Ohtake S, Miyawaki S, Fujita H, Kiyoi H, Shinagawa K, Usui N, Miyamura K, Nishimura M, Miyazaki Y, Nishii K, Nagai T, Yamane T, Taniwaki M, Takahashi M, Yagasaki F, Kimura Y, Asou N, Honda S, Ohnishi K, Naoe T, Ohno R. Randomized clinical trial of induction therapy comparing intensified daunorubicin with idarubicine in patients with previously untreated de novo acute myeloid leukemia (JALSG AML201 study) ASH 48 annual meeting, Orland (Florida) (poster) 2006, 12, 9-12.

Abstract# 2000 **Poster Board #-Session: 178-II**

Randomized Clinical Trial of Induction Therapy Comparing Intensified Daunorubicin with Idarubicin in Patients with Previously Untreated De Novo Acute Myeloid Leukemia (JALSG AML201 Study). Shigeki Ohtake,[1] Shuichi Miyawaki,[2] Hiroyuki Fujita,[2] Hitoshi Kiyoi*,[2] Katsuji Shinagawa,[2] Noriko Usui,[2] Koichi Miyamura,[2] Miki Nishimura*,[2] Yasushi Miyazaki,[2] Kazuhiro Nishii,[2] Tadashi Nagai,[2] Takahisa Yamane*,[2] Masafumi Taniwaki,[2] Masatomo Takahashi,[2] Fumiharu Yagasaki*,[2] Yukihiko Kimura*,[2] Norio Asou,[2] Sumihisa Honda*,[2] Kazunori Ohnishi,[2] Tomoki Naoe,[2] Ryuzo Ohno.[2] *[1]Clinical Laboratory Science, Kanazawa University Graduate School of Medical Science, Kanazawa, Ishikawa, Japan; [2]Japan Adult Leukemia Study Group, Japan.*

We conducted a multicenter prospective randomized study to determine whether the intensified daunorubicin (DNR) induction chemotherapy would be as effective as idarubicin (IDR) in adult acute myeloid leukemia (AML).

Newly diagnosed adult patients with AML excluding FAB-M3 were consecutively registered and randomized to receive either increased dose of DNR or standard dose of IDR induction chemotherapy. All patients received cytarabine 100mg/m^2 daily for 7 days by continuous intravenous infusion, and either DNR 50mg/m^2 daily for 5 days or IDR 12mg/m^2 daily for 3 days according to randomization. If the patients did not achieve complete remission (CR) after the first induction therapy, the same induction therapy was given once more. Patients achieving CR were again randomized to receive either 3 courses of high-dose cytarabine or 4 courses of conventional multiagent consolidation therapy. The results of later randomization will be reported another abstract.

From December 2001 to December 2005, 1064 newly diagnosed patients with de novo AML were registered and 1057 were eligible. Median age was 47 years old (range 15 to 64). Five hundred twenty five patients were randomized to DNR group, and 532 to IDR group. The two groups were well matched for pretreatment characteristics. CR was achieved in 407 patients (77.5%; 95% CI, 73.9% - 81.1%) with 321 (61.1%) after 1 induction course in DNR group and 418 patients (78.6%; 75.1% - 82.1%) with 341 (64.1%) after 1 course in IDR group (p = 0.68). Patients receiving IDR took slightly but significantly longer to recover from neutropenia and thrombocytopenia. There was a higher rate of sepsis in IDR (8.7%) than DNR (4.9%) (p = 0.02). The early death within 60 days occurred in 25 patients (4.7%) in IDR and 11 (2.1%) in DNR (p = 0.03). Logistic regression analysis revealed that induction regimen was not the independent prognostic factor, but CBF leukemia and the percentage of peroxidase positive leukemic blast were the significant independent factors for achieving remission. There was also no significant difference between the groups in the longer-time measures of efficacy: estimated overall survival at 4 years was 49.1% (42.4% - 55.8%) for DNR and 53.1% (47.6% - 58.6%)for IDR (p = 0.37); estimated relapse free survival at 4 years from CR was 42.2% (36.1% - 48.3%) for DNR and 41.8% (35.9% - 47.7%) for IDR (p = 0.62). The Cox proportional hazards analyses showed that the induction regimen did not affect these outcomes.

In conclusion, increased dose of DNR and standard dose of IDR both achieve high remission rate and good long-term efficacy, and are equally effective for the treatment of AML patients up to 64 years, although the final assessment will have to be performed after longer follow up.

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