

Evaluation of the Effect of Prednisolone in Treatment Patients with Idiopathic Granulomatous Mastitis

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Abstract

Introduction: Inflammatory lesions of the breast granulomatosis can be considered as primary or idiopathic inflammation of the breast or as a secondary complication of a wide range of diseases and conditions such as tuberculosis and other external diseases, especially infections. The initial manifestation of these diseases in the form of mastitis is very rare, with secondary causes of high idiopathic granulomatous mastitis. The aim of this study was to evaluate the effect of prednisolone in the treatment of patients with idiopathic granulomatous mastitis referred to Urmia Imam Khomeini Hospital from 2018 to 2020.

Materials and Methods: In this cross-sectional-analytical study, all patients who were referred to Imam Khomeini Hospital by a surgeon with a diagnosis of idiopathic granulomatous mastitis during the year 2017 to 2018 (50 patients) were included in this study. Parasites and foreign bodies, granulomatous mastitis, were excluded. Patients were first treated with 60 mg prednisolone for 2 weeks and then received 40 mg prednisolone for 8 weeks and this dose was reduced over 6 months. The patients were evaluated during 1 month, 3 months, 6 months and one year after the start of treatment and all the information required for the study including age, location of lesion, clinical manifestations, mean time of treatment and recurrence in the researcher-made checklists was entered and then analyzed after data collection.

Results: The mean age of patients was 33.3 ± 8.2 years, with a minimum age of 19 years and a maximum age of 51 years. 36% of clinical manifestations were in the form of mass, 20% in the form of breast abscess, 4% in breast swelling and 20% in simultaneous breast swelling, pain, discharge and breast abscess. 58% of patients took birth control pills, with a mean duration of use of birth control pills (20.4 ± 39) per month. 100% of patients have received corticosteroids. 36% of patients with idiopathic granulomatous mastitis have not recovered and 64% of them have received complete treatment and recovery. out of 32 patients, 2 (6.2%) after one month of drug use, 5 (15.6%) 3 months after drug use and 15 (46.9%) after 6 months of drug use and 10 patients (31.3%) recovered after one year of drug use. 18 patients did not recover, of which 10 patients (55.5%) did not respond to treatment due to recurrence despite drug use and 8 patients (44.5%) did not respond to treatment due to drug discontinuation; 5 patients (27.8%) discontinued the drug due to drug side effects and 3 patients (16.7%) discontinued the drug arbitrarily.

Conclusion: According to the study, it can be concluded that corticosteroids in the treatment of granulomatous mastitis can be considered as the first line. It seems that high-dose corticosteroids are much more effective than other doses and the recurrence rate and duration of treatment in this type of treatment is less than other treatments.

Keywords: Prednisolone, Idiopathic Granulomatous Mastitis, Corticosteroids.

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INTRODUCTION

Idiopathic granulomatous mastitis (IGM) is a continual benign inflammatory ailment of the breast that regularly impacts ladies of reproductive age (1). Numerous factors were identified as IGM threat elements, consisting of response to chemical compounds including oral contraceptive drugs (OCP), infectious diseases, and autoimmune illnesses in response to immunological stimuli due to milk drift in epithelial lobules. However, the etiology of IGM remains unknown, elevating debates on its remedy

and resulting in no single cure or remedy method. Numerous medical remedies have been said for IGM which include topical and systemic corticosteroids and antibiotics which decreased the recurrence price, in addition to methotrexate, azathioprine, and colchicine (2-5).

In reality, corticosteroids and surgical excision are known as contemporary remedies (4-8). Surgical treatment of IGM includes nearby abscess drainage and wide excision or mastectomy. Methotrexate treatment is generally not common within the remedy of patients with idiopathic granulomatous mastitis and is usually used in cases resistant

to common cures with aspect consequences of corticosteroids and has been associated with suitable results in this institution of patients (9).

There are reports on the good results acquired from surgical treatment plus steroids intake. The disease may be regionally invasive with a chance of recurrence. Recurrence fees of five to 50% were found following diverse treatment techniques (10); as an instance, a recurrence rate as much as 50% has been said after surgical excision. Spotting the effective elements of IGM recurrence is as critical as its causes. Breastfeeding, pregnancy, breast contamination, and smoking are the well-known recurrence elements (11). The kind of remedy at some point of remission is also regarded to be an effective object. The aim of this study was to evaluate the effect of prednisolone in the treatment of patients with idiopathic granulomatous mastitis referred to Urmia Imam Khomeini Hospital from 2017 to 2018.

MATERIAL AND METHOD

Type of Study

This cohort study was performed to evaluate the effect of prednisolone in the treatment of patients with idiopathic granulomatous mastitis referred to Urmia Imam Khomeini Hospital from 2018 to 2020.

Study Population

All Patients with idiopathic granulomatosis referred to Imam Khomeini Hospital in Urmia from 2018 to 2020 were included in the study in two years. All information required for the study, including age, lesion size, lesion location, clinical manifestations, number of lesions, mean treatment time were entered in the researcher-made checklists.

Inclusion Criteria

Fill in the diagnostic criteria.

Patients referred to Urmia Emam Khomeini Hospital.

Exclusion Criteria

Patients' dissatisfaction to participate in the study.

