(Supplementary) Neutrophil Function in the Infection on Compromised Host

Eiro TSUBURA, MD

The Third Department of Internal Medicine, School of Medicine,
The University of Tokushima, Tokushima

Regardless of a spread use of newly developed antibiotic chemotherapy against infectious disease, infection occurred in a compromised host is usually hard to cure. It is important to know which factors are concerning in these infection for their treatment and prevention.

As the results of our observation, secondary infection in compromised states of malignancy was high incidence in acute leukemia, malignant lymphoma and various cancer. There are many complicated host defence factors influencing these infections, however, the most obvious factor was the decrease of the absolute number of neutrophil after intensive antineoplastic chemotherapy in the leukemic patients. On the other hand suppressed cell-mediated immunity was seemed to partly related in the occurrence of infections in the cancer patients.

The depressed neutrophilic functions was also denoted in the compromised states but the accurate relationship between a cause of infection and depressed functions of neutrophil was difficult to determine.

It is necessary to establish a practical parameter of phagocytic and intracellular killing activities by neutrophil for early detection of compromised states during a course of malignancy in order to prevent secondary infection in these patients.

It is also necessary to find out some augmenting agents which modulate or promote host defence activity against infection. We tested and screened several augmenting agents such as *Nocardis rubra* cell wall skeleton and bacterial product in the compromised mice infected with *Escherichia coli*.

Prevention and Treatment of Conditions Liable to Microbial Infections

Yuichi SHIOKAWA, MD

Juntendo University School of Medicine,
Department of Rheumatology, Tokyo

Invasion of microorganisms into the human body is first prevented by a variety of natural barriers, e.g. the skin, mucous membranes of the GI and respiratory tract etc. If these barriers are penetrated by the organisms, then immune and non-immune mechanisms will endeavor to hinder the harmful influences of microbes, including endo- and exotoxins. Thus, the defense system of the host against infections is efficient, but very complicated, and the details concerning it are not fully clarified.

I. Infectability by Microbes

It is well known that immunological diseases, e.g. systemic lupus erythematosus (SLE) and rheumatoid arthritis (RA) are frequently accompanied by infections. The infectability seen in these disorders is due to the depressed functions in lymphocytes, macrophages and other cells of the reticuloendothelial system. The use of adrenocorticosteroids, immunosuppressants and other drugs also contributes to this condition.

In my hospital, 307 patients with SLE have