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Case Report Open Access

Delayed Maculopapular Eruption Induced by Tamoxifen. A Case Report

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Abstract

Tamoxifen-induced skin reactions are uncommon. We report a case of a delayed maculopapular eruption induced by tamoxifen. A 57-year-old Moroccan woman developed a diffuse maculopapulous eruption one month after beginning a tamoxifen regimen instituted as adjuvant therapy. The eruption resolved rapidly after withdrawal of tamoxifen. The late onset in this case is intriguing and prompted us to look for another cause which could not be found. Patch tests performed later with Nolvadex® tablets crushed in vaseline were negative. The most common adverse effect on skin, with an incidence of 17–67%, is vasomotor instability with hot flushes, but more severe types of skin reactions caused by tamoxifen are rare. A search of the published medical literature identified occasional reports of skin reactions.

Introduction

Tamoxifen has been the standard endocrine (anti-estrogen) therapy in breast cancer for several years. Tamoxifen is overall well tolerated. Few cutaneous adverse side-effects of the skin are found with this therapy. We report a case of a delayed tamoxifen-induced skin reaction.

Case Report

A 57-year-old, previously healthy, woman had a partial mastectomy in 2007 for a left-sided breast cancer. Histopathology revealed an invasive ductal carcinoma mesuring 2.5 cm. Eight metastatic axillary ganglions were removed. Both estrogen receptor and progesterone receptor were positive. Clinical examination revealed two cervical lymph nodes which the biopsy showed a ganglionnair tuberculosis. An antibacillary treatment was introduced for 6 months. There were no distant metastases in radiologic tests (chest radiography, bone scan and hepatic ultrasound). The patient received 6 courses of AC 60 (adriablastine 60mg/m^2 and cyclophosphamide 600mg/m^2) as adjuvant chemotherapy. Then, the breast parenchyma was treated with postoperative radiotherapy. Afterward, the patient was recommended adjuvant therapy with tamoxifen 20 mg/day for 5 years. One month after initiating the therapy, a maculopapulous and pruritic eruption appeared. The eruption resolved rapidly after withdrawal of tamoxifen and prescription of antihistaminic treatment. No biological disorders were seen. Four weeks after cessation of the tamoxifen therapy the skin gradually appeared almost normal and an aromatase inhibitor has been proposed to the patient. Patch tests performed later with Nolvadex® tablets crushed in vaseline were negative.

Discussion

Tamoxifen was the first drug developed within the group of oestrogen receptor modulators. The effect in the breast is that of an oestrogen receptor antagonist antagonist, while the effect in some other organs could be described as estrogen agonism [1]. This dissimilarity of effect may be due to the expression of estrogen receptors (estrogen receptors alfa and beta) in different tissues in addition to ligand-specific recruitment of coregulators [2]. This may also explain some of the tamoxifen-related adverse effects. The positive effects of this drug can be summarized as follows: tamoxifen can reduce the risk of developing an oestrogen receptor positive breast cancer [3]; when used in the adjuvant setting tamoxifen significantly reduces the mortality in breast cancer patients (especially for patients with receptor positive breast cancer); and it can induce objective remission for 50–70% of patients with metastatic, receptor-positive cancer [4]. Tamoxifen is overall well tolerated but has been shown in some cases to induce some harmful and potentially life-threatening side effects due to its partial oestrogen agonist activity; these include an increased incidence of endometrial cancer and thromboembolic events [4].The incidence of acute adverse effects associated with tamoxifen therapy is generally low, and less than 5% of the patients have to stop tamoxifen therapy because of side effects [5]. The most common adverse effect on skin, with an incidence of 17–67%, is vasomotor instability with hot flushes [1], but more severe types of skin reactions caused by tamoxifen are rare [6]. The World Health Organisation's International Collaborative Programme on Drug Monitoring reported 1160 adverse drug reactions of the skin in patients treated by tamoxifen between the years 1976 and February 1998. However, it should be noted that these report may sometimes be registered twice, owing to factors such as reports being sent in by physicians and companies separately. The Swedish Adverse Drug Reaction Register reported to tamoxifen only 20 cases during 1979–1997 [5].

A similar case was reported in a 50-year-old woman hospitalized for a diffuse maculopapulous eruption which developed four months after beginning a tamoxifen regimen instituted to prevent recurrence of breast cancer after surgery, chemotherapy and radiotherapy [7]. The eruption resolved rapidly after withdrawal of tamoxifen. The same skin reaction occurred 9 hours after rechallenge with tamoxifen. Once again, negative patch tests were found in this type of skin reaction.

Aromatase inhibitors (AI) are more effective than tamoxifen especially in post menopausal women. When analysing all side effects induced by the long-term use of AIs versus tamoxifen, a first series of side effects seems to be specific and favourable to AIs (hot flushes, gynaecological side effects and cardiovascular events including thromboembolism), a second series specific to all AIs but favourable

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to tamoxifen (bone fractures/osteoporosis and arthralgia), and a third series more specific to given AIs (lipid metabolism, cardiac and cerebrovascular events) [8].

In our patient the causality of tamoxifen is probable because there is a response to withdrawal, and the reaction is unlikely to be attributed to other drugs or diseases. The quick resolution of this toxicity after tamoxifen discontinuation strongly supports a cause–effect in this case.

Conclusion

Despite the emergence of aromatase inhibitors, prescriptions of tamoxifen can increase especialy for primary prevention of breast cancer. Therefore more attention is essential when using this drug.

Consent

Informed consent was obtained from the patient for publication of this case report.

Authors' Contributions

Alls authors have made significant contributions by making diagnosis and intellectual input in the case and writing the manuscript.

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