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Clinical Research and Clinical Reports

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Case Report

Novel protocol of opium tincture oral consumption in three female cases with breast cancer

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Received Date: 12 September; 2024 | Accepted Date: 26 September; 2024 | Published Date: 17 December;2024

Citation: Hossein Dezhakam, Amin Dezhakam, Ani Dezhakam, Shani Dezhakam, Arvin Haghighatfard, (2024), Tinea faciei as the main mimicker of cutaneous lupus erythematosus, *Clinical Research and Clinical Reports,* 6(1); **DOI:**10.31579/2835-8325/136

Abstract

We report three cases of female breast cancer. The Patients who participated in the present study were three females aged 34, 39, and 43 years old who were diagnosed with breast cancer and subsequently received adjuvant radiotherapy and hormonal adjuvant therapy with tamoxifen. All patients were previously diagnosed with opioid use disorder (OUD) before the cancer diagnosis. All patients successfully abstained from using opium addiction with a new method of taper-up-off opium tincture called Dezhakam step time (DST). This newly developed protocol is based on taper up-off of opium tincture oral consumption. All patients showed successful OUD treatment a significant reduction of cancer nodules and a considerable decrease in pain. Interestingly, no craving or dependence symptoms were determined during and eighteen months after the treatment.

Key words: opium tincture; breast cancer; taper up-off

Abbreviations:

OUD: opioid use disorder

DST: Dezhakam step time

Introduction:

Breast cancer is the most prevalent cancer in women worldwide and has a high rate of metastasizing to the lungs, bones, liver, and even brain (1). Opium-driven medicines are widely used as painkillers for the reduction of cancer-associated pains in breast cancer patients (2). Unlike other substances such as alcohol and tobacco, which are cancer risk factors, no clinically relevant evidence determined an association between opioid prescriptions and breast cancer (3). By the way, opioid use disorder (OUD), in patients with cancer during and after the treatment with opium-driven painkillers is a global health concern (4). It has been reported that about eighteen percent of cancer patients have a history of opioid addiction (5).

Several epidemiological studies revealed that earlier beliefs about associations between cancer and opioid misuse are not true, and there is a similar risk for cancer patients and the general population for OUD (6).

Clinicians could face a conundrum when they admit patients with active opioid use disorder (OUD) and diagnosis of cancers such as breast cancer. They have cancer-related painful symptoms and also need and take opioids due to their dependence. Treating these patients requires a novel personalized approach, informed consent, and a special multidisciplinary medical decision-making model.

The case study in the present report of three female patients with breast cancer and opium addiction is an exceptional example of the potential positive effects of successful addiction treatment and clinical usage of oral consumption of opium tincture with a new protocol, which may lead to advancement in the breast cancer treatment as well as OUD treatment.

Case Report explanations:

We describe here three female cases, all diagnosed with breast cancer, with a history of opium addiction. At least two years before the mammography and diagnosis of breast cancer, all patients started non-medical opioid use and were diagnosed with opium dependence. These patients were successfully treated for their opium addiction with a new method of taper-up-off of opium tincture called Dezhakam step time (DST) (7).

The first patient was a 39-year-old woman who was admitted to the hospital and she has been diagnosed with left breast cancer. No other personal or family history of breast cancer was raised during the patient interview and pedigree analysis. The clinical breast examination found a nodule of the almost 42-millimeter-long axis, located in the upper-external quadrant of the left breast, which was fixed and painful. The near lymph node areas were normal. The patient had received an adjuvant radio-chemotherapy followed by a hormone therapy with tamoxifen.

The second patient was a 43-year-old woman who came to the general physician's office after experiencing flu-like symptoms with painful swelling on the left side of the armpit and chest region. No family history or heredity

background of breast cancer was detected in the patient's pedigree. Breast ultrasonography detected a 16-millimeter-long hypoechoic mass in the left breast. No sign of metastasis showed in chest radiography, whole body, and breast magnetic resonance imaging (MRI). The patient had received an adjuvant radiotherapy and a short time of hormone therapy with tamoxifen, six months later.

The third patient was a 34-year-old woman comes to the local medical center and then referred to the oncologists with symptoms of a painful lump and swelling in her left breast. No familial history background of breast cancer was determined in first cousins, but two cases of breast cancer were found in second cousins of patients' pedigree. Breast ultrasonography detected a 36-millimeter-long hypoechoic mass in the right breast. Chest radiography and abdominal ultrasonography showed no evidence of near metastasis to the axillary lymph nodes or distant metastasis. A needle biopsy was performed by a physician and showed mucinous carcinoma. The immunohistochemistry examination showed positive estrogen and progesterone receptor, and human epidermal receptor 2 (HER2)-negative, with 15% Ki-67. The patient had received an adjuvant radiotherapy followed by a hormone therapy with tamoxifen.

