Salivary duct carcinoma presenting with vaginal metastasis: case report

M.Y. Gabril[1], G.M. Yousef[2]

[1]*Department of Pathology, London Health Science Center, London (Canada)*
[2]*Department of Laboratory Medicine. St. Michael's Hospital, Toronto (Canada)*

Summary

Vaginal cancer represents about 1-2% of the genital tract malignancies. Most cases represent metastasis from the cervix, endometrium or colon. Metastasis of salivary duct carcinoma to the vagina has not been previously reported. Salivary duct carcinoma (SDC) is a rare, highly aggressive tumor that most often involves the parotid gland. On presentation, SDC is metastasized to the regional lymph nodes in about 40% of cases. We report a case of metastatic salivary duct carcinoma presenting as a vaginal mass with bleeding. Diagnosis was confirmed by the histological appearance in addition to immunohistochemistry. To our knowledge this is the first reported case of vaginal metastasis from SDC. Small-sized primaries might be ignored by the patient, specially in the older age group, probably due to lack of manifesting symptoms like pain and bleeding. Some cancers, like SDC, have various histologic patterns in different areas of the tumor. Careful examinations of multiple sections, in addition to an immunohistochemical panel, and histologic comparison of all lesions are keys to a correct diagnosis.

Key words: Salivary tumors; Salivary duct carcinoma; Vagina; Metastasis; Salivary gland; Vaginal cancer.

Introduction

Salivary duct carcinoma is a rare, highly aggressive tumor with a dismal prognosis that most often involves the parotid gland [1, 2]. This tumor most commonly occurs in men in the 6th or 7th decades of life. About 60% of cases had regional lymph node metastasis and 40% had distant metastasis at the time of diagnosis [3]. Sites of distant metastasis include the lungs, bone, liver, thyroid, adrenal gland, brain and skin [4]. In the female genital tract, metastasis has been only reported in the uterus [5].

Vaginal cancer represents about 1-2% of genital tract malignancies. Most cases represent metastasis from the cervix, endometrium or colon. We present a case of metastatic salivary duct carcinoma (SDC) presenting as a vaginal mass. To our knowledge, this is the first report of vaginal metastasis from SDC.

Case Report

A 73-year-old woman presented with constipation and vaginal spotting. Vaginal examination revealed a vaginal mass with an irregular friable surface. Barium studies of the colon were unremarkable. CT scan revealed a 9.0 cm lobulated mass within the right pelvis, extending from the lumbosacral junction to the proximal vagina. It was also associated with extensive retroperitoneal lymphadenopathy. Subsequent complete physical examination and full investigations revealed a right parotid mass measuring 3.5 x 3.0 x 2.0 cm that was unnoticed by the patient for an unknown duration, in addition to a nasopharyngeal mass measuring 2.3 cm in diameter. Biopsies were taken from all lesions. The patient is still surviving until the time of writing this report (one year after the procedure).

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Histologic findings

Microscopic examination of the three lesions showed similar histology of an infiltrating poorly differentiated carcinoma with various histologic patterns. The majority of the tumor was characteristically formed of circumscribed nodules of tumor cells forming large duct-like structures with comedonecrosis resembling intraductal carcinoma of the breast (Figure 1). Other areas showed cribriform and solid patterns in a sclerotic stroma (Figure 2). Tumor cells had prominent nucleoli with abundant cytoplasm and showed a high degree of cytologic atypia and pleomorphism. Mitotic figures were abundant.

On immunohistochemistry, tumor cells were positive for CK7 (Figure 3A), GCDFP-15, ER, p53 (Figure 3B) and moderately positive for PSA (Figure 3C). It was negative for AR, PR, CK20, and Her2/neu. This immunopattern was similar in all three lesions. Taken together, these results are consistent with primary SDC of the parotid gland.

