There has been much confusion regarding the definitions of supportive care (SC) and palliative care (PC) and many authorities use the terms interchangeably. Both MASCC and ESOM are among the minority of professional organizations that distinguish between the two. SC is defined as care that facilitate safe and effective anti cancer care, minimizing toxicity and optimizing physical, psychological and social function of patients undergoing disease management strategies. SC facilitates the ability to deliver optimal anti cancer care and it has a particular focus on side effect prevention and management. All cancer patients undergoing treatment need SC and this is equally true for those undergoing curative treatments as it is for those undergoing treatment to mitigate the trajectory and consequences of advanced and incurable cancer. PC optimizes the comfort, function and social support of the patient and their family when cure is not possible. The context of incurability, with all of its implications for the patent and family, that grounds palliative care as a special entity. ’End of life care” or “terminal care” is defined as PC when death is imminent. End-of-life care acknowledges that the intensity of physical, psychological, existential, spiritual and family issues may be magnified by the patient imminent. End-of-life care acknowledges that the intensity of physical, psychological, existential, spiritual and family issues may be magnified by the patient’s approaching death. Patients with incurable cancer receiving antitumor therapies will often need both S + PC.

Conclusion: The delivery of high quality S + PC are core elements of quality oncological service and it is incumbent upon clinicians to be adequately skilled, to tend to these needs with due diligence and to promote the development of effective service delivery frameworks to ensure that patients receive these vita elements of quality care.

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The concepts of targeted therapy, molecular pharmacology, and population genetics are not new to the field of clinical antemetic care. The most basic principle of antemetic care is to identify and target neurotransmitter/neuromodulator receptor pairs within the emetic reflex arc that can be suppressed without causing severe disruption of physiologic function. Early research focused to D2 receptors to led to effective antemetics but also resulted in significant antidopaminergic toxicity. Identification of serotonin (5HT3) receptor pathways with similar emetogenic activity provided a target that could be effectively suppressed without antidopaminergic toxicity. Appreciation of the role of neurokinin (NK1) receptors in delayed emesis complements previous knowledge and allows for more effective suppression of emesis throughout the period of emetic risk. More recently genetic mutations that alter these neural pathways as well as the metabolic pathways of antemetics have been appreciated. Over expression of the CYP 2D6 pathway increases metabolism of some serotonin antagonist antemetics and has been shown to decrease the efficacy of these agents. A mutation in the 5-HT3B subunit of the serotonin (5HT3) receptor itself can also alter sensitivity to emetogenic chemotherapy and to antemetic agents. Appreciation of the role of genotype and phenotype in the response of different ethnic groups to therapy has now allowed correlation of lessons from population science with clinical treatment. Currently guidelines on treatment are updated, applying the procedures of ESPEN. Educational initiatives emerge. All antiemetics: A WINDOW TO TRANSLATIONAL MEDICINE

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The concepts of targeted therapy, molecular pharmacology, and population genetics are not new to the field of clinical antemetic care. The most basic principle of antemetic care is to identify and target neurotransmitter/neuromodulator receptor pairs within the emetic reflex arc that can be suppressed without causing severe disruption of physiologic function. Early research focused to D2 receptors to led to effective antemetics but also resulted in significant antidopaminergic toxicity. Identification of serotonin (5HT3) receptor pathways with similar emetogenic activity provided a target that could be effectively suppressed without antidopaminergic toxicity. Appreciation of the role of neurokinin (NK1) receptors in delayed emesis complements previous knowledge and allows for more effective suppression of emesis throughout the period of emetic risk. More recently genetic mutations that alter these neural pathways as well as the metabolic pathways of antemetics have been appreciated. Over expression of the CYP 2D6 pathway increases metabolism of some serotonin antagonist antemetics and has been shown to decrease the efficacy of these agents. A mutation in the 5-HT3B subunit of the serotonin (5HT3) receptor itself can also alter sensitivity to emetogenic chemotherapy and to antemetic agents. Appreciation of the role of genotype and phenotype in the response of different ethnic groups to therapy has now allowed correlation of lessons from population science with clinical treatment. Currently guidelines on treatment are updated, applying the procedures of ESPEN. Educational initiatives emerge. All

