

Synchronous primary lung cancer and contralateral pulmonary renal cell carcinoma metastases

Neoplasm pulmonar primitiv sincron cu metastaze pulmonare controlaterale de carcinom renal cu celule clare

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Abstract

Synchronous malignant lesions will always entail treatment related difficulties which would ideally require discussions within a multidisciplinary committee in such a way as to reach the optimal solution for the patient. Presented herewith are two patients suffering from lung cancer and clear cell renal carcinoma contralateral metastases and the treatment alternatives that I have opted for.

Keywords: pulmonary metastasectomy, renal cell carcinoma, synchronous lung tumors

Rezumat

Leziunile maligne sincrone ridică întotdeauna probleme de tratament care ar fi ideal să fie discutate în cadrul unei comisii multidisciplinare pentru a ajunge la soluția cea mai bună pentru pacient. Prezentăm doi pacienți cu neoplasm bronhopulmonar și metastaze controlaterale de carcinom renal cu celule clare și opțiunile de tratament pe care le-am ales.

Cuvinte-cheie: metastazectomie pulmonară, carcinom renal cu celule clare, tumori sincrone

Introduction

Resection of pulmonary renal cell carcinoma metastases when the same fulfil the criteria for resectability of metastases, may generally occasion a survival rate of 20 – 60% up to a five-year duration, as opposed to patients that have not undergone resection, for which the survival rate reaches from 3 to 11%¹. We therefore consider an aggressive surgical approach, where it is applicable, as liable to imply superior results as opposed to the cases where the patients' surgical treatment is temporized. Association with other neoplasia, whether synchronous or metachronous, will, however pose difficulties both in terms of diagnosis, and treatment, both surgical and oncological. This article presents two cases where the primary lung cancer is synchronous with renal cell carcinoma metastases.

Case No. 1

Patient P.D., aged 61, with a history of stage 1 (T1N0M0) renal cell carcinoma for which right sided nephrectomy was performed four years ago, with no further oncological treatment, was admitted in the thoracic surgery department after undergoing a follow-up CT scan, (four years after the above mentioned nephrectomy and three and a half years since the most recent follow-up CT scan), upon which a left upper lobe tumor was identified, as were discovered 2 contralateral nodular lesions on the right upper lobe, of which one was located on the posterior segment, whereas the other on the apical segment (figures 1, 2, 3). There were multiple hypotheses for diagnostic identification. Considering the fact that no endobronchial lesions were revealed further to performing a fibrobronchoscopy, whereas access to Image-Guided

Percutaneous Biopsies continues to be an elusive goal, the imagery related aspect represented the cornerstone for deciding on how to proceed in terms of managing the said patient. The performed CT scan did not reveal any further lesions. Although the mediastinal adenopathies did not exceed 1 cm in diameter, whereas primary lung cancer and contralateral metastases was indeed among the possible diagnoses, while the mediastinal lymph node involvement is incompatible with primary surgical treatment, a staging cervical mediastinoscopy was initially performed. Since the result was negative, a left upper lobectomy with complete lymph node dissection was further performed. The histopathological result revealed G2 subtype acinous lung adenocarcinoma (figures 4, 5), with T3N0Mx staging (T3 – 8 cm tumor size, Mx – we were not, at that point, aware of the situation regarding the contralateral nodes).

Three weeks later, the contralateral nodes were resected (two atypical resections with approximately 1 cm safety margins) and mediastinal lymphadenectomy was performed. The histopathological result revealed that the nodes constituted two renal cell carcinoma metastases (figures 6, 7, 8), whereas the mediastinal lymph nodes were entirely negative.

Early postoperative recovery was favorable in both surgical instances, with no complications, as dismissal took place five days after the lobectomy and three days after resection of the metastases. Postoperative oncological treatment consisted in carboplatin/paclitaxel (4 cycles) and tyrosine kinases inhibitors (sunitinib). Two years after performing the surgical treatment, no indicators of local or remote recurrence have been identified, as regards both the lung and the renal neoplasms.