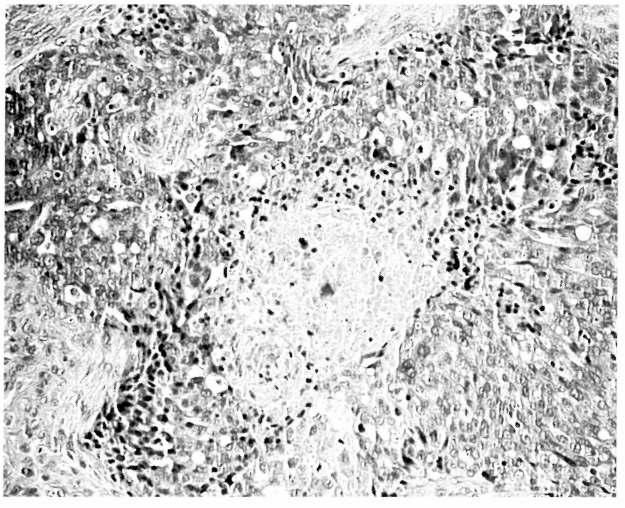
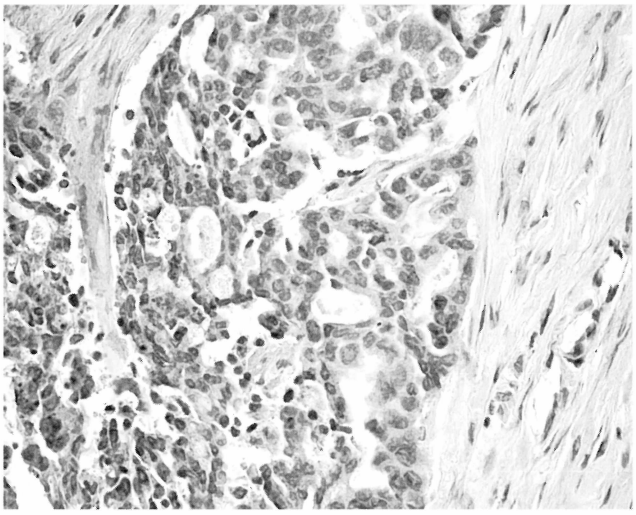


Figure 1. — Photomicrograph of the tumor (original magnification x 100) showing large duct-like structures with comedonecrosis.

Fig. 2A



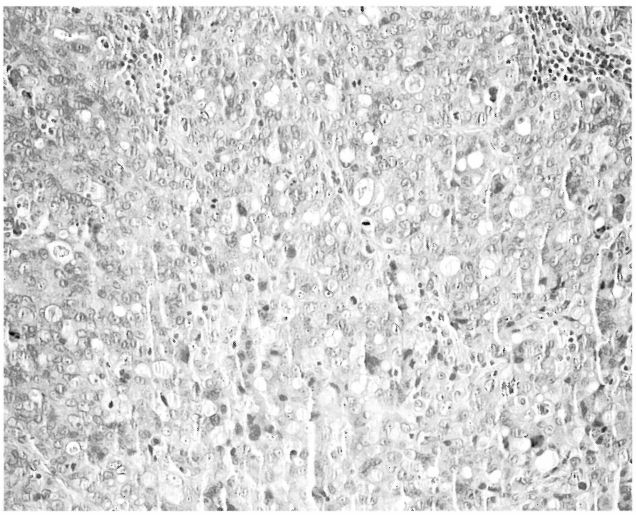
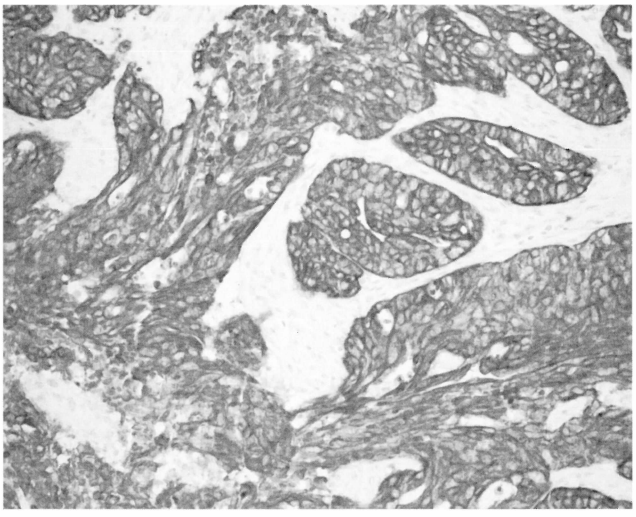


Fig.

Fig. 3A



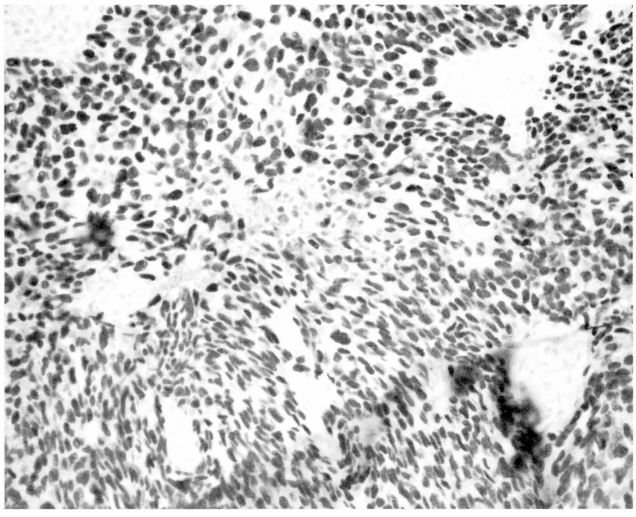


Fig.

