A Cheap and Affordable Combination Chemotherapy (Irinotecan and Cisplatin) for Treatment of Lung Cancer in Developing Countries - Observations from India.

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Background: Survival of lung cancer is dismal particularly in developing countries. Chemotherapy may be one option in most cases. Cisplatin-based chemotherapy provides survival advantage, improved symptoms and quality of life (BMJ 1995, Rinaldi, M et al 2006) even in developing countries (Shajeem et al 2003). A number of new active drugs have been used. But cost factor is an important and perhaps the only constraint. We tried a relatively cheaper drug combination of irinotecan and cisplatin in patients of lung cancer (NSCLC and SCLC).

Material and Method: Physical examination, hemogram, biochemistry, chest skiagram, and computed tomography (whenever possible) were done. Chemotherapy was administered on an outpatient basis consisting of irinotecan 70mg/m², and cisplatin (60 mg/m²) with proper hydration and anti-emetics every 28 days.

Results: Data were collected from 160 patients, treated between May 2005 and October 2006. The analysis was performed on the data up to January 31st 2007. All patients were affected by NSCLC, the most represented histology was adenocarcinoma (22.2%); mostly males, 117 (73.1%) versus 43 females (26.5%), and smokers (91.2%). 147 patients (91.9%) were affected by IV and smoking (91.2%). 6 (3.7%) were affected by IIB disease.

Most of the patients were previously treated with a platinum-based chemotherapy, except 6 (3.7%). The total number of cycles of Pemetrexed was 536, the median number of cycles of 3,3 per patient; 60 out of 160, (37.5%) received 3 cycles of Pemetrexed, 31 completed 6 cycles (19.4%); a few of them received more than 6 cycles (3 and 1 patient had 8 and 9 cycles respectively). About response, 17 patients (11.2%) showed a complete or partial response (CR and PR), 82 (51.2%) a progressive (PD) and 44 (27.5%) a stable disease (SD). The clinical benefit (PR+CR+SD) was gained in 38.1% of patients.

The overall survival rate was assessed by Kaplan and Meier methods (Hong et al 2006; Jeong et al 2006; Hino et al 2006). A co-operative study reported that this combination has similar efficacy compared to three other commonly used regimens (Ohe et al 2006).

The problem of chemotherapy in developing countries is of affordability of newer drugs. The cost of the present regimen is less than US$ 100. Thus those who wish to take the advantage of chemotherapy, but could not afford high cost of therapy with taxanes/gemcitabine, irinotecan and cisplatin should be offered to them for improved survival.

Discussion: Irinotecan and cisplatin regimen is effective and well tolerated in patients with new, relapsed or refractory SCLC and NSCLC (Hong et al 2006; Jeong et al 2006; Hino et al 2006). A four-arm co-operative study reported that this combination has similar efficacy compared to three other commonly used regimens (Ohe et al 2006). The problem of chemotherapy in developing countries is of affordability of newer drugs. The cost of the present regimen is less than US$ 100. Thus those who wish to take the advantage of chemotherapy, but could not afford high cost of therapy with taxanes/gemcitabine, irinotecan and cisplatin should be offered to them for improved survival.