophorectomy, total hysterectomy and omentectomy. If a stage 2 tumor is adherent to the uterus, the hysterectomy performed should be retrograde, omentum is also removed and peritoneal fluid or washings examined for cytology and multiple biopsies taken.

Stage 2.b:

Radical oopherectomy and omentectomy is carried out.

Early stage 3:

No major disease above the umbilicus Radical oopherectomy and omentectomy.

Late stage 3 & 4:

In nearly all cases maximal cytoreductive surgery or debulking is carried that is to remove as much of tumor tissue as can be done with safety to patient. Reduction in bulk of tumor helps to control ascitis and probably improve the response to subsequent radiotherapy and chemotherapy. Objective should be that no tumor area of more than 1.5 cm is left behind.

Ovarian carcinoma is extremely unpredictable disease. Occasionally, some patients seems to get completely better (at least for sometime) after simple surgical procedure insipit of unfavourable findings at laparotomy. However, the general prognosis is poor insipit of advances in chemotherapy and radiotherapy. Prognosis has not markedly improved over the last 25 years.