Neutropenia in the chemotherapy patient

Health & Medicine, Nursing

Neutropenia in the Chemotherapy Patient EDUCATIONAL Neutropenia is a disorder characterized by a low number of neutrophils, the most important type of white blood cell and one which serves to defend against many infections (Schwenkglenks, 2011). As neutrophils have a short lifespan and a very fast turnover, they can be particularly sensitive to many types of chemotherapy (Wood & Pizzo, 1993), meaning that patients undergoing cancer treatment often present with neutropenia and the related symptoms (Kuderer et al, 2007). The concerns that come from this are numerous. Firstly, chemotherapy is a stressful time for the human body, and therefore any further weakening such as neutropenia can cause severe distress and further illness to the patient (Schwenkglenks, 2011). Secondly, as the primary role of neutrophils is to prevent against infection and cancer patients have multiple and frequent contact with the hospital environment, they become immediately more susceptible to any infections found within the hospital, some of which are antibiotic resistant (Kuderer et al, 2007). Finally, any problems arising from neutropenia can disrupt the dosages of chemotherapeutic drugs and therefore delay treatment, causing further problems with cancer (Wood & Pizzo, 1993). Evidently, one of the main goals of cancer treatment is to try to ensure that the patient is as healthy as possible throughout the treatment, and therefore the problem of neutropenia in the chemotherapy patient should be addressed to try and reduce incidences of the problem as well as complications that may arise from the disorder. It is interesting that patients with neutropenia often experience delays in their chemotherapy treatment, again highlighting the need to reduce or eradicate cases of neutropenia. Any delay in chemotherapy can

cause the cancer to become more aggressive and even lead to it being in a fatal stage (Schwenkglenks, 2011), so any delay in treatment needs to be avoided as far as possible. However, a paatient with neutropenia or a neutopenia-related infection cannot always carry on with chemotherapeutic treatment and therefore may experience delays, so aiming to reduce the incidence of neutropenia in the chemotherapy patient could lower the number of deaths from cancer. To utilize PICO, the summary of the problems with this disease is as follows: Patient – those currently receiving chemotherapy treatment suffering from neutropenia Intervention – giving information and education to both patients and clinical staff about the dangers, risks and avoidance of neutropenia Comparison – compare the frequency and complications of neutropenia following this intervention to the current state of affairs Outcome – the proposed outcome is that there will be a decrease in chemotherapy patients with neutropenia and the related complications. The proposed change here, then, is the education of patients and staff members about how to avoid neutropenia in the chemotherapy patient. This could be established with education about the types of chemotherapy which are least associated with causing neutropenia (Schwenkglenks, 2011), information about recognizing the symptoms of neutropenia to allow for swift treatment and recovery prior to a life-threatening infection, and providing guidance on neutropenia protocol. This information could be supplied in a number of ways and should be easily accessible to allow for both patient and staff training on neutropenia. It should be delivery before, during and after chemotherapy for maximum benefit. Obviously the benefits of this are numerous. It could help reduce the

incidence of neutropenia in the chemotherapy patient, allowing for more effective cancer treatment and avoidance of life-threatening infections from the low neutrophil count (Crawford et al, 1991). All patients with cancer hope for a swift and healthy recovery, so avoiding neutropenia in the health community would allow an element of relief for these patients who are already suffering from a deadly disease and wish to avoid complications (Wood & Pizzo, 1993). It would also allow healthcare staff to spot the signs of neutropenia before they develop into infectious diseases, preventing complications further, again giving the patient a degree of relief. It should be recognized that simply educating people will not prevent neutropenia in the chemotherapy patient will not eradicate the problem, it should help lower the number of cases and complications, which is something that should not be underestimated. Works Cited Crawford, J., Ozer, H., Stoller, R., Johnson, D., Lyman, G., Tabbara, I., Kris, M., et al. (1991). Reduction by granulocyte colony-stimulating factor of fever and neutropenia induced by chemotherapy in patients with small-cell lung cancer. New England Journal of Medicine, 325(3), 164–170. Kuderer, N. M., Dale, D. C., Crawford, J., & Lyman, G. H. (2007). Impact of primary prophylaxis with granulocyte colony-stimulating factor on febrile neutropenia and mortality in adult cancer patients receiving chemotherapy: a systematic review. Journal of clinical oncology, 25(21), 3158. Schwenkglenks, M., Pettengell, R., Jackisch, C., Paridaens, R., Constenla, M., Bosly, A., Szucs, T. D., et al. (2011). Risk factors for chemotherapy-induced neutropenia occurrence in breast cancer patients: data from the INC-EU Prospective Observational European Neutropenia Study. Supportive Care in Cancer, 19(4), 483–490. Wood, A. J. J., & Pizzo, P.

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