Low dose intravenous cyclophosphamide–induced ovarian failure in Chinese patients with lupus nephritis

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Objective: The efficacy of cyclophosphamide (CYC) in the treatment of lupus nephritis has been well documented. However, few studies regarding its effects on ovarian function in Chinese lupus patients have been reported.

Method: One hundred and six lupus nephritis patients treated with CYC, the effects of the starting age of CYC treatment, total doses of CYC administration and routes of administration on ovarian failure were investigated.

Results: The mean cumulative dose of CYC was less than 4.5 gm in all patients. By logistic regression, we found that ovarian failure was significantly correlated with starting age of intravenous CYC treatment. None of the patients that started intravenous CYC therapy before the age of 25 had ovarian failure while 15.7% of those starting CYC treatment between the ages of 26 to 44 developed permanent amenorrhea and all patients receiving CYC after the age of 45 developed ovarian failure (p<0.0001). Patients taking oral CYC had a higher frequency of developing permanent amenorrhea compared with an intravenous route (p=0.024).

Conclusion: We conclude that younger patients had a decreased risk of developing CYC-induced ovarian failure. Monthly intravenous administration has less ovarian toxicity than a daily oral regimen.

Key words: Lupus nephritis, cyclophosphamide, ovarian failure, Chinese lupus patients