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New aspects of supportive care: The MASCC vision

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ABSTRACT

The Multinational Association of Supportive Care in Cancer (MASCC) was founded in 1991, and joined forces with the International Society of Oral Oncology (ISOO) in 1998. The "mission" of MASCC is to optimize supportive care in cancer patients worldwide, stimulate multi-disciplinary research, encourage international scientific exchange of information, expand professional expertise in supportive care, educate health care professionals worldwide in supportive care, and to serve as a resource for patients, families, and caregivers. Ten years ago, the most frequently addressed supportive care symptoms included pain, febrile neutropenia, and the prevention of nausea and vomiting. These topics are still indeed relevant for cancer patients, but today focus has also turned to topics such as mucositis, and specific supportive care problems in the elderly. Recent, studies have indicated that individually targeted supportive care therapy might become an important part of clinical practice in the near future.

KEY WORDS: *Health Services; Medical Oncology; Palliative Care; Neoplasms*

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The Multinational Association of Supportive Care in Cancer (MASCC) was founded in 1991 and the first issue of the journal of Supportive Care in Cancer was released in January 1993. In 1998 MASCC and the International Society of Oral Oncology (ISOO) joined forces, and today MASCC/ISOO has grown and includes more than 700 members throughout the world. The Journal was, in 1993, published bi-monthly, but as of 2003 members and other subscribers receive 12 issues of the Journal per year.

In 1993 supportive care was defined as: "The comprehensive medical, nursing and psychosocial help that the patients need besides specific therapy of cancer" (1). This definition has recently been modified to emphasize the continuum of support that is often necessary whether the patient is cured or eventually dies from the cancer disease. The definition is today: "Supportive care is the prevention and management of the adverse effects of cancer and its treatment. This includes physical and psychosocial symptoms and side effects across the entire continuum of the cancer experience including the enhancement of rehabilitation and survivorship" (2).

The "mission" of MASCC is to optimize supportive care in cancer patients worldwide, stimulate multi-disciplinary research, encourage international scientific exchange of information, expand professional expertise in supportive care, educate health care professionals worldwide in supportive care, and to serve as a resource for patients, families, and caregivers. These goals are achieved through annual strategic planning meetings, annual symposia and through development of evidence-based clinical practice guidelines. The "tools" are the multidisciplinary study groups of MASCC dealing with supportive care topics such as antiemetics, cytokines, health outcomes, infection, intensive care, metabolism and nutrition, mucositis, pain, patient education, quality of life, and vascular access.

The need for supportive care changes during the different phases of a cancer patients' disease (Figure 1). At the time of cancer diagnosis and start of treatment (curative phase), patients, e.g., need effective antiemetic prophylaxis and antibiotics in case of febrile neutropenia. Patients, who are no longer receiving curative intended therapy (palliative phase), often have a need for analgesics, and in the last weeks of a cancer patients' life, problems such as confusion and dehydration become frequent.

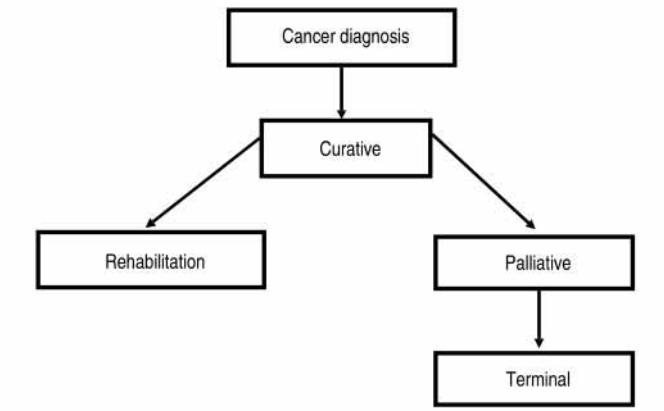

Figure 1. Phases of Supportive Care

Today, approximately 60% of cancer patients survive more than 5 years from the time of diagnosis. The effects of cancer itself and the chronic toxicity from cancer therapy can adversely affect patients' physical, psychological and social function (3), emphasizing the need for research in rehabilitation of cancer patients (rehabilitation phase). In Table 1, a list of supportive care problems is given.

