

NEUTROPENIA

Fact Sheet

Description

- Neutropenia is a blood disorder that occurs when the number of neutrophils, a type of white blood cell part of the immune system, is abnormally low. Neutrophils help destroy infectious agents in the body. People with too few neutrophils are more susceptible to not only bacterial but also certain fungal infections.^{1,2}
- For patients suffering from neutropenia, infections—mostly occurring in the lungs, mouth, throat, sinuses and skin—can become severe and life-threatening.¹
- Neutropenia is a side effect for as many as one in three patients undergoing chemotherapy, a treatment that destroys both cancer cells and neutrophils.¹ The number of new cancer cases in Canada is estimated to reach 145,500 in 2004.³

Febrile Neutropenia

- Healthy adults have 1,500 to 7,000 neutrophils per mm³ of blood.¹
- Febrile neutropenia is the combination of a low neutrophil count (less than 500/mm³ or 1,000/mm³ with predicted decline to 500/mm³) and a fever greater than 38° C (100.4° F) over at least an hour or a single oral temperature of more than 38.3° C (101° F).⁴ Fever is an indication of infection, which in most cases originates from germs residing in the intestines or skin. Febrile neutropenia is considered a medical emergency requiring immediate attention.

Causes

Neutropenia can develop if neutrophils are used up or destroyed in the bloodstream faster than the bone marrow can make new ones. For example:

- Patients with an autoimmune disease (e.g. multiple sclerosis, Crohn's disease)
- Those with an enlarged spleen
- Cancer patients who have received radiation therapy involving the bone marrow
- Certain toxins such as benzene and insecticides can impair the bone marrow's ability to produce neutrophils²

References:

1. Neutropenia Support Association Inc. web site (www.neutropenia.ca)
2. *The Merck Manual – Second Home Edition*, Chapter 174, 'Blood Disorders'
3. Canadian Cancer Society, *Canadian Cancer Statistics 2004*
4. Brown G., *Pathophysiology & Therapeutics Series - Infectious Diseases*, Spring 1999