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GASTROINTESTINAL TOXICITY IN ONCOLOGY: EVOLUTIONARY SCIENCE

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Proper practice of Medical Oncology requires an understanding of the science of regimen-related toxicity (RRT); and as treatment regimens evolve, so too does that science. Mouth ulcers, pain, diarrhoea and constipation are among the common side effects of chemotherapy and hinder our ability to give adequate, perhaps curative, doses. As we increase our understanding of toxicity mechanism, so we slowly improve its prevention and treatment. However, this must not come at the cost of tumour response, thus requiring understanding of the interaction between mechanism of action and of toxicity. Animal models have become increasingly sophisticated, and are used to screen for interventions that reduce toxicity without affecting tumour response. The introduction of the targeted anti-cancer (TAT) agents has further complicated the picture, with GI toxicity being a major, and not always predicted effect. The mechanism of toxicity is often the same as the mechanism of action, making successful management difficult. Each new class of TAT has a new mechanism, epidemiology and presentation of toxicity, so we constantly need to update our understanding of the science. A mouth ulcer caused by methotrexate is not the same as one caused by an mTOR inhibitor. There has been a corresponding evolution in the doctor-patient relationship surrounding toxicity, as we have moved from the paternalistic relationship to a partnership, with Patient Reported Outcomes (PROs) increasingly important. GI toxicities will usually rate GI toxicity less severely than will the patient; the message being that we need to listen to the patient. Risk prediction is receiving more attention, with Oncologists now talking about response prediction and risk prediction as two sides of the same coin, aiming to offer treatment to non-toxic responders, treatment with toxicity interventions to toxic responders, and completely avoid ineffective treatment for non-responders. We have moved from the simplistic risk prediction of age, sex, comorbidity and drugs, to complex gene and SNP analysis using modern bioinformatics. However, given the common lag between drug development and successful toxicity interventions, toxicity specialists should be involved earlier in drug development. The science will continue to evolve as long as cancer treatment evolves.

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DEVELOPMENT OF RATIONAL THERAPEUTIC STRATEGIES FOR PATIENTS WITH PRE-CACHEXIA AND CACHEXIA THROUGH THE INTEGRATION OF ONCOLOGY AND PALLIATIVE CARE AND COLLABORATIVE CLINICAL TRIALS (EAPC-RESEARCH NETWORK)

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Nutritional issues are frequent but underestimated in advanced, incurable cancer patients (pts), impacting patients’ tolerability of anticancer treatment, quality of life, physical (and social) function and performance, and palliative care (PC). Thus, early recognition and intervention is key. The new cancer cachexia framework (Fearon & Strasser, Lancet Oncology 2011) separating simple starvation from cachexia, facilitates the development of both effective nutritional, multimodal and tailored treatments. Collaborative, international efforts and EU funding made this possible. Cachexia is defined by muscle loss relevantly impacting physical function, which is not reversible by nutrition only, and is caused by a combination of dysregulated eating ability and a dysbalanced catabolic and anabolic metabolism. To identify such pts in clinical practice, monitoring of % weight loss in the last 6 months and asking pts about appetite and eating shall become a standard procedure. The clinical assessment will diagnose cachexia, then classify pts for the phase (pre-cachexia, cachexia, refractory cachexia), main domains (stores, intake, potential, performance), and severity. Currently a consensus cachexia assessment is developed involving various professional groups. For pre-cachexia and cachexia there is currently no established therapeutic intervention. Clinical trials investigating increase of nutritional intake (oral, enteral, parenteral) focus on patient populations having simple starvation. For cachexia treatment a multimodal approach is mandatory, tackling in a combined strategy its main causes of decreased eating ability, catabolism, decreased anabolism, and impaired neuro-muscular function. Preclinical studies and several clinical trials document the potential of such interventions. A sentinel next step however, is the conduct of well powered, multimodal phase III trials in pre-cachexia and cachexia. For refractory cachexia, efforts concentrate to characterize these pts and develop psychosocial and other symptom alleviating interventions. Currently guidelines on treatment are updated, applying the procedures of ESPEN. Educational initiatives emerge. All these efforts mandate collaboration of professionals and working groups of involved societies (e.g., EAPC-RN, ESPEN, MASCC, ESMO PCWG, SCWd).