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Case report OPEN ACCESS

A Rarity: Pure Primary Squamous Cell Carcinoma of Both Ovaries

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ABS TRAC T

The current study's objective is to examine the pathologic, therapeutic, and clinical characteristics of ovarian primary squamous cell carcinoma (SCC) that develops from scratch. *Case Study:* A 45-year-old woman complained of a tumour in her right iliac fossa. Through both foramina, a pervaginum mass was felt. Transabdominal ultrasonography was performed, and the results showed adnexial masses measuring 15 by 10 cm on the right and 10 by 8 cm on the left. A tentative diagnosis of bilateral ovarian carcinoma was made. *Discussion*: One uncommon kind of cancer is primary ovarian squamous cell carcinoma. Most instances originate from the lining of a dermoid cyst, with endometriosis or Brenner tumours occurring less often. It is very uncommon for ovarian squamous cell carcinoma to develop de novo in the absence of an ovarian dermoid cyst. *Conclusion*: A diagnosis of primary bilateral ovarian squamous cell carcinoma was taken into consideration in our case since no main focus of squamous cell carcinoma is evoked clinically or radiologically in any other location.

Keywords: *Primary, Squamous cell carcinoma, Ovaries.*

INTRODUCTION

Less than 1% of all ovarian malignant tumours are squamous cell carcinomas, making them an uncommon clinical entity [1]. Only 1-2% of teratomas exhibit the malignant transformation of a pre-existing mature cystic teratoma (dermoid cyst), which is recognised as the fundamental pathophysiological process [1]. It is quite uncommon for a primary squamous carcinoma to arise de novo in an otherwise healthy ovary [2–5]. We describe a case of this uncommon cancer that has never been documented in a Southeast Asian community.

Case History

A 45-year-old woman arrived with a three-month history of burning micturition and discomfort in her right lower abdomen. Eight years ago, she had a hysterectomy to cure a white discharge; the histological diagnosis was chronic cervicitis. Upon inspection, a movable, mushy, and sensitive mass was discovered in the right iliac fossa. Through both fornices, a pervaginum mass was felt. Douglas's pouch had a per rectum lump. Bilateral ovarian neoplasm was the provisional diagnosis. To the best of our knowledge, this report describes the first instance of bilateral pure squamous cell ovarian cancer in the English literature. Transabdominal ultrasonography showed that the right and left adnexial masses were 15 x 10 cm and 10 x 8 cm, respectively, and the CA 125 level was 9.64 ng/ml (normal up to 35 ng/ml). A recent vault smear revealed no signs of dysplasia. Bilateral oopherectomy and exploratory laparotomy were carried out. The left ovarian mass was affected in the Douglas pouch, whereas the right ovarian mass had many adhesions.

Upon gross inspection, the left ovarian mass measured 6x5x4 cm, whereas the right ovarian mass was 9x8x5 cm. The outside was greyish and smooth. The right and left ovarian masses' cut surfaces revealed cystic regions with papillary excrescences and irregular greyish white nodules with necrotic patches (Figures 1 and 2). Sections stained with hemotoxylin and eosin showed characteristics of a moderately differentiated squamous cell carcinoma with necrotic patches. The tumour appeared as papillary, trabecular, invasive, and solid patterns. There were sporadic keratinisation foci (Figures 3, 4, and 5). Each high power field has five to six mitotic figures. Desmoplasia ranged from minor to severe. There was no indication of a Brenner tumour or teratomatous elements. The only way to accurately identify ovarian squamous cell carcinoma (SCC) is via histology. It may be recognised by the presence of cytological and/or architectural characteristics that are similar to those often seen in squamous elements and exhibit signs of invasion. The clinically aggressive nature of squamous cell carcinoma of the ovary is histologically recapitulated by its propensity to develop invasive ribbons and tongues of cancer cells that may spread much beyond the initial tumour site, as is the case with other squamous cell carcinomas throughout the body. Squamous cell cancer will exhibit intercellular bridging, keratin pearl production, and squamous maturation in its well-differentiated form. Few typical squamous characteristics may be seen in its weakly differentiated form; in these situations, further immunohistochemical or electron microscopic examinations may be necessary to establish the diagnosis.

Figure 1: External aspect of ovarian tumor showing greyish white and smooth appearance

Figure 2: Inner aspect of ovary showing greyish white tumor with papillary excresences

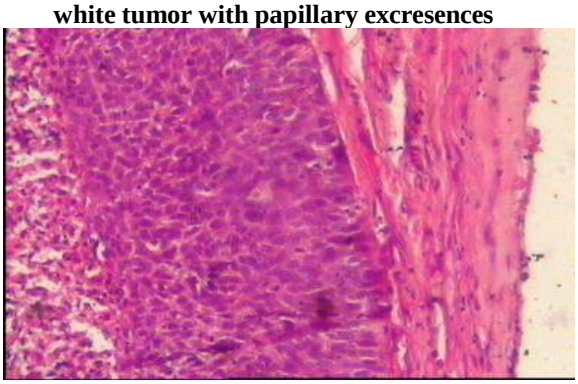

Figure 3: Severe dysplastic squamous epithelium in the ovarian tissue (H&EX400)

