An Observational Research Study to Evaluate the Impact of Breakthrough Cancer Pain on the Daily Lives and Functional Status of Patients

Abstract:

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Abstract

Breakthrough cancer pain (BTcP) is common, resulting in significant physical and psychosocial morbidity. We assessed the impact of BTcP on 81 cancer patients attending Irish specialist palliative care services. BTcP occurred up to two times daily in 30% and 3–4 times daily in 57% of cases. Median scores for the worst and least pains in the previous 24 hours were 7 and 2/10 respectively. Pain lasted <15 minutes in 19 (23.5%), 15–30 minutes in 25 (30.8%), 30–60 minutes in 18 (22.2%) and >60 minutes in 19 (23.5%) of patients. BTcP had a negative impact on general activity, mood, walking ability, work, relations with others, sleep and overall enjoyment of life. BTcP occurred up to approximately 30 minutes. Breakthrough cancer pain is associated with significant physical, psychosocial and economic burdens on patients and their carers. Such patients report being less satisfied with their analgesic therapy, describe decreased functioning and may also experience increased levels of anxiety and depression. This is the first multi-centre study conducted exclusively in the Republic of Ireland to explore and describe the range of impacts due to breakthrough cancer pain on the daily lives and functional status of patients with cancer referred to specialist palliative care services the Republic of Ireland.

Methods

Following an invitation from the principal investigator to all specialist palliative care services in Ireland to participate, five services agreed to take part in this multi-centre study. The local investigator at each site invited patients who satisfied strict inclusion criteria to participate. Informed consent was obtained for all patients who were included. Basic demographic data, location of primary tumour and functional status as measured by the ECOG score were recorded. The next phase involved a series of questions relating to breakthrough cancer pain. The final part of the assessment involved the completion of the Brief Pain Inventory (BPI; version 0.2). The next phase involved a series of questions relating to breakthrough cancer pain. The final part of the assessment involved the completion of the Brief Pain Inventory (BPI; version 0.2). The next phase involved a series of questions relating to breakthrough cancer pain. The final part of the assessment involved the completion of the Brief Pain Inventory (BPI; version 0.2).

Results

Eighty-one subjects were enrolled in the study. Fifty-two percent were female. The median age of female subjects was 58 (IQR 48.6–73.0 years). The primary sites of cancer were as follows: 6% (3/53) breast, 3% (3/53) lung, and 81% (43/53) other malignancies. Based on this definition, breakthrough cancer pain specifically excludes those patients with inadequately controlled background cancer pain. A typical breakthrough cancer pain episode lasts less than 30 minutes. The duration of breakthrough cancer pain episodes is presented in Table 2. Subjects who, in the investigator's opinion, had inadequate control of background cancer pain were excluded. The study was approved by each local research ethics committee and was conducted in accordance with all relevant national and international guidelines for the conduct of clinical research. Each patient was provided with an information sheet and only those who met all of the inclusion criteria and who gave written informed consent were included. Statistical analysis was undertaken by the Health Research Board (HRB) Clinical Research Facility at the National University of Ireland, Galway.

Sixty-nine subjects (85%) had experienced breakthrough cancer pain on the day of the assessment. They described a median score for the for BTcP right now and for pain in the previous 24 hours of 7, and a median score for the worst BTcP in the past 24 hours of 7/10. Impact of BTcP The majority of subjects reported having to limit or stop work, with associated financial implications for some. Over three quarters had to limit their usual social contacts. Subjects also reported being irritable and had difficulty controlling anger and expressing frustration. A detailed analysis of the practical and emotional implications of breakthrough cancer pain is presented in Table 3. Patients reported that breakthrough cancer pain had a significantly negative impact on a range of life activities and functions including general activity, mood, walking ability, work (in the home and outside), relations with other people and sleep. Measured on a 11-point numerical rating scale where 0 signifies does not interfere and 10 signifies completely interfere, the median score for interference with overall enjoyment of life was 7. (Table 4).

