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Taking the lead – Sharing best practice in intravenous bisphosphonate use in urological cancers

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Purpose: Bisphosphonates relieve metastatic bone pain, prevent, reduce and delay skeletal morbidity in metastatic bone disease and are recommended in European guidelines but safety concerns, specifically renal dysfunction and osteonecrosis of the jaw, necessitate specific precautions when administered intravenously. Pan-European guidance for nurses at the forefront of patient-focussed cancer care is required to minimise patient risk.

Methods: A panel of urology and oncology nurses from seven European countries collaborated to decide what constituted best practice for bisphosphonate administration when indicated for prevention of skeletal-related events in patients with advanced urological malignancies.

Results: The panel agreed that urology, oncology, and home-care nurses who are at the forefront of patient-focussed care are well placed to ensure best practice is followed but across Europe nurses have insufficient training on bisphosphonate administration for urological cancers. Based on extensive clinical experience in administering bisphosphonates the panel propose best practice for identifying those patients who could benefit, for example those with bone pain or at risk of fracture, and for minimising risk of adverse events by checking renal function, adjusting dosing, ensuring adequate hydration, and regularly assessing dental health, as well as providing information and support.

Conclusions: Sharing this best practice across Europe could assist nurses who care for patients with urological cancers and bone metastases or indeed those caring for cancer patients in general, to take the lead, or at least be aware of what is the best practice that helps to ensure effective and safe IV bisphosphonates administration to patients under their care.

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Introduction

Bone is an extremely common site of cancer metastases that frequently causes pain and puts patients at risk of skeletal-related events (SREs), including pathological fractures and spinal cord

compression (Wilkinson et al., 2008). Intravenous (IV) bisphosphonates have an accepted place in the management of bone metastases in patients with advanced malignant neoplasms and have been shown to decrease the prevalence and impact of cancer-related skeletal complications (Aapro et al., 2008; Coleman, 2008; Drake et al., 2008; Yuen et al., 2006). Although included as a valid therapeutic option in various European guidelines (Bader et al., 2009; Heidenreich et al., 2009; DGU, 2009), their use in clinical practice may be tempered by safety concerns. In particular, risks for patients with renal impairment and a much publicised association with osteonecrosis of the jaw (ONJ) necessitate specific precautions to be taken prior to their administration (Drake et al., 2008). The

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development of nurse specialist roles and of nurse-led services for patients with urological malignancies, places urology, oncology and home-care nurses at the forefront of patient-focussed care for prostate, renal, and bladder cancer. However, across Europe as a whole there is a wide variation in the role of nurses and in some countries, the role is not as well developed or so clearly defined as in others.

It is against this background that a European panel of expert urology and oncology nurses decided to review how closely recommendations associated with IV administration of bisphosphonates were followed in their clinics or in a home-care setting, and to reach a consensus on what they thought constituted best practice when administering these agents for the prevention of SREs in patients with advanced urological malignancies metastasising to bone. This best practice could potentially be applied to other areas where administration of IV bisphosphonates may be indicated, for example, in breast or lung cancer (Brown and Coleman, 2002; Jahanzeb and Hirsh, 2010), or multiple myeloma (Gralow, 2010), but due to the small sample sizes available for studies in patients with multiple myeloma and some other solid tumours (Fizazi et al., 2009) there is limited data available on which to base practice advice. As the experience of the panel members is primarily in the use of bisphosphonates for prevention of bone loss and skeletal-related events in patients with advanced urological cancers, this remained the focus of their review.

Multidisciplinary team working for patients with urological cancers

In 2002 the UK National Institute of Clinical Excellence (NICE) published its Manual for Improving Outcomes in Urological Cancers that recommended that all patients with urological cancers should be managed by multidisciplinary urological cancer teams (NICE 2002). Because patient advocacy and the provision of information and support for patients and caregivers are crucial aspects of their role, NICE recommended that nurses should become the highly skilled communicator within the team (NICE, 2002). As a consequence, the role of the urology nurse specialist in the UK has developed to the extent that in many centres, these highly specialised nurses take a lead role in the care of men with urological cancers including the provision of follow-up services for patients with bone metastases.

