

RENAL PELVIC CANCER WITH PULMONARY METASTASIS: REPORT OF A CASE WITH 5-YEAR SURVIVAL FOLLOWING RESECTION OF METASTASIS

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A 66-year-old man first underwent total nephroureterectomy for transitional cell carcinoma of the renal pelvis. A solitary pulmonary metastasis developed 2 years subsequent to the initial operation. A middle pulmonary lobectomy was performed and the histological diagnosis was metastatic transitional cell carcinoma. At the present time, 5 years after removal of the solitary pulmonary metastasis, this patient is apparently free of tumor.

Thirty to forty percent of all patients with extrapulmonary malignancies develop lung metastases during the course of disease and in about 20% of the cases the metastases are limited to the lung (1). While it must be conceded that the patients available for surgical resection of the apparent solitary metastasis are relatively few and represent a distinct minority of those who have malignant disease, such form of therapy has been shown to provide an acceptable five year survival rate (2). However, management of urothelial cancers has been conservative and palliative in the presence of distant metastases. We report a case of renal pelvic cancer with a solitary pulmonary metastasis treated surgically in which the patient survives 5 years with no evidence of recurrence.

CASE REPORT

A 66-year-old man was admitted to our hospital on June 21, 1987, with a history of intermittent hematuria. An excretory urogram and CT scan revealed a space occupying lesion in the upper pole of the left kidney. A retrograde pyelogram showed a filling defect with irregular margins from the upper calyx to the renal pelvis of the left kidney. Left total nephroureterectomy was performed on July 13. Histologic examination revealed transitional cell carcinoma of the renal pelvis, pT3G3. The patient was discharged from the hospital on July 30 in satisfactory condition. Cystoscopy was performed every 3 months, and chest x-rays and CT scans every 6 months. The patient complained of blood-stained sputum on June 18, 1989, 2 years following the initial operation. A chest x-ray demonstrated a nodule in the right lung

(Fig. 1) and he was readmitted to our hospital. Laminagrams and CT scans showed a tumor mass with relatively clear margin (Fig. 2) and disclosed no other pulmonary lesions. A right middle pulmonary lobectomy was performed on September 4. Histologic diagnosis was metastatic transitional cell carcinoma in the lung (Fig. 3). Postoperative course of the patient was uneventful and he was discharged on November 11.

At the present time, 5 years after removal of the solitary pulmonary metastasis, cystoscopy, chest x-ray (Fig. 4), CT scans and bone scans have been negative for tumor recurrence.

DISCUSSION

In 107 patients who died of metastatic transitional cell carcinoma, the incidence of metastasis to the lung was 36% and solitary metastases were present in only 9 patients at necropsy (3). Our case seemed clinically to have a solitary pulmonary metastasis because complete metastatic evaluation has been negative 5 years after removal of the lung lesion.

Until recently the development of distant metastases was regarded as a manifestation of terminal disease and was associated with poor prognosis (4). However,



Fig. 1. Preoperative chest x-ray shows a solitary tumor in middle lobe of right lung.

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Fig. 2. Laminagrams (A) and CT scans (B) show a tumor mass with clear margin.

the average length of survival was reported to be 5 years in 5 of 6 patients, who had been treated for transitional cell carcinoma of the bladder and had no other evidence of malignancy, and had undergone thoracotomy and wedge resection for a solitary pulmonary metastasis (5). Two studies showed that patients with resectable pulmonary metastases had significantly improved chances of survival after radical surgery (6, 7). Anatomical characteristics of the lung may explain acceptable survival of patients treated with resection of solitary pulmonary metastasis, namely, a blood filter. All the circulating blood passes through the capillaries of the lung, and, in these capillaries, tumor cells in circulation may be trapped, thus preventing further dissemination of the tumor (6). As to the properties of the tumor itself, the influence of tumor doubling time on the survival period seems to be significant as shown by the report that a longer interval between the treatment of the

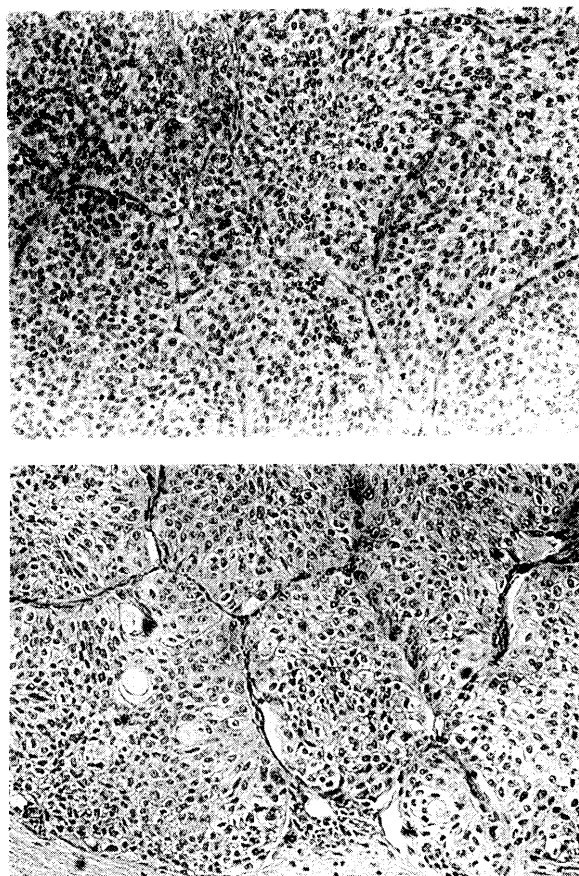


Fig. 3. Microscopic section demonstrates transitional cell carcinoma in lung (x 100).



Fig. 4. Chest x-ray 5 years postoperatively shows no evidence of recurrent tumor.

primary tumor and the appearance of the pulmonary metastasis was associated with better results after the resection of a solitary pulmonary metastasis (2). A relatively long period (2 years) of disease-free interval in our case may indicate the slow-growing characteristics of the metastatic lung tumor.

Metastasis remains the major clinical problem of cancer management. With few exceptions, curative

therapy is seldom possible in the presence of secondary spread. In selected patients, however, surgical resection of apparently isolated metastasis can contribute to long-term survival and provide worthwhile palliation (8). While recent progress in chemotherapy for urothelial cancers provided high response rate in lung metastases (9,10), limitations of chemotherapy was indicated by the high relapse rate (11). Since surviving tumor cells after chemotherapy are considered to be chemotherapy resistant, it may be worthwhile for us to try to excise pulmonary metastases remaining after chemotherapy when the primary tumor is controlled and other organ systems are not involved.

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