



Title	Are L-myc genotypes prognostic markers in non-small cell lung carcinoma (NSCLC) in our Chinese patients?
Author(s)	Lam, WK; Ge, H; Lee, J; Wong, MP; Yew, WW; Lung, ML
Citation	The 3rd Medical Research Conference, Hong Kong, China, 10-11 January 1998, v. 20 n. 2 Supp, p. 22
Issued Date	1998
URL	http://hdl.handle.net/10722/54171
Rights	Creative Commons: Attribution 3.0 Hong Kong License

SHOULD WE GIVE CHEMOTHERAPY IN PATIENTS WITH INOPERABLE NON-SMALL CELL LUNG CANCER (NSCLC)? AN EVALUATION OF SEVENTY-EIGHT PATIENTS WHO HAD RECEIVED MIP CHEMOTHERAPY IN HONG KONG. SP Lam, WK Lam, M Ip, Sha YY, J Chan, K Tsang. Department of Medicine, University of Hong Kong, Queen Mary Hospital, Hong Kong.

Background. The role of chemotherapy in the treatment of advanced stage NSCLC remains controversial. MIP was one of the most active cisplatin-based chemotherapy regimens for the treatment of stage III B / IV NSCLC patients and our previous studies had shown MIP gave a statistically significant survival advantage over best supportive treatment alone. The objective of this study was to determine the effects of MIP on response rate, survival and toxicity in a larger number of patients with NSCLC in Hong Kong.

Methods. Seventy-six patients with histologically / cytologically confirmed stages III B or IV NSCLC, all aged ≤ 70 years with performance status of Karnofsky scale (KS) ≥ 40 , were entered into MIP chemotherapy study consisting of Mitomycin-C 8 mg / m² i.v. (for courses 1, 3, 5 only) day 1, Cisplatin (DDP) 60 mg / m² i.v. day 1, Ifosfamide 1500 mg / m² i.v. day 1 - 3, Q 3 - 4 W for 2 courses, then Q 3 - 4 W for 2 more courses if response positive.

Results. 52 male and 24 female with a mean age of 51 (range 22 - 69) entered the study. Sixty-eight patients who completed at least two courses of MIP were assessed for response. The overall response rate (all patients) was 18 / 68 (26.5%); 29 patients had stable disease (a decrease of $< 50\%$ of measurable lesions, with no new lesions, lasting > 3 months) (42.6%) and 21 patients had progressive disease (30.9%). The median survival of the entire group was 60 weeks; 75 weeks for stage 3 patients and 42 weeks for stage 4 patients. The one year survival rate was 51% for the entire group and the two year survival was 20%. The survival in stage III patients was significantly better than patients in stage IV ($p < 0.002$). Vomiting was the commonest side effects, occurred in 64% of chemotherapy courses despite intensive anti-emetic regimen (high dose metoclopramide, dexamethasone and diphenphdramine). Haematological and renal toxicity was mild, with no leucopenia-septicaemia related deaths. There were only two withdrawal because of side effects, one from severe vomiting associated with underlying duodenitis and the other because of anxiety.

Conclusions. The response rate and survival rate in our MIP-treated patients appear promising. Most patients tolerated the chemotherapy and the toxicity of MIP was mild, mainly involve gastrointestinal, blood and renal systems. MIP can be recommended to patients with stage III B / IV NSCLC who have a satisfactory performance status, and who are well informed of the side effects, expected efficacy and limitations of chemotherapy, and are motivated.

ARE L-myc GENOTYPES PROGNOSTIC MARKERS IN NON-SMALL CELL LUNG CARCINOMA (NSCLC) IN OUR CHINESE PATIENTS?

WK Lam, H Ge², J Lee³, MP Wong⁴, WW Yew³, ML Lung². Depts of Medicine and ⁴Pathology, University of Hong Kong ²Dept of Biology, HKUST, and ³TB&Chest Unit, Grantham Hospital, Hong Kong.

L-myc is a nuclear oncogene which exhibits a 2-allele polymorphism with 10Kb(L) and 6.6 Kb(S) alleles. The S allele has been reported to be indicative of poor prognosis in lung cancer in Japanese but not in Caucasian patients.

Genomic DNA from normal lung tissues of 56 Chinese patients with NSCLC who underwent surgery and the blood of 26 healthy individuals were extracted and studied for *L-myc* genotypes using PCR-RFLP technique. The patients included 35 men (average age 60.3 \pm 10.6 yrs, 86% smokers) and 21 women (average age 62.5 \pm 9.2 yrs, 24% smokers), and histologically 38/56 (68%) were adenocarcinoma and 13/56 (23%) were squamous cell carcinoma. The three genotypes were the L-L homozygote (267-base pair fragment), the L-S heterozygote (267, 142, & 125-base pair fragments) and the S-S homozygote (142 & 125-base pair fragments). Their distributions (L-L:L-S:S-S = 17:19:20 for lung cancer and 6:12:8 for controls) showed a significant under-representation of L-S heterozygotes among the female patients (observed:5; expected:11 with departure from Hardy-Weinberg equilibrium). The survival rates for the L-L, L-S and S-S groups of patients at 50-months post-operation were 55%, 65% and 73% respectively (L-L genotype versus S-S genotype: $P < 0.05$). There was no correlation between the histological types, staging and age and the *L-myc* genotypes.

It is concluded that L-L genotype is associated with a significant poorer survival at 50-month post-op. compared to S-S genotype. The significance of (1) the under-representation of L-S heterozygotes among Chinese female patients and (2) the *L-myc* genotype as a prognostic marker warrants more extensive investigation.