Male-to-female ratio was 5:2. In more than 90% of cases, the pathology was squamous-cell carcinoma. Adenosquamous carcinoma and adenocarcinoma were less than 10%. Cancers staged as IV, III, and II made up 38.2%, 53.7%, and 10.1% of cases, respectively, and 23.6% of cases involved metastasis. 22 patients (2.63%) had adverse reactions that were unlikely to be due to nimotuzumab, including chills and fever in eight cases (0.96%), rash in five cases (0.6%), oral mucositis in three cases (0.36%), gastrointestinal symptoms (vomiting or diarrhoea) in two cases (0.24%), and dizziness in one case (0.12%). One patient had significant fatigue (0.12%), five had thrombocytopenia (0.6%), and five had decreased white blood-cell count. Nimotuzumab-induced allergy occurred in one case (0.12%).

Interpretation: Nimotuzumab combined with chemotherapy, radiotherapy, or chemoradiotherapy for patients with advanced carcinoma is well tolerated and safe.

Funding: China national Twelfth Five-year Program Funds and Beijing Science Plan.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.047

P47 CLINICAL OBSERVATION IN NASOPHARYNGEAL CARCINOMA TREATED WITH ANTI-EGFR MONOCLONAL ANTIBODIES FOLLOWED BY HELICAL TOMOTHERAPY

L. Feng [a], J. Hou [a], B. Cai [a], N. Lu [a], L. Du [a], L. Ma [a], S. Xu [a], X. Zhang [a], C. Xie [a], J. Zheng [b,c,*]. [a] *Department of Radiation Oncology, Chinese PLA General Hospital, Beijing, China.* [b] *Biotech Pharmaceutical Co. Ltd., Beijing, China.* [c] *Tongji University, School of Medicine, Shanghai, China*

Background: We evaluated clinical outcomes and acute toxicity in nasopharyngeal carcinoma treated with tomotherapy followed by anti-EGFR monoclonal antibodies.

Methods: Between March, 2008, and November, 2009, 34 patients with newly diagnosed nasopharyngeal carcinoma were treated with helical tomotherapy combined with nimotuzumab (group N) or cetuximab (group C). All patients received tomotherapy at 70 Gy/33F for the gross tumour volume (pGTVnx) and positive lymph nodes (GTVnd), 60Gy/33F for the high-risk clinical target volume (CTV1), and 56 Gy/33F for the low-risk clinical target volume (CTV2). 17 patients in group N were given a weekly injection of 200 mg/m^2 for 6–7 weeks, and 17 patients in group C were given an initial intravenous dose of 400 mg/m^2 in the first week, followed by weekly injections of 250 mg/m^2 for 6–7 weeks. Acute lesions were evaluated with the RTOG/EORTC criteria.

Findings The median follow-up was 22 months. Effective rates (complete + partial responses) at 3, 6, and 12 months were 82.4% (14/17), 70.6% (12/17), and 70.6% (12/17) in group N, and 88.2% (15/17), 82.4% (14/17), and 82.4% (14/17) in group C. 1-year survival was 88.2% (15/17) in group N and 100% (17/17) in group C. Nimotuzumab was associated with less acute mucositis ($u = 2.245$, $p < 0.05$), weight loss ($t' = 2.563$, $p = 0.0153$) and rash ($u = 4.362$, $p < 0.01$) than cetuximab.

Interpretation: Helical tomotherapy combined with nimotuzumab or cetuximab was effective for nasopharyngeal carcinoma, and there was no difference in short-term efficacy or 1-year survival. Nimotuzumab has fewer acute reactions than cetuximab. More studies should be done to ascertain the long-term effects.

Funding: China national Twelfth Five-year Program Fund and Beijing Science Plan.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.048

P48 PILOT STUDY OF TARGETED THERAPY WITH EGFR ANTIBODY (NIMOTUZUMAB) IN PATIENTS WITH UNRESECTABLE HEAD AND NECK CANCER

W. Guo [a], G. Ren [a], C. Li [a], Y. Wu [a], J. Zheng [b,c,*]. [a] *Department of Oral and Maxillofacical Surgery, 9th People's Hospital, School of Medicine, Shanghai Jiaotong University, China.* [b] *Biotech Pharmaceutical Co. Ltd., Beijing, China.* [c] *Tongji University, School of Medicine, Shanghai, China*

Background: We explored the efficacy of biological targeted therapy combined with chemotherapy.

