(CTC) tool standardises the nomenclature and grade/severity of adverse events.
Purpose: A study was conducted to measure the accuracy of reporting adverse events and whether the CTC tool was used appropriately by oncology research nurses at a University Hospital. The specific objectives were to measure the frequency of correct use of medical terminology and the frequency of grading adverse events.
Methodology: A retrospective analysis comprised of a review of 378 assessments based on multiple visits of 72 cancer patients who had received chemotherapy as part of a clinical trial throughout January 2009 to May 2010.
Results: A total of 378 visits for chemotherapy treatment was made by all patients (n = 72) to the oncology day ward. In these patients, 1201 adverse events were observed. Of the 1201 adverse events observed, 80% (960) were documented using correct medical terminology and 20% (241 events) were documented using lay terminology. A total of 95% (1134) of events were graded.
Conclusion: In a regional cancer centre, one fifth of adverse events were not documented using medical terminology. Almost all (95%) adverse events were graded. Since this study, a pocket size CTC tool and a quick reference terminology guide were both introduced to improve quality and accuracy of clinical assessment documentation. We plan to re-audit in 12 months.

4267 POSTER

Nursing Management of Skin Toxicity With Focus on Acne-like Rash in Patients Receiving Cetuximab

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Background: Skin toxicity is the most important and often dose-limiting side-effect of anti-EGFR therapy, most often seen during the first two months of therapy. Severe rash is estimated to occur in 10−20% leading to reduction or interruption of therapy with potentially reduced efficacy. At our institution we have treated more than 280 gastrointestinal (GI) cancer patients with cetuximab and chemotherapy as first to fourth line therapy. From the start we were confronted with a number of new side effects; especially acute severe acne-like rash leading to social isolation for a number of patients. Therefore we investigated if early intervention with nurse administered tetracycline could minimize the severity of acne-like rash. Since the first randomized study was presented (Jatoi, ASCO 2007), we have offered oral tetracycline as part of our therapy for acne-like rash. Initially patients were evaluated weekly and tetracycline was prescribed by a physician if indicated. Since June 2008, nurses prospectively graded (CTCAE, 3.0), registered and prescribed initial therapy for acne-like rash in patients receiving cetuximab as part of their therapy for gastrointestinal cancers.
Methods: In 2009, we started a systematic treatment protocol for patients starting cetuximab. Patients were systematically educated by oncology nurses in the use of tetracycline and were instructed to contact the treating nurse if a rash occurred and then start therapy with tetracycline 500 mg x 2 daily. Tetracycline was continued for 8 weeks and then paused.
Results: In the inclusion period, 75 patients with GI cancer were educated in the use of administration of tetracycline and 63 patients (84%) received at least 1 month of therapy; and were evaluable. One patient experienced skin toxicity grade 3. Eight per cent of patients had dose reductions due to skin toxicity. Six patients (10%) did not develop skin toxicity and was spared initial prophylactic therapy. First outbreak of skin toxicity was reported by the patients after median 10 days (between 8 and 14 days). Twelve patients (20%) restarted therapy with tetracycline beyond 8 weeks, time from end of the 8 week pause to restart of tetracycline were 49 days (between 26 and 100 days).
Conclusion: We routinely administer cetuximab every second week. Therefore the first objective evaluation of acne-like rash is evaluated too late in the majority of the patients. Proper education of patients by nurses and access to telephone consultation with an oncology nurse will promote immediate administration of oral tetracycline and spare 10% for prophylactic therapy. This strategy reduces severity, but not incidence, of cetuximab skin toxicity and ensures an optimal dosing.

4268 POSTER

Rehabilitation and Treatment of Skin Reactions Secondary to Radiotherapy: a Result of Evidence-based Practice

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Background: Approximately 50% of cancer patients are treated with radiotherapy. Skin reactions occur in the majority of the patients. There are different procedures for rehabilitation and treatment of skin reactions secondary to radiotherapy, which in turn results in numerous variations of patient information. There was a need for evidence-based practice in order to determine the most effective treatment modality for skin reactions. The main goals were: 1) to determine the treatment modality 2) to utilize the RTOG skin Assessment tool for skin evaluations, and 3) to ensure that patients receive the same information from health care givers.
Materials and Methods: A literature search in electronic databases was done. A systematic review of available literature was conducted, consistent with the AGREE method. Experts within the medical, pharmacological, nursing and radiotherapy fields were consulted, and the treatment outcome was evaluated twice with a final evaluation in a hearing committee.
Results: The final treatment procedure includes guidelines for cleansing of the affected skin, use of lotions, sun exposure and incorporates the different stages of the RTOG skin reaction criterias. There is no evidence that the affected skin can be harmed by careful cleansing and lotion use. The expert-panel which was consulted concluded that there should not be restrictions in regards to lotion use, but the skin should be clean and dry before the patient's daily radiotherapy treatment. The literature did not give any suggestions for specific lotions other than that they should be perfume-free. There is no evidence in regards to the use of sodium chloride (NaCl) wraps as prophylaxis for skin reactions, but they can contribute to pain relief and infection prophylaxis. The use of non-adherent dressings is recommended in moist desquamation.
The affected skin should be covered and protected for sun exposure up to one year after radiotherapy.
The expert-panel authored patient information, and also advised that health care givers document skin reactions according to the RTOG scale to ensure similar evaluation methods and treatment.
Conclusions: Patients will receive holistic care and treatment in addition to uniform patient information by utilizing the above-mentioned treatment procedure. Results of the literature review also indicate the need for more research on treatment for skin reactions secondary to radiotherapy.

