

## CASE REPORT

### Rapid developing basaloid squamous cell carcinoma of the uterine cervix in a young adult Taiwanese

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#### Abstract

Basaloid squamous cell carcinoma (BSCC) of the uterine cervix is a rare malignancy of the female genital tract with a poorer clinical outcome than SCC of the uterine cervix. We report a case of BSCC of the uterine cervix developing rapidly in a young adult Taiwanese. A 35-year-old woman, Para 2, visited the emergency room with severe dizziness, palpitations and sudden excessive vaginal bleeding with hemoglobin of 3.6 g/dl. She had been well and healthy but intermittent vaginal spotting developed for around 6 months previously and was treated as abnormal uterine bleeding by ob-gyn practitioners. She had a repeat cesarean operation 16 months prior to this episode and the last Pap smear showed reactive change 12 months ago at our hospital. On examination, she had an ulcerated, necrotic, and punched-out lesion of 5 cm of the cervix. A cervical biopsy revealed poorly differentiated typical BSCC. Abdominal/pelvic computerized tomography and whole body positron emission tomography confirmed FIGO staging IB2. She responded well to concurrent chemoradiotherapy. Follow-up for the patient is ongoing. This is a rapid developing BSCC of the uterine cervix, although we cannot actually ascertain when it started and how rapidly it progressed.

*Key words:* basaloid carcinoma, cervix, cancer progression

#### INTRODUCTION

Basaloid squamous cell carcinoma (BSCC) usually arises from various anatomic sites, including the hypopharynx, base of the tongue, salivary glands, oesophagus, anal canal, prostate, thymus, vulva, and urinary bladder, but an origin in the uterine cervix is rare. We report a young Taiwanese adult with rapid developing BSCC of the uterine cervix, to increase awareness of this condition.

#### CASE REPORT

A 35-year-old Taiwanese woman, Para 2, visited the emergency room with severe dizziness, palpitations and sudden excessive vaginal bleeding with hemoglobin of 3.6 g/dl. She had been well and healthy, but had intermittent vaginal spotting for around 6 months prior to this episode, treated as abnormal uterine bleeding by ob-gyn practitioners. Dull lower abdominal pain, poor appetite and weight loss of a few kilograms were also experienced but no increased leucorrhea was noted. Transamine and progesterone were

prescribed. No cervical or uterine neoplasm had been detected then. She had a repeat cesarean operation 16 months previously and the last Pap smear performed at our hospital 12 months previously showed reactive changes.

On examination, she had an ulcerated, necrotic, and punched-out lesion of the cervix, measuring 5 x 6 cm. The rest of the clinical examination was normal except for findings of anaemia and impending shock. A cervical biopsy revealed a poorly differentiated typical BSCC (Fig. 1) occupying more than 70% of the cervix. The tumour cells showed immunohistochemically-positive staining for Ber-EP4 (Fig. 2).

Abdominal/pelvic computerized tomography and whole body positron emission tomography confirmed FIGO staging IB2 (Fig. 3). The patient received EBRT 5580 Gy/31fr., then brachytherapy 25Gy/5fr. for 2 months, with IMRT. Ten months after the diagnosis, 8 months after completion of radiation therapy, our patient was in remission without evidence of the disease. Follow-up for the patient is ongoing.

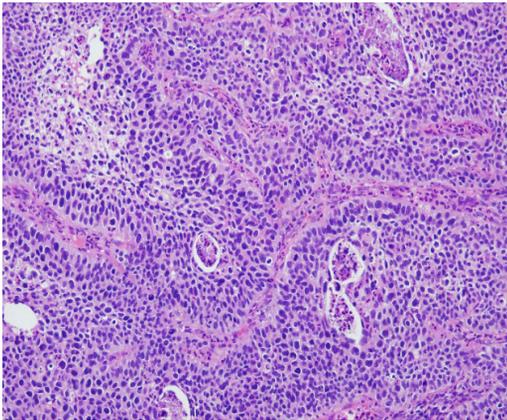


FIG. 1: The tumour is composed of immature basaloid squamous cells with scanty cytoplasm and peripheral palisading (H&E 200X).