Multidisciplinary team-working for urology services is also established or advocated in other European countries. Nurse-led follow-up clinics for patients with stable urological cancers are common in Scandinavia with nurses monitoring disease markers (for example, prostate specific antigen (PSA) levels), pain intensity, and how well patients are coping with their cancer and its treatment. These nurses act within a recognised framework which allows them to recommend to the patient's doctor when pain relief is needed or that referral for a bone scan or magnetic resonance imaging (MRI) may be necessary. Standards of care are maintained due to a system of governance. Although the term 'specialist nurse' is not used in France, all French nurses involved in the management of urological cancer patients have a level of expertise that empowers them to take part in decision making processes related to the care of their patients. The National Cancer Plan for France, launched by President Chirac in 2002, and updated in 2009 (Le Plan Cancer, 2009–2013) advocates collaboration for research efforts and innovation, a better consideration of health inequalities for patients facing cancer, and strengthening the coordination of new health initiatives and medico-social care. French nurses are now actively involved in providing information and support about cancer and its treatment to patients and their caregivers.

In Germany, nurses are beginning to take over some of the traditional physicians' responsibilities, for example, administering intravenous (IV) medication. The German Society of Urology (Deutsche Gesellschaft für Urologie – DGU) recently presented a new interdisciplinary guideline for early detection, diagnosis, and treatment of various stages of prostate cancer that encourages multidisciplinary team-working (DGU, 2009). As the guideline is relatively new it will take some time for interdisciplinary working practices to become established. In the meantime, German nurses involved in the care of patients who are prescribed IV bisphosphonates are still, often working independently from other disciplines, which makes it difficult to implement common standards of care for all patients.

In the Netherlands, specialized oncology nurses, urology nurses and clinical nurse specialists/nurse practitioners are involved in the care for prostate cancer patients in all phases of the disease. In the multidisciplinary guideline for prostate cancer there is a special place for nurses in providing education and psychosocial support. The Health Care Inspectorate in the Netherlands has also made a clear statement (Inspectie voor Gezondheidszorg, 2009) that there is a strong need for a case manager for each cancer patient and this is a role particularly suited to nurse specialists.

The Irish government established a National Cancer Control Programme to look at issues affecting the care of oncology patients in the Republic of Ireland and to encourage closer multidisciplinary team-working. Within the Irish public health system, diagnostic and surgical treatment centres have been opened or are in the planning stages to cater for the needs of patients with prostate cancer across the whole of Ireland. However, care of Irish patients with prostate cancer may be managed by urologists, medical oncologists, or radiation oncologists; within the public health system or in the private sector. With neither standardised models for multidisciplinary team-working, nor any formal requirement or process for sharing case notes across Ireland, across specialities or between health sectors, multidisciplinary team practice in Ireland varies considerably.

Europe-wide initiatives are needed to encourage networking and to educate, develop and implement standards for all nursing specialities, but there is a clear role for urology or oncology nurses to take the lead and ensure that patients with urological cancers who are administered IV bisphosphonates, are informed and given the support they need. The European Association of Urology Nurses (EAUN) is keen to develop pan-European evidence-based guidelines for their nursing colleagues who are involved in urological cancer care. An EAUN group for transrectal ultrasound (TRUS) biopsy guidelines is already established and a series of guidelines on various aspects of urological cancer care including one on bone health, are planned. By developing guidelines, standardising best clinical practice, and by working closely with other pan-European nursing bodies, such as the European Oncology Nursing Society (EONS) and patient groups, EAUN hopes to increase awareness of what constitutes best practice to support and encourage urology nurses to take a lead in improving quality of cancer care, particularly for patients with urological cancers across Europe.

Urological cancers and bone health

Prostate cancer is the most common cancer in men in many western countries; the crude annual incidence in the European Union (EU) is 78.9/100,000 men and the mortality rate is 30.6/100,000 men/year (Horwich et al., 2009). The crude incidence of invasive bladder cancer in the EU is 19.5/100,000/year with 70% of patients with bladder cancer over 65 years of age (Bellmunt et al., 2009). Renal cell carcinoma accounts for 2–3% of all adult malignancies; it is the seventh most common cancer in men and the

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