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CASE REPORT

METASTATIC BREAST CANCER WITH MULTIPLE OSSEOUS LESIONS AND SEVERE LOCAL PAIN IN VERTEBRAE COLUMN TREATED WITH THE SINGLE APPLICATION OF A FENTANYL TRANSDERMAL PATCH: A CASE REPORT

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Abstract

Breast cancer is the most frequent type of malignancy among female patients, while spine metastases represent the most frequent anatomic area for both-bone metastases and relapse lesions. The application of a fentanyl transdermal patch presents a significant variant for pain palliation. Although a complete remission of pain after a single application is rather rare, we present a female patient who reported it. GBPI, HADS and ECOG evaluation scales showed significant improvement. Practitioners who deal with oncology and palliative medicine should have a good working knowledge of this opioid.

Key words: breast cancer, bone metastases, spinal column, fentanyl transdermal patch, cancer pain.

Résumé

Cancer du sein métastatique aux lésions osseuses multiples et douleur locale sévère dans la colonne vertébrale traitée par l'application d'un timbre transdermique de fentanyl: rapport de cas

Le cancer du sein est le type le plus fréquent chez les femmes, tandis que les métastases de la colonne vertébrale représentent la zone anatomique la plus fréquente à la fois pour les métastases osseuses et les lésions de rechute. L'application d'un timbre transdermique de fentanyl présente une variante significative pour la palliation de la douleur. Bien qu'une rémission complète de la douleur après une seule application soit plutôt rare, nous présentons une patiente qui l'a signalée. Les échelles d'évaluation GBPI, HADS et ECOGL ont montré une amélioration significative. Les praticiens qui traitent de l'oncologie et de la médecine palliative devraient avoir une bonne connaissance pratique de cet opioïde.

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Mots-clés: cancer du sein, métastases osseuses, colonne vertébrale, timbre transdermique de fentanyl, douleur cancéreuse.

Introduction

Fentanyl transdermal patches (FTP) have been in wide use to confront the most common symptom of cancer patients, pain. Treatment of cancer pain is generally based on the World Health Organization pain relief scale, which suggests a three-step sequential approach corresponding to drugs with increasing efficacy. However, recently published guidelines by the *European Association for Palliative Care* and the *European Society for Medical Oncology* suggest giving low doses of strong opioids earlier, as an alternative to weak opioids to achieve better analgesia and tolerability[1,2]. The least invasive, easiest to be applied, and safest route for absorption of opioid administration should be provided, in order for an adequate analgesia to be achieved. FTPs meet those criteria and a personalized schedule should be administered, based upon a multimodal analgesia which is essential for a better and quicker reduction of cancer pain[2,3]. We present a rare case of complete cancer pain remission after three days of FTP application as the single therapeutic intervention.

Case report

A 67-year-old female patient diagnosed with HR+/HER2- advanced/metastatic breast cancer visited our hospital reporting severe back pain, mainly localized in the vertebral spine. Physical examination revealed intense pain of bone origin, extreme gait disturbance (almost unable to walk) and severe anxiety. Haematological exams included CA 15-3=58.33 IU, LDH 381 U/L, hemoglobin 10.9 g/dL and hematocrit 33.2. Validation scale tools included Greek Brief Pain Inventory (GBPI) with score 10 (Severe pain=10), Hospital Anxiety Depression Scale (HADS) with score 15 and ECOG performance status with score 3 to 4. Both bone scintigraphy with 18mCi Tc-99m MDP and PET scan with 10mCi 18FDG (SUV>18) revealed diffused multiple bone metastases in vertebral column (Fig. 1). Palliative administration of Samarium Sm^{153}EDTMP was decided to be administered within the week. FTP was decided to be administered in an initial dose of 12 mcg/h to be increased in 25 mcg/h within 3 days. The patient returned after 4 days, reporting complete pain remission GBPI: 0 (no pain at all), HADS: 9 (anxiety decrease) and ECOG: 1 (restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature). Samarium administration was cancelled, while local radiotherapy was decided to be performed as an additional palliative-curative external intervention following chemotherapy (docetaxel, capecitabine, and zometa).

