

Incidental serous papillary ovarian carcinoma diagnosed on endometrial biopsy

Endometriyal biyopside rastlantısal bir tanı: Seröz papiller over karsinomu

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ABSTRACT

We present a case of incidental locally advanced serous papillary ovarian carcinoma in a 43-year-old women on endometrial biopsy. On endometrial biopsy, findings of serous carcinoma besides normal endometrial tissue caused diagnostic confusion. However, by thorough clinical investigation, we were able to detect bilateral ovarian masses, which were proved to be serous papillary cystadenocarcinoma. The possibility of a locally advanced ovarian carcinoma should always be kept in mind especially when trying to identify a serous papillary carcinoma in an endometrial biopsy with no endometrial involvement.

Key words: Serous papillary carcinoma, ovarian, endometrial biopsy

ÖZET

Kırk üç yaşındaki bir kadın hastada endometriyal biyopsi ile rastlantısal olarak saptanan lokal ileri seröz papiller karsinomu olgusu sunulmaktadır. Endometriyal biyopsi materyalinde benign nitelikteki endometriyal dokularla beraber görülen seröz karsinoma ait parçacıklar tanısal problem yarattı. Ancak ayrıntılı klinik incelemeler sayesinde saptanan bilateral over kitlelerinin seröz papiller kistadenokarsinom olduğu kanıtlandı. Endometriyal biyopside endometrial tutulum olmaksızın seröz papiller karsinom tanısı verilirken lokal ileri bir over karsinomunun varlığı akılda tutulmalıdır.

Anahtar sözcükler: Seröz papiller karsinom, over, endometriyal biyopsi

CASE REPORT

We are presenting a 43-year-old women referred to Gynecology and Obstetrics Clinic of our hospital with menstrual irregularities firstly manifest in January 2004. Endometrial sampling performed at that time revealed simple endometrial hyperplasia without atypia and transvaginal ultrasonography was unremarkable except for myoma uteri. At her next referral with similar symptoms in September 2005, her cervical smear was reported to be negative for any intraepithelial lesion or malignancy. However,

microscopic examination of her endometrial biopsy was problematic due to the presence of small serous papillary carcinoma fragments just next to totally benign proliferative endometrial glandular tissues (Figure 1A, 1B). P53 immunostaining was performed in order to confirm the malignant character of these papillary structures with strong nuclear positivity. At this point, contamination was considered to be the case, owing to the age of the patient and the absence of clinical suspicion. Serial sectioning was done to rule out contamination occurring during blocking of the tissues or during sectioning of the paraffin block. The gynecologist was also informed about the situation. A second endometrial sampling was done which was free of these malignant cell groups. However, further