Fig. 1. Patient 1: left upper lobe tumor



Fig. 2. Patient 1: nodule in right upper lobe, posterior segment



Fig. 3. Patient 1: nodule in right upper lobe, apical segment

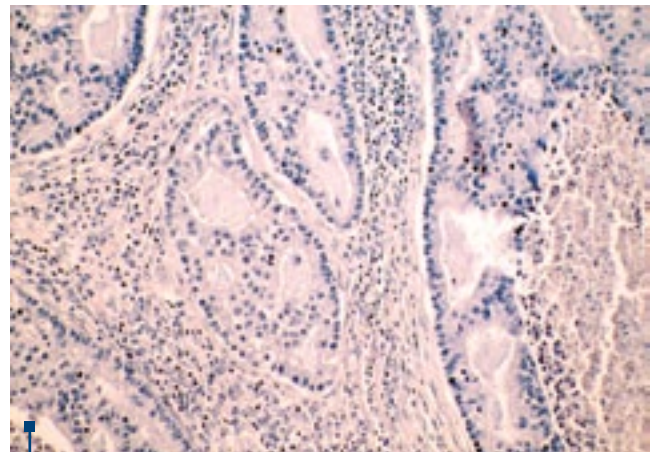


Fig. 4. Patient 1: Acinary pulmonary adenocarcinoma (20X)

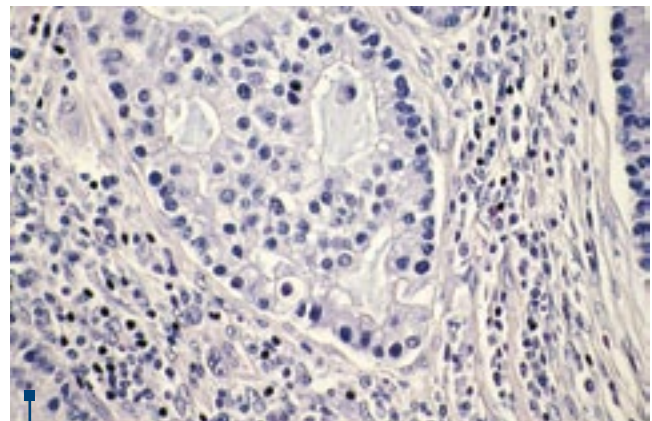


Fig. 5. Patient 1: Acinary pulmonary adenocarcinoma (40X)

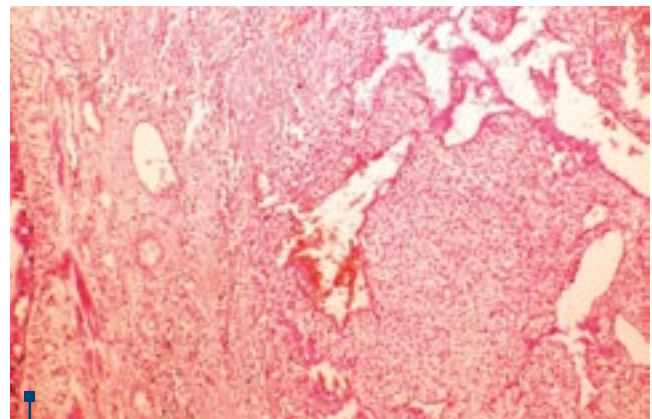


Fig. 6. Patient 1: Metastasis of renal cell carcinoma (10X)

Case 2

Patient G.G. aged 59, with a history of stage 1 (T1N0M0) renal cell carcinoma from eight years before, in relation to which left sided nephrectomy was performed at the time, arrived at the clinic further to a routine pulmonary X-ray having revealed opacity in the left upper lobe. It must be noted that postoperative follow-up in relation to the renal neoplasm was performed for up to three years after the said surgery, and no indicators of local or remote recurrence were identified at the time, following this period, the patient no longer attended regular checks. The performed CT scan revealed two lesions, one affecting the left upper lobe, whereas the other affected the right upper lobe, with both lesions displaying primary lung cancer aspect, which is also the seemingly more credible hypothetical diagnosis given the extensive period since renal neoplasm occurred (figure 9). No biopsy prior to surgery could be performed in this case either; the fibrobronchoscopy did not reveal any endobronchial proliferative elements.