Seventy-two patients (88.9%) reported feeling that their healthcare professionals understood their pain. Patients were evaluated using the Brief Pain Inventory (BPI; version 0.2). The next phase involved a series of questions relating to breakthrough cancer pain. The final part of the assessment involved the completion of the Brief Pain Inventory (BPI; version 0.2). The next phase involved a series of questions relating to breakthrough cancer pain. The final part of the assessment involved the completion of the Brief Pain Inventory (BPI; version 0.2).
also invited to describe in their own words the experience of suffering uncontrolled breakthrough cancer pain. This analysis will be the subject of a separate report.

Discussion

This is the first study of its kind to focus exclusively on the burden and impact of breakthrough cancer pain in Ireland within the context of palliative care. As pain is a complex and unique and subjective experience we set out to give cancer patients who were experiencing BTcP a voice. We sought neither to apply statistical significance to their descriptions nor to attempt to put them into a neat pathological category. The goal was to hear the presence of breakthrough cancer pain from the patient’s perspective and to document their self-reported consequences. We simply documented the patients individual account of his or her experiences and their conclusions drawn from them. We let the patients speak and the study’s validity rests in their narrative. The majority (70.4%) of our study population reported experiencing 3-4 BTcP episodes on average per 24 hour period. Not surprisingly, an increased frequency, severity and/or duration of these pain episodes had a profoundly negative impact across a range of domains, representing compromise of each individuals quality of life. The typical duration of a BTcP episode in our study is quite short with 54% reporting that their pain resolved within 30 minutes of onset. In a survey of 1000 European oncology patients from 13 countries (including Ireland), Davies et al reported a median duration of BTcP of 60 minutes (< 1 minute 360 minutes). BTcP was rated as severe by our patient group as evidenced by a median score for the worst pain in the past 24 hours of ? (0 9) while in the Davies study, 62% patients rated their pain as severe.

Breakthrough cancer pain is associated with a multiplicity of negative practical, social and financial consequences for patients in addition to impacting on their ability to endure cancer treatments. In our study the emotional distress was manifested as anxiety, depression, anger and isolation. When one considers these additional and potentially avoidable stressors on an already heavily-burdened population, it is self-evident that this phenomenon requires far greater attention and a more urgent focus from physicians and other healthcare professionals alike. One interesting finding of our study was that seventy-two patients (88.9%) reported that their healthcare professionals understood their pain. This is a surprisingly high figure when one considers the evident burden of uncontrolled pain in the same population. The early pioneers of hospice and palliative care services focused attention on the burden of uncontrolled pain in cancer. In 1980 the Working Group on Terminal Care noted that pain is a major problem among terminal cancer patients and made the astute observation that most of the pain is unnecessary and due to poor medical management. Over the past three decades, we have made great strides in our understanding of the nature and pathogenesis of cancer pain. Sadly, many patients in Europe and indeed across the world, still experience inadequate cancer pain management because of excessive restrictions on the availability and accessibility of opioids. As in all situations in medicine, unless we recognise this problem, we are unlikely to be in a position to correct it. In this instance, we have the tools that we need and simply need to apply well published principles consistently and rationally.

As a starting point, we must ensure that we include a detailed assessment of cancer pain for all patients attending for review in both hospital and community settings. Unless and until we routinely record the presence and severity of pain, both background and breakthrough, it seems unlikely that we will make significant progress. Though we took care to exclude patients with poorly controlled background pain and select only those with pure BTcP, we acknowledge that in the clinical context these distinctions are not always clear. We recruited patients in an opportunistic or convenience sample, in part to avoid adding additional burden to an already heavily-burdened (and fatigued) population. Our data did not enable an attempt to be made to distinguish between spontaneous breakthrough cancer pain and incident pain. Our patients, recruited from specialist palliative care settings, may represent a sub-group with more advanced and progressive disease atypical of all cancer patients in the population. In conclusion, BTcP is a burden across a range of physical and emotional domains and is associated with impaired enjoyment of life. Systematic assessment of breakthrough cancer pain should form an integral part of an oncology or palliative medicine consultation. Once identified, breakthrough cancer pain should be actively and skilfully managed.

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References