Methods: 71 patients (54 men and 17 women; age 30–83 years, mean 60) were enrolled in this study. All patients had locally advanced oral-maxillofacial and head and neck tumours (no indication for surgery or radiotherapy) confirmed by histology and radiology, with indication for biochemotherapy. The chemotherapy regimen given was cisplatin 75 mg/m^2 day 1, paclitaxel 75 mg/m^2 day 1, fluorouracil 750 mg/m^2 days 1–5, and nimotuzumab 200 mg/m^2 weekly.

Findings: Patients completed 2–4 cycles of chemotherapy (mean 2.2). Nimotuzumab was given 2–8 times (mean 4.3). The prognosis was as follows: complete response in four patients, partial response in 39, stable disease in 18, and progressive disease in 3. Seven patients could not be evaluated. The total effective rate, calculated as complete plus partial responses, was 61%. 29 patients had surgery after biochemotherapy. No serious adverse reactions were noted during the course of the treatment, only one case of slight erythra infection.

Interpretation: Nimotuzumab was effective in increasing chemosensitivity and had a good tolerability profile.

Funding: International Technology Cooperation Fund and Beijing Science Plan.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.049

P49 ESCALATING WEEKLY FIXED-DOSE OF NIMOTUZUMAB WITH CONCURRENT CHEMORADIOTHERAPY IN PATIENTS WITH ADVANCED OESOPHAGEAL CANCER – A PHASE 1 STUDY

K. Zhao [a], G. Jiang [a], X. Hu [a], X. Wu [a], X. Fu [a], M. Fan [a], S. Yu [b], X. Chu [b], P. Liang [b], J. Zheng [*c]. [a] *Department of Radiotherapy, Cancer Hospital, Fudan University, Shanghai, China.* [b] *Biotech Pharmaceuticals Ltd., Beijing, China.* [c] *School of Medicine, Tongji University, Shanghai, China*

Background: Concurrent chemoradiotherapy is the standard treatment for non-surgical care of patients with locally advanced oesophageal cancer. Nimotuzumab (h-R3) is a genetically engineered humanised monoclonal antibody that can recognise an epitope in the extracellular domain of human epidermal growth-factor receptor (EGFR). This phase 1 trial was designed to assess the safety and efficacy of nimotuzumab when given with concurrent chemoradiotherapy.

Methods: Patients age 18–75 years, with ECOG performance status 0–2 and locally advanced squamous oesophageal cancer confirmed by histological assay, were eligible for the study. Patients received radiotherapy to a total dose of 61.2 Gy/32Fx concurrent with two cycles of PF regimen (cisplatin 25 mg/m^2 days 1–3; fluorouracil 600 mg/m^2 continuous IV infusion days 1–3, every 28 days). An escalating weekly fixed dose of nimotuzumab (100, 200, and 400 mg) was administered during radiotherapy in a cohort study. After radiotherapy, patients received consolidation chemotherapy with PF regimen every 28 days for another two cycles. The primary endpoints were safety and early efficacy. The trial was approved by the Chinese State Food and Drug Administration and the protocol has passed ethical committee review and gained institutional review board permission. The trial is registered with clinicaltrials.gov, number NCT00950417. All participants gave written informed consent.

Findings: From July, 2009, to June, 2010, nine patients (seven men and two women) with a median age of 58 years (48–72 years) were enrolled. All patients tolerated the treatment. No adverse events likely to be related to nimotuzumab were noted. The objective remission rate, which can reflect early efficacy, was 66.67–75% based on the evaluable cases.

Interpretation: Nimotuzumab combined with chemoradiotherapy based on the PF regimen was safe and well-tolerated.

Funding: China National Twelfth Five-year Program Fund and Beijing Science Plan.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.050

P50 DOSE–ESCALATION STUDY OF NIMOTUZUMAB PLUS IRINOTECAN AS SECOND-LINE TREATMENT IN METASTATIC COLORECTAL CANCER WITH WILD-TYPE K-RAS

J. Zhou [a], L. Shen [b], J. Zheng [b,c,*]. [a] *Department of Internal Oncology, Beijing Cancer Hospital, Beijing, China*. [b] *Biotech Pharmaceutical Co. Ltd., Beijing, China*. [c] *Tongji University, School of Medicine, Shanghai, China*

Background: Nimotuzumab is a humanised monoclonal antibody of epidermal growth-factor receptor (EGFR). We assessed the safety, tolerability, and efficacy of nimotuzumab combined with irinotecan as second-line treatment in Chinese patients with metastatic colorectal cancer (mCRC).