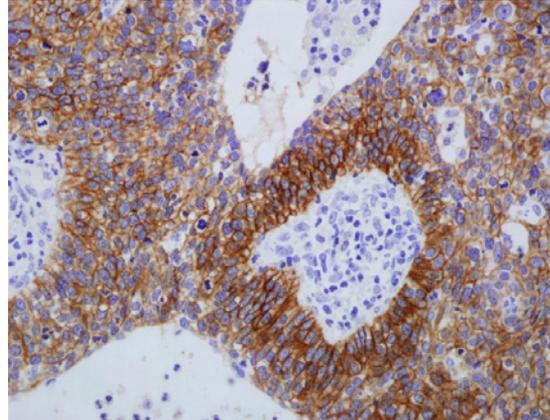


FIG. 2: The tumour cells show strong membrane positive staining for Ber-EP4 (IHC x 400).

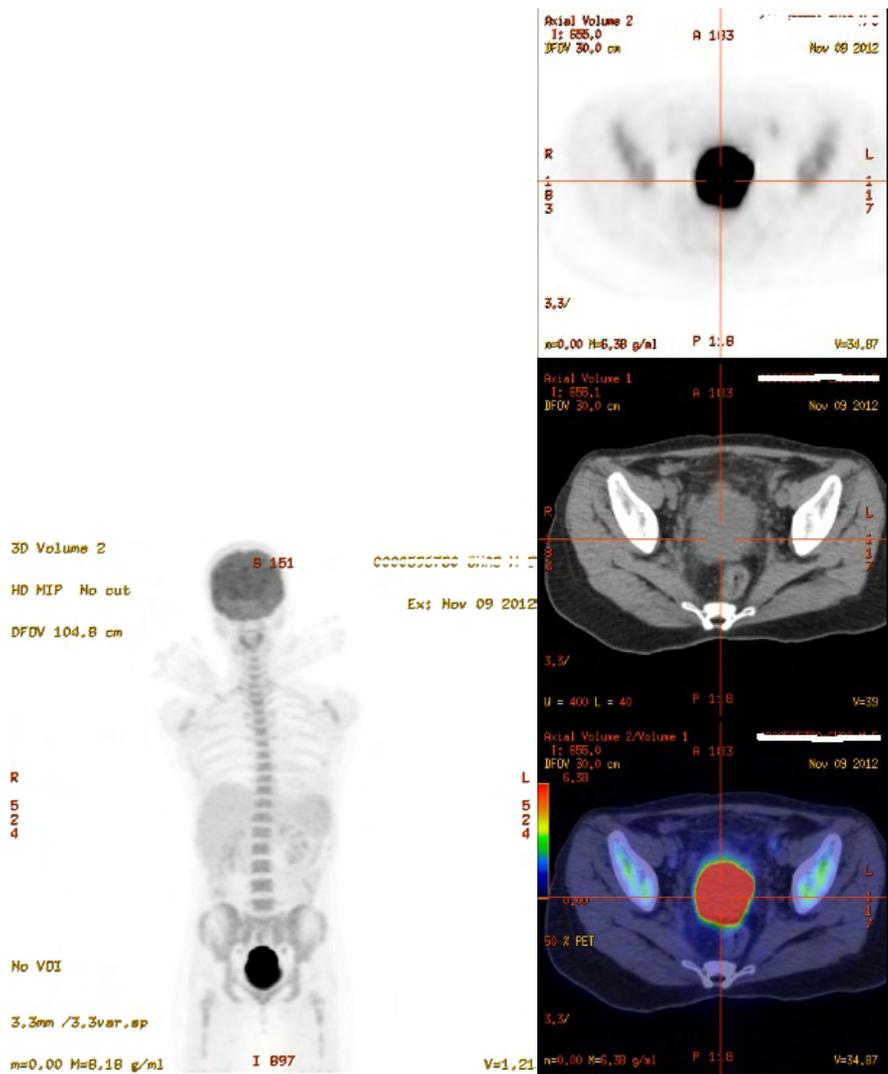


FIG. 3. PET/CT showing a localized cervical neoplasm.

## DISCUSSION

BSCC of the uterine cervix has been neither recognized nor included as a specific histological subtype in the World Health Organization (WHO) classification of cervical tumours (ICD-9 M Code and ICD-10). The code of the lesion is 8083/3, only found in the oncology ICD-O-3 Code. Therefore, BSCC of the uterine cervix has received little recognition in the medical literature. Since BSCCs are thought to behave aggressively but the evidence supporting this behaviour is not powerful, accurate diagnosis and accumulated data of this tumour are important for their clinical management and prognosis.

