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**Arm massage before chemotherapy: a randomised exploratory trial**

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**Purpose:** Cannulation is technically easy, but can be problematic and time-consuming in patients needing repeated cycles of chemotherapy. Damage inflicted to veins, and patients' anxiety, serve to hinder the process. Some patients become needle-phobic; many recall the anxiety associated with cannulation many months or even years later.

This study investigated the impact of gentle effleurage arm massage on cannulation for chemotherapy. Primary outcomes of interest were patients' perceived anxiety and pain both pre and post procedure. Secondary outcomes related to the ease of the cannulation process as perceived by the cannulating nurses.

**Methods:** A randomised trial of massage versus usual care was undertaken. 52 patients were recruited and providing data on 266 cannulation episodes. Patients completed an investigator designed questionnaire immediately pre- and post-cannulation. This determined levels of anxiety, and both anticipated and actual pain. Cannulating nurses completed a questionnaire to record condition of veins, cannulation time and number of cannulas used. 15 patients took part in a telephone interview to provide understanding of their experiences of massage.

**Findings:** Results of statistical testing suggested that massage was ineffective in reducing anxiety, pain or facilitating cannulation. Overall 25% of cannulations were unsuccessful on first attempt, and there was considerable variation in reported anxiety and pain. Statistical modelling through backwards stepwise regression was undertaken to determine factors that impacted on these outcomes. This suggested that massage had a statistically significant effect ( $p < 0.05$ ) on anxiety and pain when combined with other factors: age, gender, drug regime. Women, younger patients, and those on vesicant drug regimes were more likely to experience procedural pain and anxiety. Typically they took longer to cannulate, and appeared to derive most benefit from massage.

**Conclusions:** Cannulation can be very stressful and painful for patients undergoing chemotherapy. Massage may be a pleasant, non-invasive means of facilitating the process, and for certain patients in this study proved effective, but not all. Massage may provide clinically important outcomes in younger female patients being cannulated repeatedly with vesicant drug regimes, however this requires further investigation.

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**Risk factors for venous thrombotic events in patients with head and neck cancer treated through a peripherally inserted central venous catheter**

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Venous thrombotic events are a frequent complication in cancer patients. Among others, prothrombotic factors related to cancer disease, chemotherapy administration and venous access devices are considered to play an important role in the development of venous thrombosis. Although continuous infusion through a peripherally inserted central venous catheter (PICC) with an ambulatory pump increases quality of life and reduces hospitalization, it may be associated with a higher risk of venous thrombosis. Since nurses make decisions about the most suitable access device to be placed it was our concern to do a better risk assessment to detect the likelihood to develop a thrombotic event.

**Aim:** To determine the incidence of venous thrombotic events related to the chemotherapy administration system and possible risk factors in patients with head and neck (H&N) cancer treated with 5-Fluorouracil (5-FU) based chemotherapy.

**Material and Methods:** We reviewed the records of patients with H & N cancer treated with Carboplatin (AUC 5) or CDDP (70–100 mg/m<sup>2</sup>) day 1 plus a 5-day continuous infusion of 5-FU (1000 mg/m<sup>2</sup>) administered through a polyurethane PICC and a portable infusion pump. Variables investigated were lymph-node extension, performance status, number of cycles of chemotherapy, risk factors for vascular disease, hemoglobin level, platelet count, concurrent or sequential radiotherapy and PICC insertion site.

**Results:** Thirty-six patients with H&N cancer were included in the study. Median age was 56 years (range: 34–78). Thirty-five patients (97%) were male. Eleven patients (30.6%) had risk factors for vascular disease. Twenty patients (57.1%) had laterocervical lymphadenopathy. Performance status before therapy was 0 in 17 patients (47.2%), 1 in 18 patients (50%) and 2 in 1 patients (2.8%). Number of cycles of chemotherapy given was 1 in 3 patients (8.3%), 2 in 10 (27.5%) and 3 in 23 (63.9%). Twenty patients

(55.6%) received concurrent radiotherapy and 16 (44.4%) sequential radiotherapy. Median hemoglobin level was 12.7 g/dl (range: 10.7–16.3) and median platelet count was 216,000 per microliter (range: 143,000–407,000). PICC tip was located in the cava/atrium in 85% of the cases and in the subclavia in 15%. Four patients presented a venous thrombotic event (11.1%). Of note thrombotic events were only observed in patients with cervical lymphadenopathy; no patient without lymphadenopathy presented such a complication ( $p = 0.04$ ).

**Conclusion:** Patients with H&N cancer with cervical lymphadenopathy seem to have a high risk of developing venous thrombosis when receiving therapy through a polyurethane PICC. If confirmed in other studies, these results would make it necessary to investigate other administration techniques and/or infusion devices in this group of patients.

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**Decision-making at the end-of-life in critically ill cancer patients**

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Decision-making at the end-of-life is frequently difficult for cancer patients, their families and the staff caring for them (Davison and Degner, 1998). This distress is often exacerbated if a patient is also critically ill (Price and Kish, 2001). According to the ethical principles of distributive justice, cancer patients should not be denied access to critical care services. Cancer treatment often has a curative intent, or is intended to provide an extended survival time.

Despite improving figures, the presence of a critical illness will raise mortality rates considerably above that which would be seen with a primary cancer diagnosis (Groeger *et al*, 1998; Kress *et al*, 1999; Sculier *et al* 2000; Staudinger *et al*, 2000; Nelson *et al*, 2001). Significant numbers of patients use critical care services for cancer treatment-induced critical illness and a proportion of those subsequently deteriorate to the point of futility. At this point good decision-making is required to ensure the move to end-of-life care is timely and appropriate. Care at this point is at risk of becoming fragmented for those cancer patients in critical care at the end-of-life.

These cancer patients have to face the dilemma of initially undergoing treatment intended to prolong life or save life and then, when futility is apparent, the focus of care is redefined. Nurses then have to respond to the needs of a dying patient and their loved ones and are in a prime position to ensure, by acting as patient advocate, that the decision-making is an inclusive process, patient needs are paramount, the practical aspects of withdrawal lead to a smooth transition and that comfort measures are implemented.

This presentation will review the literature, explore the ethical debate around critical care provision for cancer patients in Europe, what precipitates decisions to move to end-of-life care and the subsequent impact upon care. The following phenomena will be discussed in relation to cancer patients:

- over-treatment
- decision-making and conflict
- covenants of care and cancer patients

Two case studies will be presented to exemplify the issues raised by the literature review. Finally, how good decision-making at end of life in critically ill cancer patients can be enacted, and conflicts in care paradigms can be resolved, will be proposed.

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**CAM – a very confusing title, so which is which?**

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Alternative medicine must be distinguished from complementary therapies by examining the promoted purpose of the method in order to clarify this dissimilar collection of therapeutic techniques. Alternative cancer therapies are products and treatments recommended for use instead of mainstream cancer care and can be a vast collection of disparate, unrelated regimens and products ranging from adjunctive modalities which can enhance quality of life to bogus therapies that claim to cure cancer and thus may harm the patient both directly and indirectly. Consumers are at the mercy of those who promote unproved remedies, many of which can be purchased over the counter or Internet. These treatments are unproven, harmful, costly, time-wasting and possibly invasive. Complementary therapies, in contrast, serve a complementary role in conjunction with conventional medicine and their aim is to improve quality of life and symptom control. They are often used as part of wellness and health maintenance programmes and many regimens are part of preventive medicine and supportive care. Complementary therapies tend to be non-invasive, inexpensive and widely helpful. However, frequently when reference is made to "alternative" approaches, the therapy