Methods: Patients with mCRC refractory to oxaliplatin, wild-type K-ras, target lesion(s), ECOG performance status $\leqslant$2, and adequate organ function were eligible for this open-label, single-arm trial (NCT00972465). Irinotecan was given as 180 mg/m^2 on day 1 every 2 weeks until progression, or adverse events, for a maximum of six cycles. Nimotuzumab was given as 200, 400, or 600 mg weekly until progression or adverse events. Primary endpoints were objective response rate and toxicity. Secondary endpoints were progression-free and overall survival. Patients gave written informed consent.

Findings A total of 22 patients (male-to-female ratio 14:8; median age 55 years, range 30–78) were enrolled from July, 2009, to July, 2010. Four, seven, and 11 patients received nimotuzumab at a dose of 200, 400, and 600 mg, respectively. The total number of doses of nimotuzumab was 244 (median 6, range 2–30). No grade 3–4 toxic effects relating to nimotuzumab were observed. Two patients developed skin rash (grade 1): one each at the 400 and 600 mg doses. The maximum tolerated dose has not yet been reached. Three patients (two at the 400 mg dose and one at 600 mg) dropped out for personal reasons. In the 600 mg group, partial response was 40% (4/10) and progressive disease (PD) was 60% (6/10). In the 400 mg group, stable disease (SD) was 20% (1/5) and PD was 80% (4/5). In the 200 mg group, SD was 50% (2/4) and PD was 50% (2/4). Follow-up of overall survival is ongoing.

Interpretation: Addition of nimotuzumab 600 mg weekly to irinotecan for second-line treatment of mCRC is safe, and first data suggest promising activity. The maximum tolerated dose of nimotuzumab has not been reached yet.

Funding: Beijing Science Plan.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.051

P51 RANDOMISED, SINGLE-CENTRE, PHASE 2 TRIAL OF NIMOTUZUMAB PLUS CISPLATIN AND S-1 AS FIRST-LINE THERAPY IN PATIENTS WITH ADVANCED GASTRIC CANCER

Y. Chi [a], J. Wang [a], Z. Zheng [a], A. Zhou [a], L. Yang [a], T. Qu [a], W. Jiang [a], S. Shi [a], Y. Sun [a], Y. Song [a], S. Kang [a], J. Zheng [b,c,*]. [a] *Cancer Hospital, Chinese Academy Medical Science, Beijing, China*. [b] *Biotech Pharmaceutical Co. Ltd., Beijing, China*. [c] *School of Medicine, Tongji University, Shanghai, China*

Background: Nimotuzumab, a humanised anti-epidermal growth-factor receptor (EGFR) monoclonal antibody, has demonstrated efficacy and an absence of severe skin toxicity in many phase 1 and 2 cancer trials.

Methods: We did a single-centre, randomised, parallel assignment, open-label study of nimotuzumab (N: 200 mg IV on days 1, 8, and 15, every 3 weeks) plus cisplatin (C: 30 mg/m^2 on days 1 and 2, every 3 weeks) plus S-1 (S: 80 mg/m^2 twice daily on days 1–14, followed by 7 days off) versus cisplatin plus S-1, as first-line treatment in patients with advanced or metastatic gastric cancer. If tumour control was achieved, NCS and CS were continued until unacceptable toxicity or disease progression. The primary endpoint was objective response rate (ORR) and the secondary endpoints included time-to-progression (TTP), progression-free survival (PFS), 1-year survival rates, and safety.

Findings: 40 patients, 27 men and 13 women, with a median age of 54 years (range 21–74) and good performance status (ECOG PS 0–2) were treated with NCS (n = 20) or CS (n = 20). Up to January 14, 2011, 36 patients (NCS group 19 cases, CS group 17 cases) have undergone efficacy assessment. ORR was 63.2% (12/19) in the NCS