A case with three different synchronous primaries of the female genital system and their treatment

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Summary

Multiple carcinomas of the genital system are rare in the literature. We report a 43-year-old female patient who presented with 3 different synchronous primary genital system malignancies (cervix, endometrium and ovary). After Wertheim’s hysterectomy there was a 4×2 cm residual mass for which systemic chemotherapy and radiotherapy were administered. The patient rapidly deteriorated and died due to disease progression. Registration of cases with multiple tumors in a single centre using a standardized investigation for predisposing parameters may contribute much to the management of such conditions.

Key words: cervical cancer, chemotherapy, endometrial cancer, ovarian cancer, radiotherapy, synchronous

Introduction

Synchronous multiple carcinomas of the genital system are rare in the literature [1,2]. We report the case of a lady with 3 different synchronous primary tumors (cervix, endometrium, ovary) diagnosed by exploratory laparotomy and pathological examination. The therapeutic manipulations applied to the patient are discussed.

Case presentation

A 43-year-old female patient presented complaining of vaginal bleeding. Her personal and family history was devoid of diagnosis of a previous cancer or any chronic disease. The results of two curettage procedures were consistent with endometrial adenocarcinoma and cervical carcinoma, respectively. Gynecological examination revealed an endophytic hemorrhagic mass extending to the external os and posterior fornix. The uterus was 9.5 cm in length and mobile, while the left parametrium was infiltrated. Serum CA125 level was 661.8 U/ml (normal up to 35), hemoglobin was 9.7 mg/dl (normal 12-16).

Magnetic resonance imaging (MRI) of the pelvis confirmed the clinical findings, showing in addition solid-cystic lesions in both ovaries (left 3 cm, right 6 cm).

The patient underwent a Wertheim’s hysterectomy. Adhesions were observed at the uterovesical line due to tumor invasion.

Pathological assessment of the specimen revealed grade 2 squamous cell carcinoma of the cervix infiltrating the parametria and vaginal cuff (Figure 1), grade 2 endometrioid carcinoma of the endometrium (Figure 2), and grade 2 serous carcinoma of the right ovary (Figure 3). Deep invasion of the myometrium and thromboses in the vascular spaces were observed. Mixed-type cancerous metastases (serous carcinoma and squamous cell carcinoma metastasis; endometrioid adenocarcinoma and squamous cell carcinoma metastasis) in the external left iliac and paraaortic
IIIC endometrial adenocarcinoma and stage IIIB ovarian carcinoma.

Postoperative thoracic computerized tomography (CT) was normal, however in abdominal CT there was a 4×2 cm-sized mass in close contact with the bladder.

Carboplatin (AUC 6, 350 mg/m², day 1) and paclitaxel (175 mg/m², day 1) were given every 3 weeks for 3 cycles. Regarding the residual mass, a dose of 46.8 Gy in 26 fractions was subsequently administered to the pelvic and paraaortic area through two parallel opposed fields with Co60 teletherapy machine.

Following the external radiotherapy, a thoracic CT scan was suggestive of pleural metastasis. Cisplatin and gemcitabine combination (cisplatin 80 mg/m², day 1 and gemcitabine 1000 mg/m², days 1 and 8) was given every 3 weeks for 2 cycles as second-line chemotherapy. While on chemotherapy ascites developed and liver metastasis was suspected. The patient deteriorated rapidly and died due to disease progression 4 months after the completion of radiotherapy.

**Discussion**

Synchronous malignancies are rare conditions, whereas more than 2 synchronous malignancies of the genital system are considered extremely rare [1-7]. Investigators have reported that the combinations of head/neck and lung cancer or esophageal cancer, and breast/breast cancer were most prevalent in both synchronous and metachronous groups [1,2,8].

Cases with 3 primary malignancies are rarely reported in case reports and literature reviews [2,9-11]. Two cases with cervical, ovarian and endometrial

**Figure 1.** Cervical squamous cell carcinoma of non-keratinizing large cell type (H&E×110).

**Figure 2.** Endometrioid adenocarcinoma of the endometrium (H&E×110).

**Figure 3.** Ovarian serous cystadenocarcinoma (H&E×44).

lymph nodes were observed (Figure 4). Eventually, the diagnosis was stage IIIB cervical carcinoma, stage IIIC endometrial adenocarcinoma and stage IIIB ovarian carcinoma.

**Figure 4.** Metastasis of squamous cell and endometrial adenocarcinoma in a lymph node - arrow between the two tumoral components (H&E×220).
cancers were reported but one of them included meta-
chronous tumors [11,12]. Therefore, our case is per-
haps the second one with 3 synchronous malignancies 
of different genital system sites reported recently.

The management of this kind of synchronous 
multiple cancer cases is controversial. Treatment 
should be tailored individually regarding the small 
number of such cases [13,14].

In the management of our case, after systemic 
treatment radiotherapy to the pelvic and paraaortic 
areas was added considering the residual mass adja-
cent to the bladder in relation with the importance of 
radiotherapy in the management of endometrial and 
cervical carcinoma. However, the rapid systemic pro-
gression of the disease makes paraaortic nodal radio-
therapy questionable. Thus, further case discussion is 
needed.

Registration and studying of cases with multiple 
tumors using a standardized investigation for predis-
posing factors (impact of radio- and/or chemotherapy 
for a previous cancer, environmental exposure to car-
cinogens, patient’s genetic or immunologic defects, 
etc) may contribute much to the comprehension and 
management of such conditions.

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