Total Pelvic Exenteration for Synchronous Cervical and Ovarian Tumor – A Case Report

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Introduction

Synchronous genital tract malignancies are rarely seen with an overall reported incidence of 0.63%, the most common association consisting of endometrial and ovarian cancer which account for up to 40% of all cases (1,2,3). Most commonly cases presenting with synchronous ovarian and cervical cancer present in fact similar histologies and are considered as a single primary tumor with metastatic involvement of the other viscera, a direct spread of the cervical malignant tumors to the ovary being incriminated. However, in very rare cases, different histopathological subtypes are found and the final diagnosis is of real synchronous cervical and ovarian cancer. These are very rare situations, only few case reports being published until now (4,5,6); due to the rarity of this situation, a standard therapeutic protocol is not established. However an aggressive surgical approach consisting of complete tumor resection seems to be the only potential curative solution.
Case report

A 41-year-old patient presented for pelvic pain and abnormal vaginal bleeding. The local examination revealed the presence of a large cervical tumor which was biopsied, the histopathological studies revealing poorly differentiated squamous cell cervical cancer. The patient was submitted to a whole body MRI which also revealed the presence of bilateral ovarian tumors measuring 98/150/120 mm and 62/54 mm respectively associated to a cervical tumor measuring 4/4 cm with demarcation limit with the rectum and with the urinary bladder wall. The MRI also revealed the presence of large necrotized iliac adenopathies associated with peritoneal carcinomatosis and ascites (Fig. 1, 2). A left grade II uretero-hydronephrosis was also encountered. The patient was submitted to surgery; intraoperatively a large pelvic mass with ovarian origin associated with a large cervical tumor with rectal and urinary bladder invasion were found, so a total pelvic exenteration was performed (Fig. 3-7). The histopathological studies confirmed the presence of two different tumors: a poorly differentiated squamous cell cervical tumor and a moderately differentiated serous ovarian adenocarcinoma. During the postoperative course the patient developed a deep venous thrombosis at the level of the left femoral vein which necessitated continuous administration of heparin for the next 8 days. The patient was discharged in the 20th postoperative day with oral anticoagulation treatment. One month after discharge adjuvant chemo-irradiation protocol was initiated.

Discussions

Synchronous malignancies of the ovary and the uterine cervix are rare situations in which the prognosis is established not only by clinical stage but also by the histological grade of the adenomatous component (6). However it has been stipulated that these patients do not have a poorer prognosis hen compared to patients diagnosed with single neoplasia while cases in which a single primary tumor with metastatic disease a poorer outcome is expected (6). The molecular mechanisms incriminated for the development of synchronous gynecological malignancies have been not yet established; however it seems that an association immunologic and genetic defects, prolonged exposure to carcinogens and previous history of chemo-irradiation might play a role (5). It has also been proposed that tissues with common embryological origin may develop synchronous malignancies: Slaughter et al introduced in 1953 the term of field cancerization of the head and neck mucosa undergoing malignant degeneration which seems to be directly proportional to the intensity and duration of the carcinogens’ exposure (7). This concept was successfully implemented in gynecologic oncology under the generic name of “secondary mullerian system concept”, in order to explain the apparition of synchronous primaries (8). Once the right diagnosis is established, the treatment protocol does not differ from the therapeutic strategies indicated for single primary tumors (9).

In 1961 Moertel et al reported six cases of cervical and ovarian cancer among 921 patients with double primary tumors; however they were not classified as synchronous or metachronous lesions (10). Twenty-three years later Axelroad et al reported three cases of synchronous invasive cervical cancer and ovarian cancer among 2362 patients registered in the Downstate Medical Center Tumor Registry (11). In 1989 Eisner et al reviewed data of 3863 patients diagnosed with gynecological malignancies and found a single case of synchronous ovarian and cervical cancer (12). In 1983 other four cases were reported by LiVolsi et al (13) while in 2004 two cases with synchronous tumors were reported among 861 patients submitted to surgery for gynecologic malignancies in Taiwan (14).

In the study conducted by Tong et al, 20 patients with synchronous gynecological malignancies were included. The
main criteria for identification of synchronous primaries included detection of two different histopathological subtypes; other minor criteria referred to the absence of direct extension between the tumors, the absence of lympho-vascular tumor emboli, no or superficial myometrial invasion and the absence of distant metastases. Among the 20 patients, synchronous ovarian and cervical tumors were found in two cases. The authors concluded that surgery should be the treatment of choice in order to provide a correct diagnosis and staging for the reported tumors followed by adjuvant chemotherapy (15).

Similarly to our case, Huang et al reported the case of a 30 year old patient submitted to surgery for a preoperative diagnosis of stage IIIC ovarian cancer. A total abdominal hysterectomy, bilateral salpingo-oophorectomy, bilateral pelvic lymph node dissection, para-aortic lymph node sampling, bilateral infundibulopelvic ligament resection, appendectomy and omentectomy were performed. Surprisingly, the histopathological studies revealed the presence of an endometroid ovarian carcinoma associated with an endocervical mucinous adenocarcinoma. The final staging described a stage IIIC ovarian carcinoma associated with stage IA1 cervical cancer. Postoperatively the patient was submitted to adjuvant platinum based and taxanes chemotherapy but she developed a progressive cachexia and dyspnea and finally died of respiratory failure eight months after surgery (16).

In order to better distinguish between synchronous lesions and metastatic tumors, Elishaev et al reported that the absence of human papilloma virus DNA in the structure of ovarian tumor cells will rather be a criteria to consider the lesions as synchronous malignancies (17).
Conclusions

The presence of synchronous cervical and ovarian malignancies is an extremely rare situation in which both the tumor stage and the histopathological subtype will influence the prognosis. These patients usually do not have a poorer prognosis when compared with cases with single primaries. However, the particularity of our case was the presence of two locally advanced synchronous lesions: an advanced stage ovarian cancer with omental involvement associated with a large cervical tumor invading the urinary bladder and the rectal wall.

Acknowledgement

This work received financial support through the project entitled "CERO – Career profile: Romanian Researcher", grant number POSDRU/159/1.5/S/135760, co-financed by the European Social Fund for Sectorial Operational Programme Human Resources Development 2007-2013.

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