In order to elude futile surgical treatment, staging mediastinoscopy was initially performed in this case, too. The result of the same was negative. The planned surgical treatment in this case consisted of a superior bilateral lobectomy. Due to surgical tactical considerations, the intervention targeted the right side initially (in the context of selective intubation, performance of left upper lobectomy could be facilitated by means of ventilating seven segments resting on the right side, instead of proceeding the other way around); initial atypical resection to ensure extemporaneous diagnosis revealed cancerous infiltrations, therefore the right upper lobectomy was performed completed by a medi-

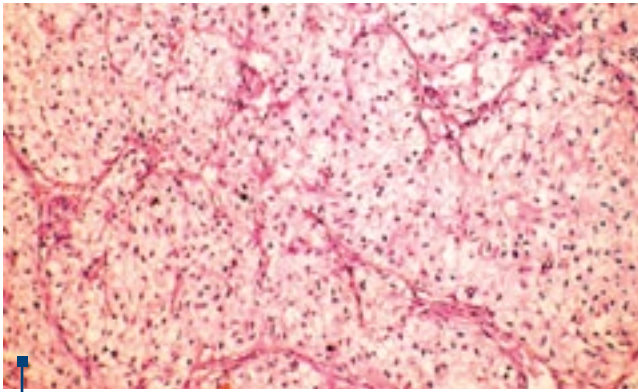


Fig. 7. Patient 1: Metastasis of renal cell carcinoma (20X)

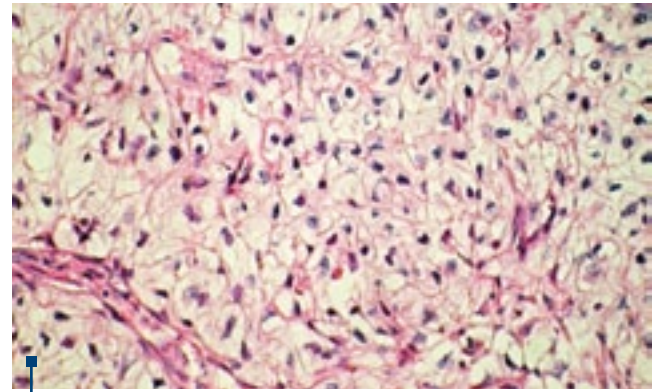


Fig. 8. Patient 1: Metastasis of renal cell carcinoma (40X)

astinal lymphadenectomy. Postoperative recovery was simple, and discharge took place on the fifth day. The histopathological result revealed, to everyone's surprise, renal cell carcinoma lung metastasis. All the mediastinal lymph nodes were negative.

Due to the fact that in all appearance the only lesions were the ones described previously, in spite of the fact that the resection that was initially performed was larger than needed in relation to metastasis localisation (lobectomy instead of atypical resection), it was decided to proceed with the initial plan and to remove the mass located on the left side, but ensuring, as far as possible, minimal resection (a left apical trisegmentectomy), given that the current most valid suspicion involved metastases. However, for tactical reasons, left upper lobectomy and mediastinal lymphadenectomy were eventually performed. Once more, the histopathological result surprised everyone, revealing primary large cell neuroendocrine carcinoma of the lung, therefore the performed surgery was, on this occasion, ideal. The mediastinal adenopathies were again negative, with the final staging at T2bN0M0. It must be noted that in this case, postoperative recovery was difficult, as the patient required repeated bronchoaspirations, whereas dismissal took place on the 12th day following surgery.

Oncological treatment consisted of a mixture of cisplatin / etoposide (6 cycles) and tyrosine kinases inhibitors, such treatment being hardly tolerable. Recovery was problematic (the patient was included in the respiratory rehabilitation program), but, two years after the latest surgery, the patient is in a satisfactory state and has resumed the regular activities, (fiddler), while no indicators of local or remote recurrence have been identified.

Discussions

Although the combination of renal neoplasm – lung neoplasm at various stages of the illness is hardly rare given the shared smoking related causation, seldom do we encounter cases where both tumors are treated successfully, the main reason behind such a reality being that patients comply to a limited extent with postoperative follow-up checks, on the one hand, and that there are no strict postoperative follow-up protocols, on the other hand.

The literature includes several other such cases, where the authors mention the same difficulties we encountered in our cases^{2,3,4}. Histological classification of lung lesions prior



Fig. 9. Patient 2: Nodules in both upper lobes

to surgery is generally very important, but, in such cases, it is vital to successful decision making.

It would be beneficial to introduce Image-Guided Biopsies or fibrobronchoscopy with transbronchial biopsies in our daily routine, thus ensuring that the patient no longer undergoes surgery in the absence of a histological exam, except only exceptionally, but this continues to be a far-fetched goal.

An aggressive surgical approach in such cases is preferable, in light of the fact that surgery constitutes the only chance such patients have, as delay in performing surgical treatment is detrimental to the patients. ■

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