Fig. 3C

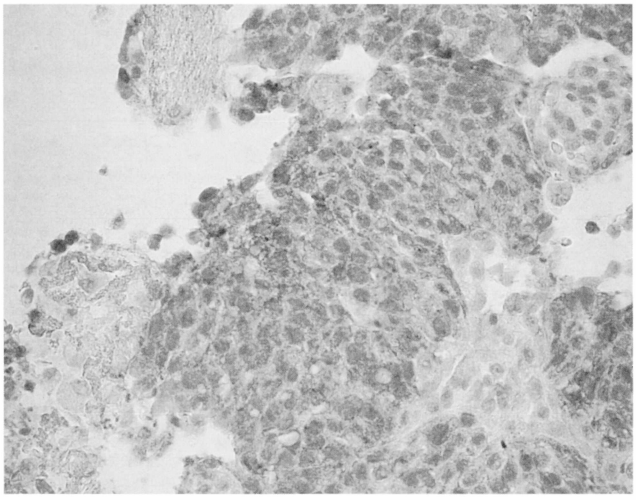


Figure 2 (A). — Photomicrograph (original magnification x 400) of the tumor with areas of cribriform architecture in a sclerosed stroma, and other areas showing smaller infiltrative ducts and solid nests of tumor (Figure 2B).

Figure 3. — Immunohistochemistry (original magnification x 100) showed the tumor to be positive for CK7 (Figure 3A), p53 (Figure 3B), and moderately positive for PSA (Figure 3C).

Discussion

Vaginal cancer represents about 1-2% of the genital tract malignancies [6]. Most cases represent metastasis from the cervix, endometrium, kidney or colon. Primary adenocarcinoma of the vagina is relatively rare and commonly diethylstilbestrol-related [6]. Secondary vaginal adenocarcinoma represents 2.6% of all gynecological adenocarcinomas. About 92.5% of apical lesions are metastasis from the upper genital tract; however, 90.0% of the posterior lesions originate from the gastrointestinal tract [7].

Cases of SDC metastasizing to the genital tract are not unprecedented. Previous reports showed metastasis to the

uterus that was diagnosed by cervical smear [5]. To our knowledge, our case is the first report of a SDC with metastasis to the vagina.

The chronological sequence of events was unclear from the patient's history. Likely, the parotid lesion existed prior to the vaginal mass, but was ignored by the patient as a possibly benign condition. The morphological and immunohistochemical profiles are distinctly different from primary vaginal carcinomas and are comparable to SDC.

The histologic differential diagnosis in this case should include other salivary gland tumors including mucoepidermoid carcinoma and adenoid cystic carcinoma in addition to metastasis from other organs. The diagnosis was established by the characteristic histologic morphology, in addition to the immunohistochemical profile. SDC are usually positive for GCDFP-15, cytokeratin, PSA, Her2/neu, B72.3 and AR [8].

Disseminated metastatic disease is frequently present in the patients with vaginal metastasis. Remote vaginal metastasis may occur either through lymphatic or vascular routes. In our case, radiological investigations revealed extensive retroperitoneal lymph node involvement and large pelvic mass. This observation of concomitant visceral and lymphatic spread supports the possibility of metastatic spread by the lymphatic route. However, another potential explanation in our case is involvement of the vagina by direct contiguous way from the adjacent visceral metastatic tumors.

In conclusion, we have presented a case of salivary gland adenocarcinoma that metastasized to the vagina. Our search of the literature revealed that vaginal metastasis from SDC of the parotid has not been previously reported. Our case draws to attention that, specially in the older age group, small-sized primaries might be ignored by the patient, probably due to lack of manifesting symptoms. Since some cancers have various histologic patterns in different areas of the tumor, careful examination of multiple sections, in addition to an immunohistochemical panel, and histologic comparison of all lesions are keys to a correct diagnosis.

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Address reprint requests to:
G.M. YOUSEF, M.D., Ph.D., FRCPC
Department of Laboratory Medicine
St. Michael's Hospital
30 Bond Street,
Toronto, ON, M5B 1W8 (Canada)