BSCC is characterized by 4 diagnostic criteria: (1) an ulcerated infiltrating growth pattern, (2) nests or cords of small basaloid cells, (3) prominent peripheral palisading of cells in the tumour nests, and (4) no significant stromal reaction.<sup>1</sup> Our patient fulfilled all of the characteristics histopathologically. This cervical neoplasm is an entity distinguishable from adenoid cystic carcinoma, undifferentiated small-cell carcinoma, carcinoid tumour, and regional basaloid patterns in an otherwise typical squamous cell carcinoma.<sup>1</sup> "Basaloid carcinoma" of the uterine cervix is a neglected entity and the terminology has been used synonymously with adenoid basal carcinoma (ABC). In recent years, however, it has become evident that a broad spectrum of basaloid cervical neoplasms exist.<sup>2</sup> There are aggressive tumours, including adenoid cystic carcinoma, large cell neuroendocrine carcinoma, and basaloid squamous carcinoma, more aggressive than ABC. To avoid confusion, the use of the term "BSCC" has been recommended when diagnosing a cervical tumour with histological features of "basaloid carcinoma," as seen in other anatomical sites.<sup>2</sup> Apparently, the proposed classification of BSCC has not received public attention and recognition.

Another example of omission is that although the WHO classification of uterine cervical neoplasms recognises carcinoid tumour and small cell carcinoma of the cervix as specific entities, there is a conspicuous omission of lesions such as atypical carcinoid tumour and large cell neuroendocrine carcinoma (LCNEC) from that classification. The possibility that "LCNECs are frequently misdiagnosed as poorly-differentiated squamous cell carcinomas or poorly-differentiated adenocarcinomas" has been acknowledged.<sup>3</sup> Cervical LCNEC is characterized by large cells with vesicular nuclei and prominent nucleoli,

a mitotic index in excess of 10/10 high power fields, geographical areas of tumour necrosis, and positive staining with appropriate immunohistochemical markers of neuroendocrine differentiation. Cervical LCNEC composed of large basaloid islands may mimic BSCC.<sup>3</sup> Accurate diagnosis is of prognostic importance because of the biologically aggressive nature of this uncommon type of cervical cancer.

Immunocytochemistry can occasionally be helpful in identifying the epithelial origin of a BSCC. Most BSCC of other locations than the cervix, for example, those of the head and neck are positive for epithelial membrane antigen,<sup>4</sup> but show little or no expression of vimentin, smooth muscle actin, desmin or neuroendocrine markers. The tumour cells of our patient stained negative for p53 and showed positive membranous staining for Ber-EP4, a marker of basal cell carcinoma of the skin.

A PubMed search yielded 3 case reports of BSSC of the uterine cervix. The first was a case of adenoid cystic carcinoma occurring in a young woman, associated with multiple human papillomavirus-related lesions including condyloma acuminata, vulvar intraepithelial neoplasm, cervical intraepithelial neoplasm and invasive BSCC.<sup>5</sup> The second was a 54-year-old woman with BSSC of the uterine cervix and metastasis in the left iliac region diagnosed by fine needle aspiration. The patient had undergone a total hysterectomy almost 15 years before. The histological diagnosis then was an "infiltrative squamous cell carcinoma of basaloid type" of the uterine cervix.<sup>6</sup> The third was a 70-year-old woman with FIGO stage Ib1 pure BSSC of the cervix who underwent radical hysterectomy. There was no clinical evidence of recurrence during the 12 months of follow-up.<sup>7</sup>

Using standard diagnostic criteria for BSCC, a correct diagnosis of BSCC occurring in the uterine cervix should not be difficult, but due to its rarity, the prediction of precise biological behavior and designing optimal management strategies are not easy. It is necessary to accumulate data on these rare tumours worldwide to appreciate if the behavior of this particular type of tumour differs significantly from that of common cervical SCCs of similar clinical stage. Therefore, long-term follow-up of the patient and other such patients is important. This patient underwent standard concurrent chemoradiotherapy. She tolerated the procedure well and currently is in remission. Follow-up for the patient is ongoing.

In conclusion, we report a young Taiwanese adult with rapid developing BSCC of the uterine cervix, although we cannot actually ascertain when the cancer started and how rapidly it progressed.

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The authors declare (a) no prior or duplicate publication or submission elsewhere of any part of this work, (b) no financial or other relationships that might lead to a conflict of interest and (c) the manuscript has been read and approved by all the authors.

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