Aim: Despite of huge development of molecular research and target agents, patients with EGFR wild type NSCLC who accounted for more than a half of NSCLC patients still have to receive platinum doublet chemotherapy in 1st line treatment. Because only a little research has been conducted with EGFR wild type NSCLC patients, we investigated efficacies of various platinum doublet regimens in these patients.

Methods: We retrospectively analyzed survival, response rate and prognostic factors of various platinum doublet regimens. Between 2007 and 2013, a total of 165 patients with EGFR wild type non-squamous NSCLC who received platinum doublet chemotherapy as 1st line treatment at Korea University Guro Hospital were included in this study.

Results: 71 (43%) patients treated with pemetrexed plus platinum (PP), 94 (57.0%) patients treated with non-pemetrexed plus platinum (NPP). Among the patients treated with NPP, 52 (31.5%) patients treated with gemcitabine plus platinum and 37 (22.4%) patients treated with taxane plus platinum. Overall response rate was not different among the PP group and NPP group (26.8% versus 28.7%, p = 0.78). Median progression-free survival (PFS) and overall survival (OS) also showed no differences (p = 0.07 for PFS, p = 0.82 for OS). The median PFS and median OS of PP group were 4.6 months (95% CI, 3.8-5.4) and 18.7 months (95% CI, 11.7-25.8) and NPP group were 6.2 months (95% CI, 3.4-5.0) and 12.2 months (95% CI, 10.3-14.1). In subgroup analysis, most subgroups showed statistically insignificant results in PFS and OS according to the chemotherapeutic regimens. In patients who treated with PP, stage I-III at diagnosis, metastasis confined to lung or pleura and treatment more than 2nd line chemotherapy after 1st line treatment related to prolonged OS. In patients who treated with the NPP, patients who had metastasis confined to lung and/or pleura and patients who treated more than 2nd line chemotherapy after 1st line treatment related with prolonged OS in multivariate analysis.

Conclusions: Our data showed that the efficacy of various platinum doublet regimens was not different in EGFR wild type non-squamous NSCLC.

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