During the diagnosis of breast cancer, all three patients participated in a prescription of oral consumption of opium tincture based on a new taper-up-off treatment method called DST for addiction treatment. This method was previously successfully used for the treatment of methamphetamine and opium dependence (8).

The DST method protocol is based on opium tincture and has been presented by an Iranian non-governmental organization called "Congress 60", which was originally designed as a medication-based method for addiction treatment. The DST method aims to replace opium-based compounds or methamphetamine abuse with opium tincture in the first phase and taper off and terminate dependence on the opium tincture in the second and final phases. The treatment protocol included two phases, the first phase was called the taper-up phase including termination of any opioid compound misuse, and start taking a determined dosage of oral consumption of opium tincture. During the taper-up phase, the opium tincture dosage would elevate in each step which takes three weeks until the end up to the maximum dosage at the final step. After the final step with maximum dosage, the second phase called the taper-off phase would commence. During the taper-off phase, the dosage of opium tincture oral intake will be lessened in every 21 days' steps till, the complete termination of opium tincture intake. The total process of the treatment protocol would take about less than 12 months.

The six months, twelve months, and eighteen months of follow-up analysis reveal a steady state and no sign of metastasis due to medical examinations and imaging in all patients. All three patients were successfully treated for opium dependence and shrinking of the mammary nodules during the 18 months of follow-up and were discharged in good somatic and psychological condition for further treatment and follow-up analysis.

Discussion

For decades, the dependency on opium-based medicines used as painkillers for cancer patients indicated a health concern (6). Moreover, both clinical and epidemiological shreds of evidence have confirmed the safety and efficacy of opium tincture gradual dose reduction regimens called for the treatment of opium and methamphetamine addiction (7). Based on the previous studies, the relapse rate of opium dependence in the subject treated with the DST method was less than one percent which may suggest that the DST method could be useful for the medical usage of opium in cancer patients as a painkiller and reduce the risk of further opium dependence in these patients (8). Recent studies determined the potential positive effects of opium and/or opium-derived alkaloids in the inhibition of metastasis and oncogenesis (9). Several lines of evidence revealed inhibition of cell proliferation and migration of cancer cells caused by some non-narcotic alkaloids of opium such as Papaverine (10). Moreover, the opium-derived alkaloids including Noscapine showed anticancer and cell growth inhibition characteristics in cellular assessments (11).

Several lines of in-silico assessments determined that opium-based compounds such as Papaverine could play as a ligand in the inhibition of Proto-Oncogenic pathways such as the axis of high mobility group box 1 (HMGB1)/ receptor for advanced glycation end-products (RAGE) in tumor cells of several cancers, including prostate (12, 13); colorectal carcinoma, breast (14) and hepatocarcinoma (15). Potential antitumor effects of opium-based alkaloids may associate with arrests of metaphase and induce apoptosis in dividing mammalian cells (16). Previous studies determined opium alkaloids could bind tubulin subunits leading to tubulin assembly changes that in turn arrest mammalian cells during mitosis. Agents that affect microtubule assembly may cause apoptosis in cycling cells and have potent antitumor activity with inhibition of mitosis and apoptosis initiation in cycling cells (17).

Opium tincture is a water-soluble medicine, known for its high absorption rate during oral administration usage. The novel protocol described in the present case report could suggest a safe and successful protocol for addiction treatment of cancer patients with comorbid opium dependence with potential improvement in the progression inhibition of cancer cells.

Conclusion

While opioids are frequently used to manage pain associated with breast cancer, the effects and mechanisms of opium-based compounds in cancer cells have not been clarified so far. The present case report highlights the need for new treatment strategies available for cancer patients with OUD. Due to the clinical report and potential molecular mechanisms of opium usage in cancer patients, the development of a new method of opium medical usage with a low risk of further dependence may lead to not only pain relief but also the inhibition of cancer progression and metastasis.

Author contributions

Hossein Dezhakam: conceptualizing and supervision. Amin Dezhakam: writing and editing the manuscript, Ani Dezhakam: writing and editing the manuscript, Shani Dezhakam: writing and editing the manuscript, Arvin Haghighatfard: conceptualizing and supervision.

Additional Information

Conflict of interest: The authors declare no competing interests.

Ethical statement: All human subjects who participated in this study signed a written consent form regarding the publication of their information. Patients declare on their admission that their data may be used in anonymized form for scientific assessments and publications. Registration of clinical in advance and approval were not required for the study on human participants by the local legislation and institutional requirements.

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