Weekly Cetuximab and Gemcitabine plus Cisplatin as Salvage Therapy for Unresectable Non-Small Cell Lung Cancer

Cheng-Jeng Tai^{a,b} Chung-Huei Hsu^c Feng-Jeh Wang^d Wing-Keung Chau^a Chi-Li Chung^b
Chih-Cheng Hsieh^{e,f}

^a Section of Hematology-Oncology, Taipei Medical University Hospital,

^b School of Medicine, Taipei Medical University,

^c Department of Nuclear Medicine,

^d Section of Chest, Department of Medicine, Taipei Medical University Hospital,

^e Department of Thoracic Surgery, Taipei Veterans General Hospital,

^f School of Medicine, National Yang-Ming University, Taipei, Taiwan

A 44-year-old man had a persistent cough and lost more than 5 kg within 2 months before April 2007. He was found to have a 5-cm mass around the left middle lung field, and underwent a computed tomography-guided biopsy which showed primary non-small cell lung cancer (NSCLC). Clinical staging was as T3NxM0. The patient underwent concurrent chemotherapy with regular-dose docetaxel plus cisplatin, and radiotherapy at a local hospital. Tumor growth persisted, and in August 2007 the tumor almost obstructed the left main bronchus. Thus, he was referred to our medical oncology department for further treatment.

We shifted the treatment regimen to weekly cetuximab (loading dose 350 mg/m², weekly maintenance 200 mg/m²) and weekly gemcitabine (800 mg/m²) plus cisplatin (35 mg/m²). The patient tolerated the treatment well; except for skin rashes and oral ulcers; there were no notable hematologic toxicities during treatment. The tumor showed regression

after 4 months of treatment (fig. 1 and 2), and was evaluated as resectable. With the patient's permission, a left upper lobectomy (LUL) with superior segmentectomy via left thoracotomy was performed on 19 February 2008, and the pathological diagnosis was mucoepidermoid carcinoma stage T2N1. Further adjuvant chemotherapy with the same regimen was given for another 3 months. Presently in March 2009, the patient is still in complete remission with a good health status.

For NSCLC patients, resectability of the tumor is a critical point for long-term survival, and long-term survival is the therapeutic objective for initiating treatment. On the question of whether small molecular weight epidermal growth factor receptor (EGFR) inhibitors such as gefitinib and erlotinib, which are widely used for targeted treatment of unresectable NSCLC, can enhance tumor resectability or not, no published articles exist for systemic review. Furthermore,

Fig. 1. Computed tomography scan before (left) and post treatment (right). The circles indicate the tumor location. In the right image, the infiltration outside the circle was radiation pneumonitis.

Fig. 2. Chest X-rays **A** at start of treatment, and **B** after 4 months of treatment just before surgery.

when given with conventional chemotherapy, reports of their use are also usually unsatisfactory [1]. One possible reason for the dissatisfaction with these EGFR inhibitors might be the poor performance status of the patients after several courses of treatment combined with high-dose conventional chemotherapy.

Several published reports indicate that combining chemotherapy with large molecular weight EGFR inhibitors such as cetuximab is an option for NSCLC patients [2–4]. Butts et al. [5] and Rosell et al. [6] revealed that when adding cetuximab to conventional chemotherapy, patients usually had an 8–10% higher response rate than those without cetuximab.

Since previous chemotherapeutic toxicities could have had a negative impact on the performance status of our patient, we

used a typical weekly regimen with gemcitabine plus cisplatin combined with cetuximab, and this worked well on this patient [7]. We utilized lower doses of cetuximab based on concerns regarding the cost of the usual dose (loading 400 mg/m², maintenance 250 mg/m²) and possibly higher dermatological toxicities in Asians. The lower dose was effective in this patient, with good tolerance. We suggest that appropriately applying targeted therapy with conventional chemotherapy could help achieve tumor resectability with less adverse effects.

Conflict of Interest

The authors declare that they have no conflict of interest.

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