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Case Report & Review of the Literature

Primary Fallopian Tube Carcinoma, A Rare Disease: Case Report and Mini Review of The Literature

Ioannis Thanasis¹, Pinelopi Gkogkou^{2*} and Chasiotis Athanasios³

¹Obstetric & Gynecologic Department, General Hospital of Trikala, Trikala, Greece

²Oncology Department, Norfolk and Norwich University Hospital, United Kingdom

³Obstetric & Gynecologic Department, General Hospital of Limassol, Limassol, Cyprus

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ABSTRACT

The description of the case relates to a 48-year-old premenopausal patient, who was referred to the gynecologic outpatient clinic with ongoing and persistent vaginal bleeding, after undergoing a diagnostic endometrial curettage due to menorrhagias, whose histological examination revealed no pathologic findings. Ultrasound examination confirmed the presence of known multiple fibroids, with the largest lesion being estimated to occupy the right lateral wall of the uterus and extending towards the adnexa. The patient's surgical treatment was decided. During the operation, the presence of a solid mass that occupied the entire right fallopian tube, without the involvement of the ovary, was detected. Abdominal total hysterectomy and bilateral salpingo-oophorectomy were performed. The histological examination of the surgical specimen confirmed the diagnosis of fallopian tube carcinoma. The post-operative course of the patient was uncomplicated and adjuvant chemotherapy was initiated at an oncology center. One year later the general condition of the patient is normal, while she is regularly followed up by an oncologic medical team. In the present study, a brief overview of this rare entity is attempted on the basis of current data, concerning mainly the diagnostic and therapeutic approach, the appropriate application of which can contribute the best possible prognostic result.

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Introduction

Adnexa tumors are common in gynecological practice, often raising multiple dilemmas in their diagnosis and treatment. Except for those complicated with acute torsion or rupture that require urgent surgical intervention, most tumors are diagnosed incidentally and are usually associated with ovarian neoplasms. Tubal neoplasms are extremely rare. They are distinguished in benign and malignant tumors, with the latter to be considered as the rarest gynecological cancer. In the majority of cases, preoperative diagnosis is difficult even with modern imaging

methods. The fallopian tube cancer is usually diagnosed intraoperatively and confirmed by pathologic examination of the surgical specimen [1].

Fallopian tube malignancies are extremely rare. The biological behavior and, probably, the origin of those, appear to be similar to the epithelial ovarian cancer. The theory of the fallopian origin of the epithelial ovarian carcinoma has been substantially supported in recent years. A series of clinical and molecular studies analyzing the characteristics of the intraepithelial carcinomas of the tube and the malignant ovarian epithelial tumors, support the common origin of those two entities [2].

*Correspondence to: Pinelopi Gkogkou, M.D., M.Sc., Ph.D., Department of Radiation Oncology, Norfolk and Norwich University Hospital, Conley Lane, NR4 7UY, Norfolk, United Kingdom; Tel: 4401603286286; Fax: 4401603286284; E-mail: mailtopinelopi.gkogkou@nmu.nhs.uk

Case Description

The description of the case relates to a 48-year-old premenopausal female patient, who was referred to the gynecologic outpatient clinic with persistent vaginal hemorrhage. About a month ago, the patient underwent a diagnostic curettage due to menorrhagias, whose histological examination indicated no endometrial hyperplasia and was negative for malignancy. The personal and family history of the patient was free of medical conditions. The transvaginal ultrasound examination revealed an enlarged uterus. The presence of the known multiple fibroid nuclei was confirmed, with the largest lesion occupying the right lateral wall of the uterus and extending towards the complementadnexa. The left ovary was normal in size and with no apparent pathology. Further imaging was applied, confirming the extensive involvement of the right adnexa. Following discussion with the Oncologic Board, it was decided to surgically treat the patient by total abdominal hysterectomy with salpingo-oophorectomy, due to the presence of multiple fibroids and the continued menorrhagias.

Intraoperatively, after opening the abdominal wall and peritoneum, a solid mass located at the right fallopian tube, adhering to the posterior peritoneum was found. Total abdominal hysterectomy and bilateral salpingo-oophorectomy were performed, with careful surgical excision of the affected area on the right lateral abdominal wall. Histological examination of the operative specimen confirmed the diagnosis of serous tubular carcinoma of the fallopian tube (Figure 1). The post-operative course was uncomplicated. Postoperative adjuvant chemotherapy based on platinum and taxanes was applied. One year later the patient's general condition is normal, being regularly followed up at an oncology center.

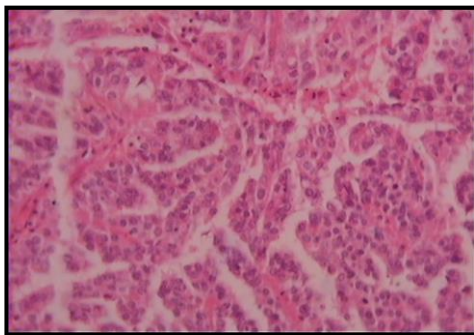


Figure 1: Fallopian tube cancer.

Discussion

The primary carcinoma of the fallopian tube is very rare. It is estimated that approximately 2000 cases have been reported to date, since the first description of the disease in 1847 [3]. The tubal cancer is usually discovered incidentally during a laparotomy (our case) and is generally estimated to account for 0.14% - 1.8% of all genital malignancies [4, 5, 6]. A previous study from the United States of America indicated that the average annual incidence of the tubal cancer is 3.6 cases per million, among the female population [7]. However, there are many who argue nowadays that the incidence of fallopian tube malignancies may have been significantly underestimated. A series of contemporary pathologic, molecular, and genetic studies revealed that 40% to 60% of tumors classified as high grade ovarian or peritoneal carcinomas, were of tubal

origin [8]. The uncertain histologic origin of malignant cancers as ovarian ones, could now be replaced by the term "undefined origin" of adnexa tumors [9].

