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Editorial

Role of the Neoadjuvant Chemotherapy with Interval Debulking in Advanced Ovarian Malignancy

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Editorial

Gynecological malignancies have always been my key point of interest. Gynecological cancers are one of the leading cause of cancer related mortality and morbidity. After working many years in the field of gynecological Oncology and related research work I am keen to share my experience and knowledge with all of you.

Gynecological cancers are cancers of the female reproductive system. These include ovarian and fallopian tube cancers, cervical cancer, endometrial cancer and cancer of the Vulva and Vagina.

Ovarian cancer is the leading cause of death among all gynecologic cancers in Europe and the United States. Even in developing countries it is becoming highly prevalent. The incidence of ovarian cancer has been steadily increasing over the past 10 years in many countries, reaching the overall life time risk of 1.8%. The estimated annual incidence of ovarian cancer is 225,500 with an estimated 140,200 deaths worldwide, consisting of 3.7% of all female cancers and 4.2% of cancer deaths. Despite new medical and surgical advances and new chemotherapeutic regimens, the overall 5-year survival for patients with stage III and IV epithelial ovarian cancer has remained relatively unchanged over the last 40 years. After the application of cytoreductive surgery and adjuvant chemotherapy with cisplatin/cyclophosphamide, the 5-year survival among stage III cases is 10–20% and among stage IV cases – even below 10%. So optimization of the treatment is the only way to prolong the survival of such patients.

As the ovaries are deeply situated in the pelvis and not much effective in screening methods. So most of the patients come to consultants when tumour mass is palpable or grossly visible in stage III OR IV in developing countries. However Tumour markers like CA125, AFP and the good pelvic ultrasound with Doppler effect can give some clue about malignancy. Most of these patients presents with tense ascites which we have to address first.

The standard treatment with advanced epithelial ovarian cancers is Primary Debulking Surgery (PDS) aiming to remove all visible tumor tissue with tumour free margin, followed by Adjuvant Chemotherapy (ACT) with Paclitaxel and Carboplatin. Despite treatment with this strategy, the majority of these patients develop a relapse within the first 5 years after initial diagnosis and only 20–25% of cases are cured. Furthermore, 5-year survival rate of patients with advanced epithelial ovarian cancers has not seen a clear improvement in the last decade.

On the basis of the clinical Presentation of advanced malignancy of ovary, gross ascitis and tumour the Neoadjuvant Chemotherapy (NACT) followed by Interval Debulking Surgery (IDS) is considered to be an alternative treatment option [1]. NACT is defined as the chemotherapy performed prior to cytoreductive surgery. In our set up in advanced cases of carcinoma of ovary with Gross ascitis and tumour, after confirming the diagnosis of cytology and Tumour markers serum CA-125 level and seeing the extension of disease and its spread to Lymph nodes and other organs which are subjected to the NCT.

The benefit of NACT relies on the correct selection of effective chemotherapy regimens. An assessment of the individual patient's chemo sensitivity is essential for providing effective chemotherapy. In recent years, several biomarkers and methods for predicting the response to chemotherapy have been investigated but never used widely. Specific biomarkers need to be determined to identify patients most likely to benefit from NACT. Paclitaxel + Carboplatin/ Cisplatin is first line chemotherapy drug regimen [2].

Recently, Interval Debulking Surgery (IDS) after a short course of Neoadjuvant Chemotherapy (NACT), usually three cycles of chemotherapy, has become a possible alternative treatment option to standard treatment in patients unable to undergo complete resection during primary debulking surgery [3]. In recent years. Several randomized trials have shown that, although Progression-

Free Survival (PFS) and Overall Survival (OS) rates in patients given NACT-IDS were not different from those of patients undergoing PDS, patients who received NACT had significantly lower adverse effect and mortality rates after IDS than patients undergoing PDS. NACT would also lead to improved quality of life (QOL) of patients [4]. Even if preoperative diagnostic imaging shows massive ascites and diffuse dissemination, these show a dramatic disappearance at IDS after NACT. EOC is one of the most sensitive of all solid tumors to cytotoxic drugs, with over 80% of women showing a response to standard chemotherapy combining taxane and platinum. Based on these clinical characteristics, NACT has been proposed to reduce the burden of disease in patients with bulky disease.

On the other hand several studies have shown the possibility that NACT induces platinum resistance. Furthermore, a notable risk associated with NACT is that patients with significant side effects and refractory disease will lose the opportunity for debulking surgery. Appropriate selection of the patient cohort for NACT is an important issue. NACT before surgery can cause fibrosis and adhesions in the peritoneal cavity and may interfere with the preoperative evaluation of tumour spread and the tissue planes are not very well maintained after the result of extensive fibrosis so the dissection of the tumour and the lymph nodes becomes technically difficult.

While the standard approach to treating patients with advanced epithelial ovarian cancers remains primary debulking surgery followed by platinum-based chemotherapy,however in cases where primary debulking surgery is not possible NACT-IDS is a treatment approach gaining increasing popularity [5].

Accumulation of favorable outcomes of this treatment compared with standard treatment starting with PDS made this strategy a candidate for prospective, randomized Phase III studies without limiting the subjects to patients who were unsuitable for PDS. Among the four Phase III studies to date, the earliest study from the European Organization for Research and Treatment of Cancer (EORTC) has revealed noninferior survival with less-serious morbidity in the neoadjuvant chemotherapy arm. These data suggest that neoadjuvant chemotherapy followed by surgical cytoreduction is an acceptable management strategy [6].

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