Discussion

Breast cancer is the most common malignant type of cancer among female patients and is the leading cause of cancer death for women globally. Bone it is the most frequent anatomic entity for distant metastases from any type of breast cancer and accounts for the highest proportion of first site relapse. Concerning the distribution of bone metastases, the most frequent site is the spine, a lesion which may cause severe pain and movement disorders[4].

Bone metastases often precede other metastases presenting usually a sign of advanced-stage disease. Survival of these patients can range from months

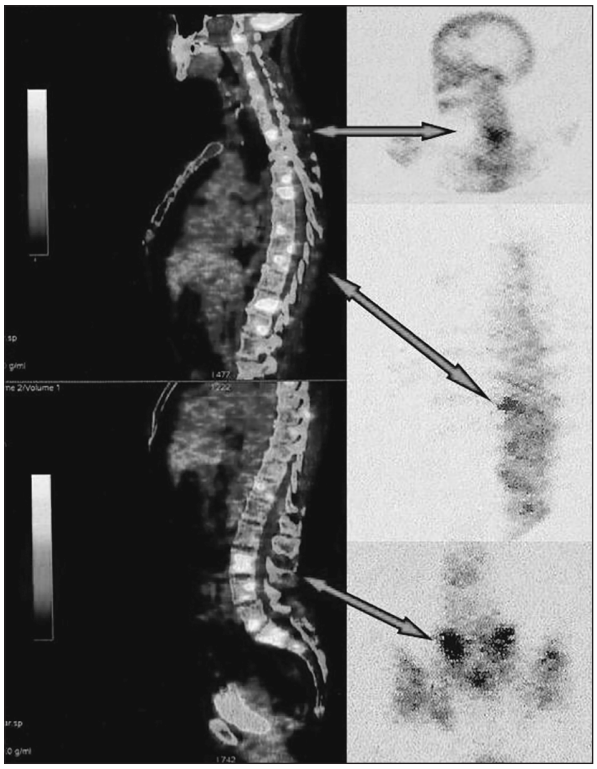

Figure 1. Whole body Pet scan (left side) and Bone scan zoom shots (right side) and the correlation of multiple bone metastases in vertebral column. Lesions include and not only, cervical vertebra C1 (atlas), thoracic T1 and lumbar L3.

to many years. Metastatic cancer pain can be fast or slow in appearance, acute or chronic, benign or malignant with paroxysms (breakthrough pain) and can be categorized into body (nociceptive), visceral, neuropathic, pain caused by the continuous irritation of the sympathetic system and psychic. Thus, it should be addressed in a holistic way, in combined protocols (NSAIDs, paracetamol, radionuclides, radiotherapy, etc) for the quality of life of a cancer patient to be improved[3]. The FTPs application as a monotherapy in treating patients with moderate to severe cancer pain is not suggested and a combined approach is usually desired[3,5]. On the other hand, studies showed that fentanyl could produce remarkable results in patients suffering from moderate and severe pain, while simultaneously quality of life, anxiety, and depression are being improved too[3,6]. Dosage should be personalized, and gradually increased under predefined guidelines[3]. However, complete remission is being presented in only a small percentage of suffering individuals[3,6].

Conclusions

Our rare case renders FTPs administration to be considered as a variant of first-line treatment in cancer pain, while it highlights the importance of a good working knowledge of this opioid to practitioners who deal with oncology and palliative medicine.

Compliance with Ethics Requirements:

„The authors declare no conflict of interest regarding this article"

„The authors declare that all the procedures and experiments of this study respect the ethical standards in the Helsinki Declaration of 1975, as revised in 2008(5), as well as the national law. Informed consent was obtained from the patient included in the study"

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