Is there still an indication for nursing patients with prolonged neutropenia in protective isolation?

An evidence-based nursing and medical study of 4 years experience for nursing patients with neutropenia without isolation

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Interestingly, although protective isolation was considered standard practice, there were remarkable differences between centres as to how it was practiced. Surprisingly, there is little adequate research done on this subject.

The fact that protective isolation is a considerable burden for nursing staff and patients is well-known to anyone who has worked in haematology-oncology. Protective isolation is expensive and labour intensive. Patients experience limited contact with family and friends and strict isolation may lead to psychological problems such as fear of abandonment, depression and disorientation.

It is important to pose the question that if there was an indication for protective isolation in the past, has the introduction of antibiotic prophylaxis, more potent systemic antibiotics, haematopoietic growth factors, and peripheral stem cell transplantation (with a shorter duration of neutropenia) changed the need for it? One study showed that of 50 patients undergoing allogeneic bone marrow transplantation, rates of infection and mortality were similar between patients maintained in strict isolation and patients who were partly treated on an outpatient basis. These results encouraged us to perform a collaborative medical and nursing study on the value of protective isolation and to determine whether hospital guidelines for isolated care of patients with neutropenia could be revised. The revision of existing guidelines was part of a programme of the Amsterdam University Hospital (AMC) to promote and implement more evidence-based guidelines.

The study consisted of three parts: 1) an (inter)national inventory on isolation practices; 2) an assessment of potential infection sources; and 3) follow-up study comparing the incidence of infections during an observation period and post-implementation of new guidelines.

Literature Review
A systematic review of nursing and medical literature on prospective randomised trials on protective isolation starting from 1966 revealed that there are few studies and these markedly contradict one another. There is a plethora of opinion from respected authorities or expert committees but they are based on clinical experience or descriptive studies. We failed to locate enough evidence on the usefulness of protective isolation.

Study Methods
Questionnaires were sent to Dutch (13) and European (141 in 23 countries) transplantation centres. Questions were asked about the form of isolation, start and end of isolation, hand-washing procedures, the use of protective aprons and mouth masks, dietary precautions, visiting regulations, and cleaning procedures. At our institution, cultures were grown and air samples were taken. Samples from the hands of nurses, doctors and other personnel as well as items such as toothbrushes, water taps, bed and surroundings were collected. Our main interest was the spread of micro-organisms, particularly between the ward and isolation rooms.

At the start of the study, patients undergoing intensive chemotherapy or stem-cell transplantation were cared for in overpressure single rooms with filtered air. Non-sterile air is prevented from entering the patient room via a corridor with low air pressure and two doors.

Careful hand-washing was required prior to entering the patient’s room and personnel as well as visitors were required to wear a protective apron. Patients were given a germ-poor diet and received antibiotic prophylaxis with oral ciprofloxacin and amphotericine.

Due to the results of our literature review, protective isolation was discontinued as of January 1995. Patients were free to leave their rooms as desired and the use of protective aprons was discontinued. Hospital personnel was required to wash their hands using hand alcohol and educational programmes were conducted on correct washing procedures.

Data Collection
Data was collected on the pre- and post-isolation period. This included baseline characteristics, duration of neutropenia, days with fever (>38.0°C), documented infections, systemic amphotericin B use and mortality due to infection. Patients with acute myelogenous leukaemia (81) and patients undergoing bone marrow or peripheral blood stem cell transplants (97) were studied.

Results
One hundred and one questionnaires were returned. There were remarkable differences in the use of masks, gloves, protective aprons and the use of hand alcohol. Differences were also noted in the criteria for starting and discontinuing isolation. Microbial analysis showed low concentrations of gram negative bacteria in the isolation rooms. The hands of personnel frequently contained micro-organisms, especially when they were not dried properly. Contaminated hands were the source of the spread of micro-organisms through patient rooms. Pre- and post-isolation...
periods over two 3-year time periods were compared with respect to different infection parameters: 1992-1995 with strict isolation and 1995-1999 without isolation. No differences were found in the two groups in terms of the median number of days with fever, days until first systemic antibiotic therapy and duration of therapy. There was no difference in the use of amphotericin B. The most frequently isolated pathogens were coagulase-negative Staphylococci, associated with central venous catheter infection. The mortality rate from infection was also comparable.

Discussion
In recent years, there has been much debate about the need for protective isolation in haematological patients during the phase of severe neutropenia. The majority of infections are caused by Gram-positive micro-organisms which are part of the endogenous flora of patients. These infections cannot be prevented using strict isolation. We came to the conclusion that protective isolation was not evidence based. The results of at least two studies indicated good results in stem cell transplantation without protective isolation suggesting that we could discontinue isolation without detrimental effects. We concluded that abandoning protective isolation combined with increased hygienic measures in nursing patients with severe neutropenia does not increase the risk of infections, but improves the quality of care and patient satisfaction and reduces costs.