4269 POSTER

Pharmacological Cancer Treatment and Sun Exposure − Evidence Based Guidelines for Patients and Health Personnel

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Background: Doctors and nurses at the Norwegian Radium Hospital, provided different and conflicting patient information about sun exposure during and after chemotherapy and other pharmacological cancer treatment. The aim of this study was to develop evidence based guidelines for health personnel and more consistent patient information on this subject.
Methods: A systematic search for relevant research literature was conducted according to the principles of evidence based practice.
Results: There were a few case reports, but as expected no relevant randomized controlled trials (RTCs). Some review articles summarized the theoretical knowledge and literature on the subject. The findings revealed that there were a few types of chemotherapy and other cancer drugs that could trigger photosensitivity reactions like severe sunburn. The most reported drugs were: Methotrexate, Dacarbacine, Fluorouacil and Vinblastine. Other cancer drugs may also cause adverse skin reactions, such as hand-foot-syndrome (PPE) or acne-like rash which is often seen during treatment with EGFR-inhibitors. The literature revealed that sun exposure may exacerbate these reactions in the skin.
Conclusion: The Guidelines developed for the Oslo University Hospital based on these findings provides specific recommendations on how cancer patients can prevent aggravation, soothe and treat skin reactions related to drug therapy. Patients receiving cancer drugs should be careful with sun exposure during treatment, and as long as the drug is effective in the body as they may be disposed to photosensitivity reactions. They should also protect themselves against the sun if they have any kind of skin reaction as a result of side effects from cancer treatment.

4270 POSTER

Symptom Management − Let's Do It Evidence Based

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Background: Patients with cancer disease are troubled by a multitude of symptoms related to both the disease and its treatment. Numerous studies have shown the positive effects of providing patients with the requisite information of what they can expect in relation to their situation.
The results from a cross-sectional investigation performed in 2007 at the Department of Oncology showed that nausea and vomiting were experienced by 44% (n = 119) of the patients (n = 267). Nausea is a

subjective experience, which is exacerbated by fatigue, anxiety and negative expectations of treatment. Studies show that, in addition to antiemetic drugs for nausea, it is important the way in which the patient is introduced to treatment through requisite information and training. A calm environment in combination with professional care plays a major role in the treatment of nausea in cancer therapy. Whatever the reason, it is essential to stop the nausea in order to prevent future complications, ease suffering and enhance well-being.
Methods: The aim was to develop general clinical guidelines in an effort to prevent and relieve nausea and/or vomiting.
An evidence group is a working group with nurse specialists that meets on a regular basis to review evidence-based literature and to formulate and implement guidelines. Today, there are nursing guidelines for cancer-related fatigue, nausea/vomiting, diarrhea and constipation. Work is in progress regarding the symptoms (e.g., anxiety and insomnia) that are known to be associated with cancer disease and treatment.
Results: Guidelines for the management of nausea associated with cancer with or without oncological treatment are under development. For assessment of the expected needs and the optimization of antiemetic therapy, it is important to assess the risk already at the time of the first treatment episode. To improve opportunities to prevent and treat nausea and/or vomiting a simple tool − a symptom diary for nausea and vomiting − is used in which the patient describes his or her symptoms.
The nurse gives instructions in the form of oral and written information on how patients themselves can prevent or relieve nausea and/or vomiting. The nurse documents the results of the patient's medical history, risk assessment and the patient's diary. At the next visit, follow-up and evaluation will take place and a reassessment is made.
Conclusion: The Evidence group will continue to work regarding symptom management. This type of work provides safe, secure and standardized care. Furthermore, the patients' involvement in symptom management is highly visible. Documentation of how patients respond to antiemetic treatment in the form of a diary about their nausea is essential to ensure that the clinic's guidelines for treatment are functioning optimally.

4271 POSTER

Prevalence and Severity of Chemotherapy Related Symptoms and Complications With Inpatient Chemotherapy

