

An Unusual Tumour Metastasis to the Cervix

S Kesavan,**FAMS, MBBS, FRCPA*, I W Lee,***MBBS, MRCOG*

Abstract

Introduction: The vast majority of tumours in the cervix are either primary carcinomas or direct extension of primary tumours from nearby sites such as the endometrium, myometrium, rectum and bladder. Patients usually present with abnormal bleeding, pain and dyspareunia. A smaller number of patients are asymptomatic and their tumours can be diagnosed early by PAP smears. **Clinical Picture:** We present an unusual case of an elderly lady with breast cancer that had metastasized to the cervix 4 years after primary treatment of the breast malignancy. Although the appearance of the cervix was "normal looking", it was firm and indurated on palpation. **Pathology:** A definite diagnosis of metastatic infiltration could only be made by colposcopic biopsy. Early PAP smears had shown some abnormal cells suggestive of metastatic lobular carcinoma but were not conclusive of metastasis from breast carcinoma. Subsequent bone scans and CT scans of the abdomen revealed metastatic lesions in the skull, spine, left femoral shaft and liver.

Ann Acad Med Singapore 2000; 29:780-2

Key words: Colposcopy, Immunohistochemistry, Invasive lobular carcinoma, PAP smear

Case Report

A 55-year-old Chinese lady had a left mastectomy in April 1995 for an invasive lobular carcinoma of the breast. Axillary lymph node metastases were present. She was well on discharge 1 week after the mastectomy and was treated with radiotherapy and chemotherapy (including tamoxifen). She visited the polyclinic regularly for her yearly PAP smears, all of which showed no malignant cells. There were no complaints referable to the genital tract. In November 1999, approximately 4½ years after the left mastectomy, a routine pelvic examination conducted in the polyclinic showed a normal looking cervix. However, on careful palpation, the entire cervix felt unduly firm.

She was referred to KK Women's and Children's Hospital for further investigation where a PAP smear was repeated. Colposcopy, performed 2 weeks later in December 1999, showed a normal looking cervix (Fig. 1). The attending specialist concurred that there was diffuse induration of the cervix on palpation, and random punch biopsies of the cervix were diagnosed as metastatic lobular carcinoma from the breast. The patient was then sent for a bone scan that showed lesions in the skull, spine and left femoral

shaft. Computed tomography (CT) scan of the abdomen showed a single tumour metastasis in the liver. There were no complaints referable to these lesions.

Pathology

Three small pieces of cervical tissue were received. All three pieces showed a proliferation of individual dispersed cells in the stroma beneath the epithelium (Figs. 2 & 3). These abnormal cells showed enlarged hyperchromatic eccentrically located nuclei with moderate amounts of eosinophilic cytoplasm. Mucin-containing cytoplasmic vacuoles were noted in scattered cells. In focal areas, the cells formed a streaming pattern in single file cords. Rare mitotic figures were noted. The overlying epithelium did not show any ulceration or dysplasia. No cambium layer, cytoplasmic cross striations or invasion into the overlying epidermis were noted.

The tumour cells stained positively for keratins (AE1/3), confirming their epithelial nature. There was no staining for desmin, actin and CD34 antigen, thus excluding tumours of muscle and endothelial origin.

Slides from the original tumour in the left breast were

* Associate Consultant
Department of Pathology
Singapore General Hospital

** Consultant
Department of Gynaecologic Oncology
KK Women's and Children's Hospital

Address for Reprints: Dr S Kesavan, Department of Pathology, Singapore General Hospital, 1 Hospital Drive, Singapore 169608.



Fig. 1. Colposcopic view of the cervix.

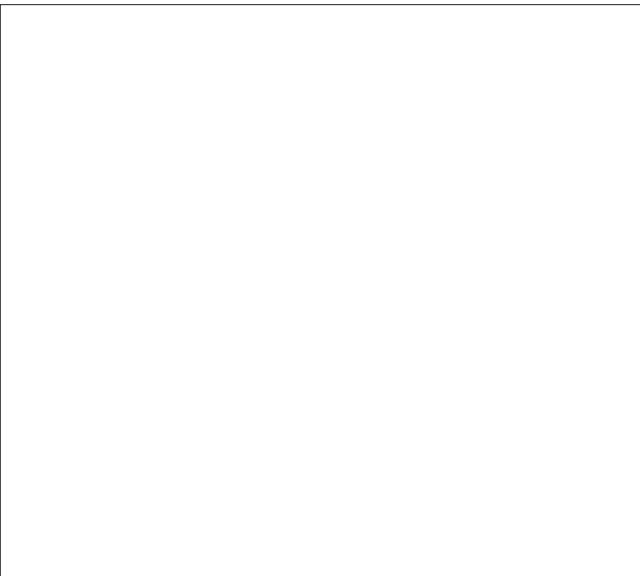


Fig. 2. Cervix. Metastatic lobular carcinoma arranged in single cell cords and embedded within a desmoplastic stroma (x100).

reviewed, confirming the presence of an invasive lobular carcinoma. The histology in both primary and metastatic sites was identical.