EONS News

Advisory Council Meeting to take place on 21 May 2005
Members of the Advisory Council are reminded that a meeting with the EONS Executive Board will take place on Saturday, 21 May in Brussels. Following a very successful two-day meeting of the Advisory Council, Executive Board; and interested observers in September, 2004, it was decided to continue with this initiative as a means of enhancing and strengthening collaboration between the Society and national oncology member societies. The following topics are proposed for discussion at the meeting: The strategy and business plan 2005-2006; Updates on committee activities; Meetings of small working groups to discuss the implementation of the EONS CARE strategy; Discussion on nursing at the European level; Updates on projects; and, ‘What’s in the pipeline’? Advisory Council representatives should have received details on the meeting per email from the Secretariat. Please note that accommodation and travel will be at your own expense.

Queries should be directed to the EONS Secretariat: Tel.: +32 2 779 99 23, Fax: +32 2 779 99 37, e-mail: eons@village.uunet.be.

Individual EONS Members invited to attend the Advisory Council Meeting
With the September 2004 Advisory Council meeting, a precedent was set to open these meetings between the Advisory Council and the Executive Board to the EONS general membership. All members are cordially invited to attend the upcoming meeting in May as observers. Travel and accommodation expenses must be covered by individuals. This is an exciting opportunity to become more involved in your Society and to build networks with colleagues from all over Europe.

Contact the EONS Secretariat for more details and agenda. Tel.: +32 2 779 99 23, Fax: +32 2 779 99 37, e-mail: eons@village.uunet.be.

Accreditation Update
The European Blood and Marrow Transplantation Nurses Group (EBMT) has received EONS accreditation for the following events:
Pre-meeting Study Day on Transplant-Related Care, 19 March 2005, Prague. The target audience is staff nurses involved in the care of patients undergoing stem cell transplantation. Course aim is to teach nurses basic and advanced information on specific aspects of nursing care for stem cell transplanted patients. EBMT Nursing Group 21st Meeting, 20-23 March 2005, Prague. The conference offers an opportunity to learn about new developments in the management of patients undergoing stem cell transplantation from European experts. The target audience is staff oncology nurses involved and experienced in the care for patients undergoing stem cell transplantation. The conference format offers educational sessions, workshops and proffered papers.

ESMO offers Free Registration to Conference for EONS Members
In the spirit of continuing collaboration between EONS and the European Society of Medical Oncologists (ESMO), 50 free registrations to that society’s annual conference have been made available exclusively to EONS members. With this offer, ESMO is reaching out to broaden the scope of its Scientific & Educational Conference by encouraging participation from oncology nurses. The conference will take place from 2-5 June 2005 in Budapest, Hungary. Conference topics include a general overview of main tumour types in a special symposium, sessions on use and safety of erythropoietin, management of difficult pain problems and targeted sessions on breast cancer. To qualify for a free registration, applicants must: 1) Complete a registration form and provide EONS membership ID number; and 2) Be an ESMO member or apply for membership (€ 25 for oncology nurses). Inquiries should be addressed to the ESMO Congress Secretariat at registration@esmo.org. Applications are due by 25 April at the latest. Acceptance is based on a ‘first come, first served’ basis.

For further information, please visit www.esmo.org. The EONS free registration application form may be downloaded and returned by fax to the ESMO Congress Secretariat at +41 91 973 1918.

Two New National Oncology Nursing Societies have become Members
A warm welcome is extended to two national oncology nursing socio-ties who have recently become full members of the Society. Croatia is now represented by the Section of Oncology and Hematology of the Croatian Nurses Association. The President is Marica Miscancuk. The Polish Oncology Nursing Society has also recently joined EONS. Mrs. Barbara Joba is the President. A more in-depth profile of both societies will be presented in a future issue of the Newsletter.

New Associate Members join EONS
The following 4 organisations have joined the 13 existing Associate Members of EONS: Korce Family Healthcare Institute, Albania; Federation nationale des centres de Lutte contre le Cancer, France; Institute for Basic and Continuing Education of Health Workers, Hungary; SBK Bildungszentrum, Switzerland.

Welcome to our Society and thank you for your interest in EONS!

Our Apologies
The Editorial Team would like to draw your attention to a slight error which appeared in the article, ‘Sharing views and opinions – the result of a 2004 international survey’ which was published in the Winter 2004/2005 issue of the Newsletter on pages 14-15. Tables referred to in the article were printed correctly.However, 2 figures which were cited in the text of the article were accidentally omitted. The complete article with all explanatory tables and figures is available now on the EONS website, www.cancerworld.org/eons. Our apologies for any inconvenience this may have caused our valued readers of the Newsletter.