Ten years ago, the most frequently addressed supportive care symptoms included pain, febrile neutropenia, and the prevention of nausea and vomiting. These areas of supportive care have developed differently. Pain research has primarily focused on new administration forms of well-known drugs and different pain syndromes including breakthrough pain (4), but still many patients are inadequately treated. The development in the management of febrile neutropenia has focused on new antibiotics but also on more simple schedules going from combination antibiotic therapy to monotherapy, and from inpatient therapy to outpa-

Table 1. Topics in Supportive Care of Cancer

Alternative medicine
Anemia, blood products, EPO
Bleeding/tromboembolic complications
Communication
Dehydration and confusion
Diarrhea/constipation/GI obstruction
Dyspnea, cardiac problems, malignant effusions
Education, legal and ethical considerations
Elderly, specific supportive care problems
Fatigue
Hypercalcemia/bone metastases, other endocrine
Infection, febrile neutropenia, growth factors
Intravenous acces devices
Mucositis and other oral complications
Nausea and vomiting
Nutrition and cancer cachexia
Outcomes and costs
Pain and other complications from metastases
Psychosocial problems
Quality of Life
Rehabilitation
Toxicity reducing agents

tient oral treatment of well-defined low risk groups (5). The prevention of acute chemotherapy-induced emesis has been revolutionized by the use of serotonin3-receptor antagonists, and a new group of antiemetics, the neurokinin1-receptor antagonists, have further optimized antiemetic prophylaxis, thereby improving quality of life in patients receiving chemotherapies (6). Consequently a recent consensus conference, with the participation of 25 investigators, representing 9 different cancer organizations (including MASCC), has updated the 1997 MASCC guidelines. The updated guidelines are already published on the MASCC web site (2) and will soon appear in the *journal of Supportive Care in Cancer*.

In the past few years new areas of supportive care have emerged. The alliance between MASCC and ISOO has resulted in highly effective integration of science used in the investigation of mucositis and in the development of evidence-based guidelines (7). Also supportive care in the elderly has become a major focus area. The elderly population increases and it has for years been recognized, that elderly patients with cancer deserve special attention, whether they receive therapy with curative intent or they need palliative therapy for terminal cancer (8).

Pharmacogenetic research has led to the development of individually targeted therapy for some cancer diseases. E.g. the understanding that a single factor, such as mutations in the tyrosine kinase moiety of the epidermal growth factor, is responsible for tumor growth, has led to the development of drugs like imatinib (chronic myeloid leukemia and gastrointestinal stromal tumors) and gefitinib (lung cancer). The recognition that variations in the metabolic pathways of cytotoxins and supportive care drugs (e.g., antiemetics) are clinically relevant, has led to the exploration of molecular targets for the improvement of symptom management. Innocenti and coworkers recently published a trial investigating the significance of genetic variants in the UDP-glucuronosyltransferase 1A1 (UGT1A1) gene. They showed that variation in this gene predicted the risk of severe neutropenia after treatment with irinotecan, a drug using UGT1A1 in its metabolic pathway (9). The importance of the cytochrome P-450 enzyme system has also been verified in the antiemetic setting. Competition for the same metabolic pathways and gene variations can in theory lead to either rapid metabolism, and thereby a decrease in the effect of an antiemetic, or to poor metabolism, resulting in increased toxicity. Kaiser et al. investigated 270 patients receiving chemotherapy and antiemetic therapy with a 5-HT3 receptor antagonist (tropisetron or ondansetron) known to be metabolized through the CYP2D6 isoenzyme (10). They genotyped the patients and showed that genetically defined ultrarapid metabolizers had a higher frequency of vomiting than all other patients. They concluded that antiemetic therapy with a 5-HT3 receptor antagonist could be improved by adjustment for the CYP2D6 genotype. In the future, when genotyping methods become cheaper and consequently generally available, individually targeted supportive care therapy will probably become an important part of clinical practice.

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