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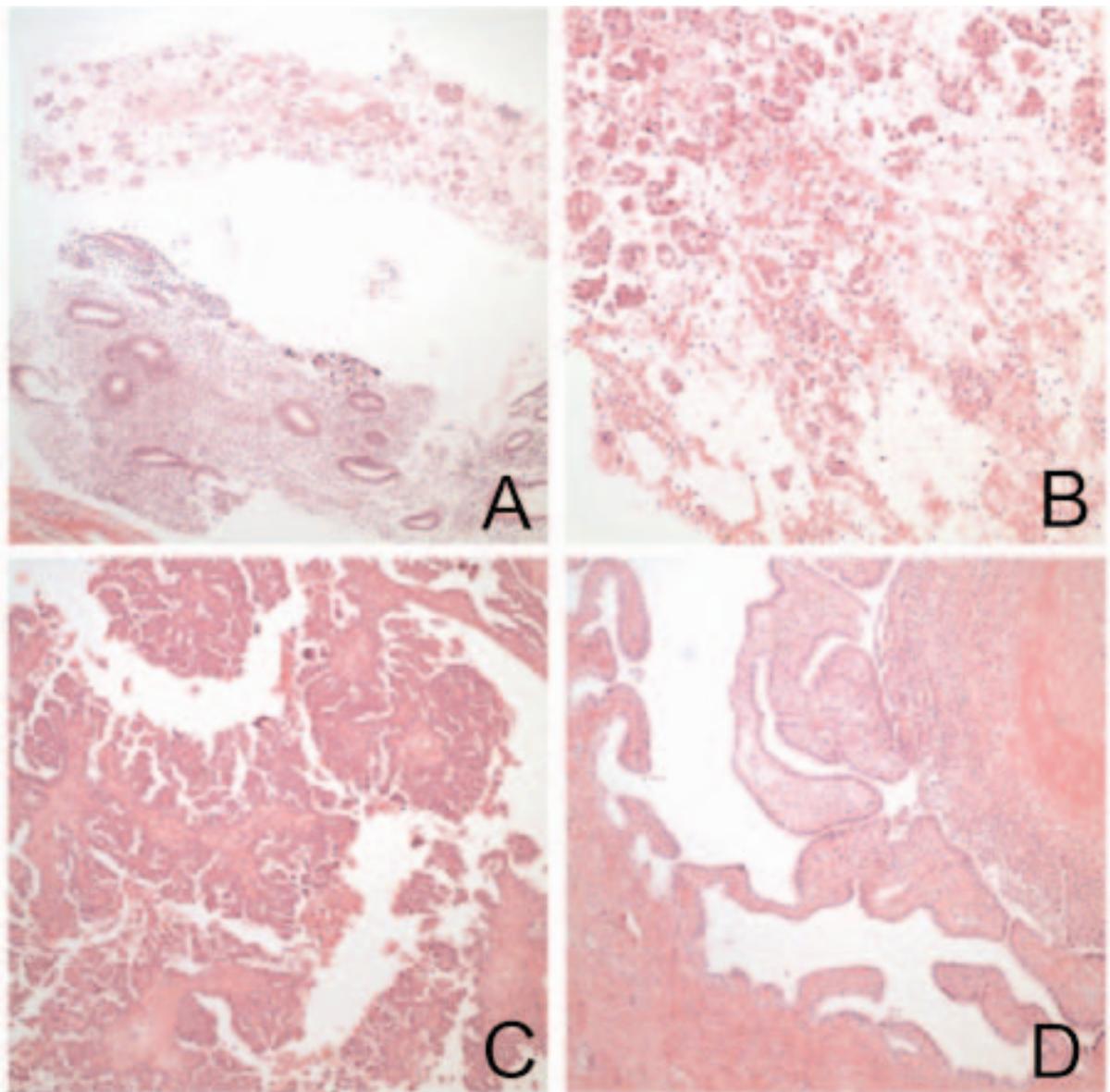


Figure 1. A, B: Small serous papillary carcinoma fragments just next to totally benign proliferative endometrial glandular tissues. **C:** Serous papillary ovarian cystadenocarcinoma. **D:** Abundant tumor fragments as well as accompanying inflammatory cells in the lumen of tuba uterina.

examining and laboratory investigations were surprising. Abdominal ultrasonography detected intraabdominal ascites and prominently increased serum CA15-3 and CA125 levels. Diagnostic fine needle aspiration biopsy from the ascites detected malignant epithelial cells in concordance with adenocarcinoma. Abdominal computed tomography lightened the case with the presence of extensive peritoneal carcinomatosis, infra- and supracolic omental implants, a left ovarian

mass as well as bilateral pleural effusions.

Radical hysterectomy with bilateral salpingoophorectomy, total omentectomy, bilateral pelvic paraaortic lymphadenectomy and appendectomy were performed. The right ovarian mass, with an intact capsule, measured 7x5x3.5 cm. The left ovary, enlarged to 8x6x5 cm, had papillary projections on its surface. The uterine cavity and tuba uterina were macroscopically free of disease. Whole endometrium was samp-

led but no invasive or pre-neoplastic lesion was found. On the other hand, omentum and appendical serosa were infiltrated with tumor. Microscopic examination of the ovarian tumors and bilateral tuba uterina determined the origin of the serous papillary tumor fragments on the endometrial biopsy: Bilateral serous papillary ovarian cystadenocarcinoma (Figure 1C), abundant tumor fragments as well as accompanying inflammatory cells in the lumen of tuba uterina elucidated the diagnosis (Figure 1D).