Clinical Presentation

Preoperative diagnosis of primary fallopian tube carcinomas, especially in the absence of clinical symptomatology, is very difficult. The most common symptoms associated with this medical condition, are abdominal pain, mainly due to the forced peristalsis and distention of the tube, as well as vaginal bleeding or watery vaginal discharge [10]. Abdominal pain is the most common clinical symptom and accounts for more than 50% of cases. The classic triad of abdominal pain, vaginal bleeding or watery vaginal discharge and presence of a pelvic mass, account for less than 15% of cases of fallopian tube carcinomas. Ascites, as in ovarian cancer, can occur only in the case of advanced disease [11]. In cases of postmenopausal vaginal bleeding, the diagnostic curettage of the endometrial cavity is negative for malignancy (as in our case). In contrast, the Pap smear can contribute towards the early diagnosis of the tubal cancer in 10% - 36% of cases as malignant cells after have been detached from the primary fallopian tumor, they migrate through the tube, being deposited in the endocervix or the posterior vaginal vault [12, 13].

Imaging Evaluation

The imaging tools usually selected for the investigation of tubal lesions include ultrasound, computed tomography, and magnetic resonance imaging of the abdomen. The transabdominal and transvaginal ultrasound, although being basic imaging techniques in the diagnostic investigation of patients with possible tubal pathology, however, are not specific, as tubal tumors may mimic other pelvic conditions such as salpingitis, ovarian neoplasms and ectopic pregnancy [14]. Findings from computed tomography, such as the presence of a solid, papillary intratubal mass, support the diagnosis of primary fallopian tube cancer [15]. The same apply for magnetic resonance imaging, although the latter one is estimated to be more accurate than computed tomography or ultrasound imaging, in detecting the extension of the disease and the invasion of the tumor in adjacent structures, such as the bladder, vagina, lateral pelvic wall, and rectum, thus contributing to the staging the disease [14].

Pathological Presentation

The definitive and accurate diagnosis in each case (as in our case) is accomplished by the histological examination of the surgical specimen. The most common histologic type of primary tubal cancer is the serous papillary adenocarcinoma, which is estimated to account for more than 90% of cases of primary fallopian tube cancer. The diagnostic pathologic criteria, as have been defined by Hu and his colleagues in 1950 and revised subsequently by Sedlis in 1961 and in 1978, are necessary for the correct diagnosis of the disease [16, 17, 18]. Thus, the presence of the main detectable tum or in the intra-tubal lumen, the proven histologic transition from a benign to malignant tubal epithelium and the presence of normal ovaries, or intrauterine cavity, or at least containing a tumor which is smaller than the tubal one, confirm the diagnosis of the primary fallopian carcinoma.

Treatment

The optimal treatment for patients with fallopian tube malignancy is undoubtedly still uncertain due to the rarity of the disease. In general, the treatment of tubal cancer is based on the same guidelines as those used to treat the epithelial ovarian cancer, due to the intraperitoneal spread of both diseases [19]. Thus the surgical treatment in the early stages of primary fallopian tube cancer, including cytology of free peritoneal liquid or pelvic washings, total abdominal hysterectomy with bilateral salpingo-oophorectomy, pelvic and paraaortic-lymph node resection and biopsy sampling from suspicious intraperitoneal lesions, is the best initial therapeutic approach [20].

Towards this end, Klein and his colleagues analyzing the results of their study indicated that in cases of primary tubal cancer treated with complete resection of the disease, along with additional radical lymphadenectomy, the five-year survival rate was 83%, while the equivalent from hysterectomy and bilateral salpingo-oophorectomy alone, was 58% [21]. It is currently estimated that the high rate of lymph node involvement, the tendency for microscopic distant metastases and the relatively high risk of recurrence, despite the complete surgical resection of the disease, make the need for postoperative chemotherapy imperative and necessary [22]. The combination of platinum and taxane, is the cornerstone of the adjuvant treatment of patients with primary fallopian tube malignancy [23].

Outcomes

The stage of the disease at the time of diagnosis is the most important factor affecting the prognosis of patients with primary fallopian carcinoma. The overall five-year survival rate is estimated to be about 65% [24]. Based on the latest data, it is now estimated that the advances in current surgical techniques and the better cooperation between different medical specialties, have contributed significantly to the long-term survival of patients, which can vary nowadays between 36% to 73%, independently the stage of the disease [25]. Bilateral salpingo-oophorectomy offer in any case the benefit of effectively eliminating the risk of ovarian cancer and avoiding potential recurrence but can be detrimental to young women who wish to maintain ovulation and fertility [26].

Conclusion

The primary fallopian tube cancer is a rare clinical entity, that should be taken seriously into account in the differential diagnosis of patients with mild, deep hypogastric pain and abnormal vaginal bleeding during the perimenopausal or postmenopausal period. Preoperative diagnosis using imaging is not accurate and due to the rarity of the disease, there are no international guidelines for its treatment. The treatment strategy which is based on the guidelines concerning the treatment of the epithelial ovarian cancer, although still uncertain, followed by chemotherapy, can significantly improve the overall survival rates of patients with primary tubal cancer. Early recognition of the symptoms associated with the disease and correct application of the contemporary, advanced technology, are likely to enable nowadays the early diagnosis and the immediate application of the most appropriate modern treatment options,

in order to ensure the cure and the best possible prognostic result for the patient.

Conflicts of Interests

None.

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Consent

Informed consent has been obtained from patient.

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