

## CHAPTER 6

### CONCLUSION

For over many years researchers have been working on the problem of how to protect neutropenic patients with cancer from potentially life-threatening bacterial infections during the course of cytotoxic chemotherapy. Based on the previous studies that infections of the neutropenic patients are mostly caused by the microorganisms that colonize the GI tract, including the gram-positive bacteria<sup>(18)</sup>, this randomized placebo-controlled clinical trial was intended to prove whether oral ingestion of garlic, a natural plant that had been shown to have in vitro antibacterial effect and a therapeutic effect against fungal infections, could decrease the incidence of infection of AML patients during chemotherapy.

AGE from 30 grams of raw garlic was taken in 3 divided dosages daily by the study group, from the start of chemotherapy till the peripheral white blood cell count exceeded  $2 \times 10^9/L$ , or till 28 days. Patients in the control group were given normal saline according to the same schedule.

The present study failed to demonstrate an overall protective effect of garlic against all febrile episodes. However, it was shown in this study that garlic significantly decreased the fungal colonization of AML patients undergoing chemotherapy. This study also showed a lower incidence of bacteremia among garlic recipients. But the difference was not statistically significant.

The results of the present study can be concluded as follows:

Garlic in the dosage of 30 grams per day can significantly reduce the fungal colonization of AML patients receiving cytotoxic chemotherapy. This dosage of garlic has no major side effects and can be well tolerated by most patients. Therefore, garlic can be recommended for infection prophylaxis for patients undergoing chemotherapy.

Because of the small number of patients included in the present study, no association between fungal colonization and fungal infection was demonstrated. The incidences of bacteriemia between garlic and placebo recipients were not statistically different. Like all the previous studies of antimicrobial chemoprophylaxis, garlic can not decrease the overall febrile episodes. Further studies are warranted to investigate the effectiveness of garlic in preventing fungal infections. A fecal bacterial surveillance culture is recommended in future studies to clarify whether garlic can eliminate the aerobic microbes in the intestine.

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