DISCUSSION

There are striking clinical and histopathological similarities between serous papillary carcinomas of the ovary, endometrium and peritoneal cavity. Serous papillary tumor of the ovary (OSPC) is a highly malignant neoplasm with aggressive behavior and poor prognosis. Uterine serous papillary carcinoma (USPC) is an estrogen independent, type-II endometrial carcinoma with adverse histological features, commonly developing in atrophic or resting endometrium. The origin of a serous tumor may only be determined with thorough examination of the surgical staging specimen according to the criteria suggested by the Gynecologic Oncology Group. The nature of papillary structures in endometrial sampling is a diagnostic challenge for the pathologist. Such structures might be both benign and malignant so morphological characteristics such as nuclear atypia, increased nuclear/cytoplasmic ratio and presence of mitosis should be searched for. Immunostaining of such cells with p53 might also be of help. Clinical information, prior diagnosis and age of the patient should be reconsidered but most important of all, the biopsy should be evaluated in total by examining all endometrial glands, as presence of an endometrial intraepithelial carcinoma or endometrial glandular dysplasia might explain the whole picture and point out a USPC. In case of our patient, papillary structures were of malignant character with prominent atypia and strong p53

positivity. However, neither the patient's age nor the rest of the endometrial glands were concordant with these serous papillary tumor fragments. Contamination was tried to be ruled out via serial sectioning and a second endometrial biopsy was done with no evidence of malignancy. Only thorough clinical investigation was able to lighten the case. The first diagnostic challenge in case of malignant papillary structures in endometrial curetting is the exclusion of USPC. The absence of accompanying endometrial glandular dysplasia or endometrial intraepithelial carcinoma is of use. The term endometrial intraepithelial carcinoma (EIC) as a putative precursor lesion of USPC, was first proposed by Sherman et al. in 1992 (1,2). EIC is defined morphologically as replacement of endometrial surface epithelium and glands, without myometrial invasion by frankly malignant cells identical to USPC tumor cells. Zheng et al. recently described a new entity called endometrial glandular dysplasia (EmGD), which bridges benign resting endometrium and serous EIC (3,4). Still the distinction of OSPC and USPC can certainly be done after surgical staging of the excised sample.

Kern B in his review of 234.318 cervicovaginal smears, described 7 cases with psammoma bodies, in which 3 of them were associated with benign conditions and 4 with cancer (2 USPC, 1 OSPC and 1 primary peritoneal serous papillary carcinoma). Psammoma bodies may be seen in cervicovaginal smears and should always alert the pathologist for the existence of OSPC (5,6). The vaginal smear of our patient had no significant finding and endometrial biopsy didn't contain psammoma bodies. Diagnosis of OSPC through endometrial sampling has not been reported in the literature and our case is the first to our knowledge. Similar to superficial extension of endometrial tumors to ovaries, it is theoretically possible for a serous ovarian tumor to involve fallopian tubes as well as the endometrial lining. Therefore, the possibility of a locally advanced ovarian carcinoma should always be kept in mind in when trying to diagno-

se a serous papillary carcinoma in an endometrial biopsy due to the spilling character of serous papillary tumors.

REFERENCES

1. Sherman ME, Bitterman P, Rosenshein NB, Delgado G, Kurman RJ. Uterine serous carcinoma. A morphologically diverse neoplasm with unifying clinicopathologic features. *Am J Surg Pathol* 1992;16:600-610.
2. Ambros RA, Sherman ME, Zahn CM, Bitterman P, Kurman RJ. Endometrial intraepithelial carcinoma: a distinctive lesion specifically associated with tumors displaying serous differentiation. *Hum Pathol* 1995; 26:1260-1267.
3. Zheng W, Schwartz PE. Serous EIC as an early form of uterine papillary serous carcinoma: recent progress in understanding its pathogenesis and current opinions regarding pathologic and clinical management. *Gynecol Oncol* 2005;96:579-582.
4. Zheng W, Liang SX, Yu H, Rutherford T, Chambers SK, Schwartz PE. Endometrial glandular dysplasia: a newly defined precursor lesion of uterine papillary serous carcinoma. Part I: morphologic features. *Int J Surg Pathol* 2004;12:207-223.
5. Kern B. Prevalence of psammoma bodies in Papanicolaou-stained cervicovaginal smears. *Acta Cytol* 1991; 35:81-88.
6. Hallman KB, Nahhas WA, Connelly PJ. Endosalpingiosis as a source of psammoma bodies in a Papanicolaou smear. A case report. *J Reprod Med* 1991;36:675-678.