Review of the PAP smears (Fig. 4) done in the polyclinics and in KK Women's and Children's Hospital showed the presence of a few abnormal cells with enlarged hyperchromatic nuclei and scant amounts of cytoplasm dispersed amongst large numbers of well-estrogenised squames. These abnormal cells were considered to be metastatic lobular carcinoma. The estrogenic changes in

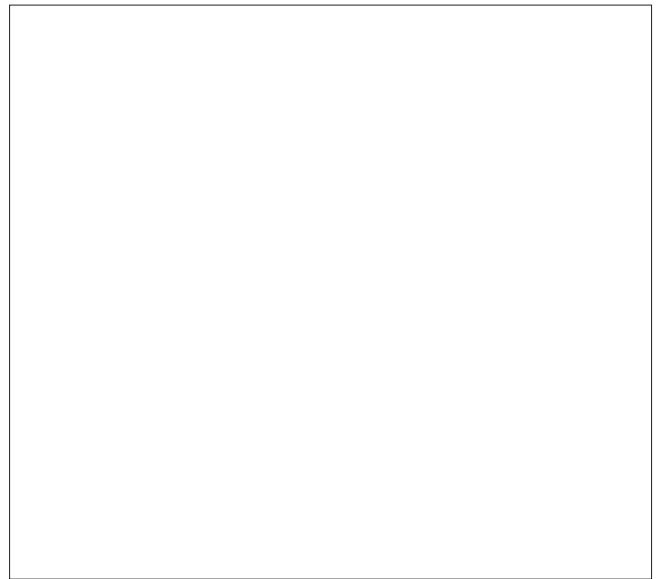


Fig. 3. Cervix. Lobular carcinoma cells with enlarged eccentrically located nuclei and moderate amounts of cytoplasm (x400).

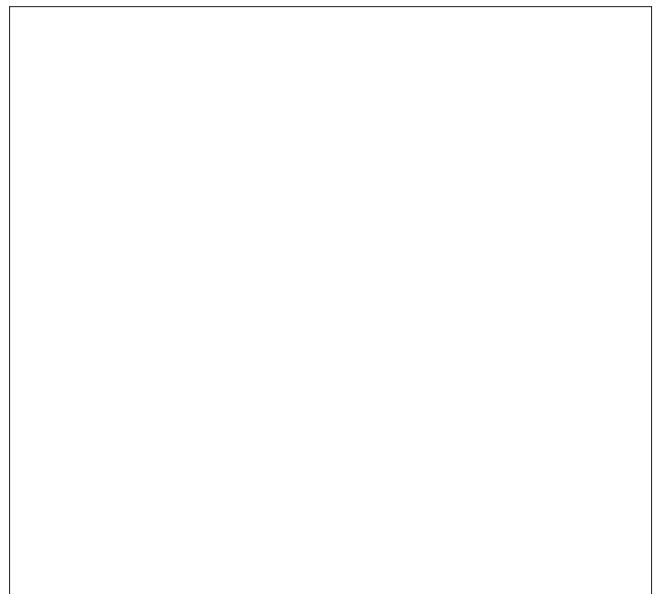


Fig. 4. PAP smear of the cervix. Single metastatic lobular carcinoma cells (x400).

the normal cervical squames from a postmenopausal patient were consistent with changes due to tamoxifen therapy.¹

Discussion

Metastatic breast carcinoma to the cervix is a rare phenomenon.^{2,3} In the majority of cases, the primary breast tumour is an invasive lobular carcinoma⁴ and in two previous case reports,^{5,6} carcinoma cells were identified in the PAP smears as well as in the biopsies.

Metastases to the cervix from distant sites occur only rarely.⁷ The commonest sites are the stomach and colon,^{8,9} the ovary⁷ and uterus (choriocarcinoma). There have also

been isolated reports of metastases from the kidney, gallbladder, pancreas, lung, thyroid⁷ and from malignant melanoma.¹⁰ These cases would be easier to diagnose in the presence of a known primary, but on occasion, when metastases present primarily as cervical involvement, it is a difficult diagnostic problem. In such cases, the pathologist has to be alert to unusual gross appearances and histologic patterns that may provide clues to the metastatic nature of the cervical lesion. In this reported case, the histology of the cervical lesion was considered typical of invasive lobular carcinoma and was identical to that of the primary breast tumour excised more than 4 years earlier.

Metastatic carcinomas to the cervix do occur from time to time and may assume deceptive, even bland, gross and histologic appearances. Clinicians and pathologists examining PAP smears taken from a “normal-looking” cervix may be lulled into a false sense of security and attribute the presence of rare abnormal cells to benign reactive processes. This article re-emphasizes the importance of a careful clinical examination with high index of suspicion. PAP smear may not provide adequate yield of cells to make a definitive diagnosis and colposcopic biopsy should be done to arrive at a proper diagnosis.

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