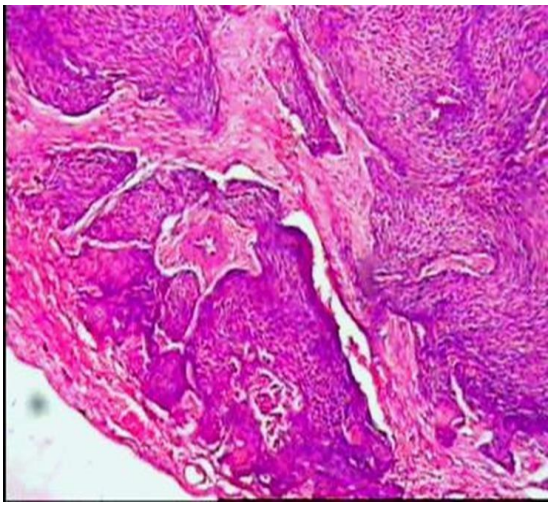

Figure 4: The tumour cells arranged in nests and trabeculae infilterating the fibrous stroma (H&EX100)

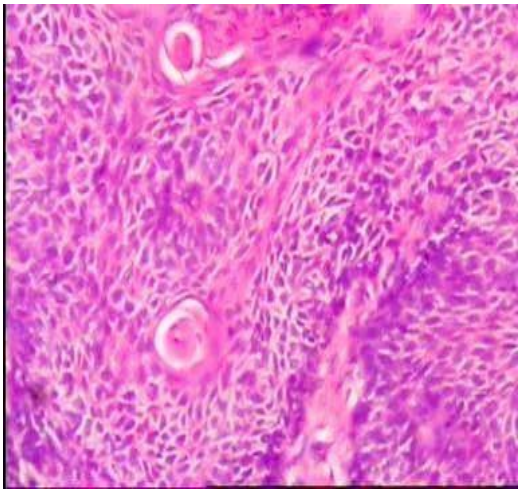

Figure 5: Tumor cells showing intercellular bridges and two keratin pearls (H&E X400)

DISCUSSION

Ovarian squamous cell carcinoma poses a fascinating diagnostic challenge to pathology and clinical teams. The aforementioned diagnosis is very uncommon since squamous cell carcinoma often originates from non-ovarian sources. When this entity appears, it offers a fascinating perspective on the histological variety that may be seen in ovarian epithelial cancers. The second most frequent genital tract cancer in women is still ovarian cancer. More than 10% of ovarian tumours are mature cystic teratomas, sometimes referred to as dermoids [1]. Squamous cell carcinomas account for 80–90% of malignancies that arise inside an ovarian dermoid, however the dermoids might sometimes (1-2%) serve as a backdrop for malignant transformation within teratoma components [1]. Endometriotic ovaries have also been observed to undergo malignant changes [3, 6]. There are very few reports of primary squamous cell carcinomas developing in apparently healthy ovaries [2–5]. A patient of Southeast Asian ancestry has never before been reported to have such an event. Carcinomas reported to develop inside an ovarian dermoid background, in contrast to the presentation described, are probably an accidental histological finding. There are a few known predicted risk factors for this kind of cancer, including growing older, tumour size (bigger tumours are linked with a greater chance), radiographic features, and tumour markers like cancer antigen-125 (ca-125) [1]. It may be possible to distinguish instances of squamous cell carcinoma (SCC) from other forms of ovarian cancers by routinely using cancer antigen-125. It is seen in high concentrations in other aggressive ovarian cancers, although it seems normal or slightly raised in squamous cell carcinoma [9]. Most of the documented instances of ovarian pure squamous cell carcinoma in the literature were linked to cervical dysplasia [3, 7]. Since ovarian metastases have been reported in instances of cervical squamous cell carcinoma, a thorough examination of the cervix is necessary to rule out the disease. In our instance, however, this correlation was not evident since the woman had a hysterectomy eight years before in order to address white discharge, and the histological diagnosis was chronic cervicitis. The best course of treatment for primary ovarian squamous cell carcinomas is still unknown due to the condition's rarity and the accidental nature of the diagnosis. According to published research, the surgical treatment for the cases described is similar to that for ovarian adenocarcinomas and involves performing a total abdominal hysterectomy, bilateral salpingo-oophorectomy, and omentectomy, along with any additional procedures required to ensure surgical debulking of all grossly visible disease. For squamous cell carcinomas originating from dermoid cysts, excellent cytoreduction and the surgical stage at presentation have been linked to a markedly increased survival rate [8]. Pelvic radiation treatment may be useful for local management, and combination chemotherapy with more recent medications has shown some efficacy. A response to early paclitaxel in conjunction with a platinum agent has been reported in some case reports [10, 11]. However, most of the time, the results are still subpar. Brenner tumours, endometriosis, or mature teratomas are the most common causes of ovarian squamous cell carcinoma. Only 12 instances of squamous cell carcinoma of the ovary without such a pre-existing lesion were found in the literature study. Less is known about the histogenesis; some instances may start in an ovarian epidermoid cyst or develop straight from the surface epithelium.

CONCLUSION

A primary bilateral ovarian squamous cell carcinoma (pure) is reported as an uncommon occurrence as no main focus of squamous cell carcinoma is detected clinically or radiologically in any other place.

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