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Background: Complications of inpatient chemotherapy (ICT) can cause a threat to the continuity of cancer treatment and can have an impact on quality of life. The aim of our prospective study was to determine the prevalence, the type and the severity of chemotherapy related symptoms (CRS) and complications (CRC) due to standard ICT for solid tumours. Furthermore we wanted to study a possible association between experienced subjective CRS and the severity of observed CRC.
Material and Methods: At the start of every ICT cycle patients (pts) filled in a symptom list. This list contains 14 frequently occurring CRS (anorexia, nausea, vomiting, constipation, diarrhea, stomatitis, fatigue, pain, tinnitus, tingling, worrying, sleeplessness, feeling tense, anxiety) on a 0−10 scale. We defined moderate to severe CRS, when scored >4. The occurrence of 14 possible CRC and possible treatment adaptations were registered by the clinical nurse specialist by using data from the medical record.
Results: From February 1st until December 1st 2010, 90 pts received 279 ICT cycles of 13 different ICT regimens (82.8% cisplatin based), with a median of 3 ICT cycles. Before and after the first ICT cycle, 80 pts registered a median of 2 moderate to severe CRS. Before and after the first cycle 56% resp. 65% reported 1 or more symptoms >4 (mean 3.5 resp. 3.2),with a correlation (Spearman's rho/rs) of 0.42 (p 0,000). The correlation between moderate to severe CRS and CRC after the first cycle was rs 0.34 (p 0.02). Pts suffering from moderate to severe CRS were confronted with an extra or prolonged hospital stay in 16% of the cases and with treatment adaptation in 14% of the cases. After the first cycle 70% of the pts had a total of 156 CRC, resulting in treatment adaptation in 28%: delay (12%), definitive treatment stop (10%) or substitution of a cytostatic agent (6%). After the first cycle 24% of the pts had a prolonged hospital stay or an extra hospital admission, due to CRC. Most CRC leading to treatment adaptation after the first cycle were: renal impairment (14 out of 18 cases) and anamnestic decreased oral intake (11 out of 21 cases).
Because of CRC, 24% of the pts did not receive all the planned ICT cycles.
Conclusions: Pts treated with ICT suffer from CRS and CRC frequently. With 28% of the pts these CRS and CRC lead to adaptation of treatment or to hospital admission.

4272 POSTER

Sleep-wake Disturbances in Patients With Cancer and Informal Caregivers − the Added Value of a Dyadic Approach in Their Assessment and Management

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Background: Over the past twenty years, research has established that people with cancer are in risk of widely disrupted sleep patterns, regardless of the type or stage of disease, or phase of treatment. In spite of the dearth of evidence, sleep of caregivers of patients with cancer also becomes disrupted. One characteristic of the current sleep research is its exclusive focus on the individual; however, recent evidence confirms the shared nature of cancer experience.
Methods: A systematic review of the literature was conducted, which identified only one study concurrently describing sleep patterns in patient-caregiver dyads, as well as six methodologically diverse studies conducted in non-cancer populations.
Results: As patients and caregivers go through the experience of illness together, their emotional reactions and distress affect one another in a relatively proportionate manner: they add to one's own concerns and worries when they reach a peak, possibly resulting in corresponding changes in the dyad's sleep patterns. Similarly, effective or dysfunctional coping strategies of the dyad might co-affect their sleep through a psycho-behavioural mechanism. While it is reasonable that patient symptom distress can lead to increased caregiving effort, disrupted caregiver sleep patterns and increased fatigue coupled with daytime sleepiness, increased caregiver burden can equally lead to poor caregiving performance, which might in turn inhibit management of patient symptoms affecting sleep. As well, although not all patients and caregivers share the same bed or the same room, co-sleeping or co-habitating dyads might be co-affected by poor sleep hygiene practices or by disrupted sleep patterns related to the illness experience. Such sleep mediators might well interfere with the prerequisites necessary for a good night's sleep at a level that transcends the individual.
Conclusions: Drawing on the above arguments, it is assumed that implementation of a dyadic approach would augment our understanding of co-occurrence of sleep problems in patient-caregiver dyads, trends of concurrent transformation of these sleep problems across time, as well as covariates that appear to contribute to these patterns within the dyad and across time. Importantly, such an approach requires longitudinal, adequately powered and designed exploratory and interventional studies to be conducted for the development of truly effective sleep interventions for people affected by cancer.

4273 POSTER

The Nurse as a Source of Information in the Management of Side Effects of Chemotherapy

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Introduction: Malnutrition is present in most of 70% of cancer patients. Causes of malnutrition are: lack of appetite, altered taste and smell, mucositis, nausea and vomiting. Nearly half of the patients receiving chemotherapy are not given enough information about the treatment and its side effects. More commonly, patients receive information for the management of nausea and vomiting, information that is given mainly by the oncologist.
Aims of the study: To identify how many and which kind of information are given to patients about the side effects related to malnutrition during chemotherapy and to analyze the sources of these information.
Materials and Methods: The study was conducted at the Day Hospital of the Department of Oncological Medicine adjunct to the "Istituto Oncologico Veneto" in Padua, from May 2009 to July 2009. An ad-hoc 18-item questionnaire was administered to 120 patients who answered/responded to questions about the symptoms of malnutrition and their information sources. The questionnaire was filled out by patients in therapy with: Oxaliplatin, Docetaxel, Caelyx as highly emetic. The interview was conducted with patients by the same person and with the same procedure for all respondents.
Results: Most of patients live as a serious problem (49% of patients) to changes in their eating habits and this affects their quality of life. 43% of the patients claimed to have been informed about side effects of chemotherapy; 40% of the patients had received information by the nurses, while 38% by the physicians; 86% of the patients had received information about