Summary of Implementation Method

In this cross-sectional analysis, all patients who referred to Imam Khomeini Hospital with a diagnosis of idiopathic granulomatous mastitis during 2020-2018 were included in the study. Externally, we have granulomatous stitches, excluded. Patients were initially treated with 60 mg prednisolone for 2 weeks and Sebs received 40 mg prednisolone for 8 weeks and this dose was reduced over 6 months. The studied patients were evaluated during 1 month, 3 months, 6 months and 12 months from the beginning of treatment and all the information required for the study including age, location of lesion, clinical

manifestations, recovery and cause of non-improvement in the researcher's checklists. The fabric was imported and the bran was analyzed after data collection.

The statistical software used was SPSS 25 version. Data were reported using descriptive statistics (frequency, percentage and mean \pm standard deviation) (SD \pm Mean). Significance level was considered $P < 0.05$.

Ethical Considerations

The existing study become certified by the regional ethics committee of Urmia university of scientific Sciences with the ethics code IR.UMSU.1398.146 Patients entered the observe after explaining the reason of the look at and how to do it to sufferers and in the event that they needed. Admission to the examine was completely non-obligatory and additionally all participants in the study, may want to withdraw from the study at any stage of the look at, affected person facts will be completely private and the records used without citing the private identification of individuals turned into tested. No additional treatment intervention or additional fee was imposed on sufferers.

RESULT

In the present study, 50 patients with idiopathic granulomatous mastitis with a mean age of 33.3 ± 8.2 years (51-19) were included in the study. Only one patient (2%) had a history of breast abscess several years ago.

36% of clinical manifestations are mass and 20% are breast abscess. In 4% of patients, the breast was swollen and 20% had simultaneous breast swelling, pain, discharge and breast abscess. All patients received corticosteroids after surgery. Of the patients, 36% did not improve and 64% of them received complete treatment and recovery. Out of 32 patients improved, 2 (6.2%) after one month of drug use, 5 (15.6%) 3 months after drug use and 15 (46.9%) after 6 months of use And 10 patients (31.3%) recovered after one year of drug use. Of 18 patients did not recover, 10 patients (55.5%) did not respond to treatment due to recurrence despite drug use and 8 patients (44.5%) did not respond to treatment due to discontinuation of the drug; 5 patients (27.8%) discontinued the drug due to drug side effects and 3 patients (16.7%) discontinued the drug arbitrarily. Percentage of participants in the study experienced the first menstrual bleeding at the age of 14, and 18% of them experienced the first menstrual bleeding at the age of 13 and 14% at the age of 12. Mean age of menarche in patients with mastitis Granulomatosis is idiopathic (13.7 ± 1.4), 42% of them did not take birth control pills and 58% of them took birth control pills (average duration of birth control pills is 20.4 39 39 months). 74% of them had a normal delivery and 18% of them had a cesarean section and 8% of them had both deliveries.

DISCUSSION

Idiopathic granulomatous mastitis is a benign inflammatory disease of the skin of unknown cause. It usually occurs in young women of childbearing age and often in women who have given birth or are breastfeeding (12). The most common symptoms in studies have been painful swollen unilateral breast mass with redness or skin sores with discharge from the urethra and nipple, nipple indentation, or a feeling of aging in the armpit.

In the present study, the mean age of patients with idiopathic granulomatous mastitis was 33.3 ± 8.2 years, with a minimum of 19 years and a maximum of 51 years. In studies similar to this disease, it is often more common in women of childbearing age, which is comparable to the results of other studies that have a mean age range of 33.5 to 39 years (13).

Also, in 38% of patients, clinical manifestations were in the form of lumps, 40% in the form of mammary glands, and in 38% of patients, breast swelling was seen. This study is consistent with a study performed by Pourzand *et al.* On 38 patients, the most common clinical manifestations of which included abscess, erythema, edema, and inflammation (14). Since all patients in this study had a history of childbirth, it seems that breastfeeding and childbirth are the main underlying factors of this disease, this issue has been confirmed in previous studies. For example in the study of Leyla *et al.* Patients were married with a history of childbirth and lactation (15). The results of our study are consistent with other studies. Different treatment strategies for idiopathic granulomatous mastitis have been proposed in various studies, including self-monitoring, Oral corticosteroids, methotrexate and surgery. In this study, the treatment of choice is post-surgery steroid therapy and 100% of patients have received corticosteroids. Due to the faster recovery, fewer complications and because of the possibility of definitive diagnosis of treatment on the basis of surgery to remove the lesion seems to be preferable (16). In contrast in some articles such as Pandey study *et al.*, as well as our study, oral steroid therapy is considered as a suitable non-surgical treatment for conservative breast in patients with idiopathic granulomatous mastitis (17). In the study of Sheibani *et al.*, Treatment with prednisolone and methotrexate with or without surgery has been suggested as the treatment of choice in patients with idiopathic granulomatous mastitis (18). Mizrakli *et al.* (19) in evaluating the therapeutic effect of corticosteroid medicine in patients with idiopathic granulomatous mastitis stated that systemic treatment with corticosteroids is an effective and appropriate option for IGM, which can prevent long-term complete recovery. The results of our study are consistent: Deng *et al.* (20) in examining clinical and diagnostic features and discussing medical and surgical treatments in patients with idiopathic granulomatous mastitis showed that the etiology of IGM is still unknown and corticosteroids Complete removal of the IGM lesion is an effective

treatment option, which seems to be consistent with our study. Nakamura *et al.* (21) Polyarthralgia and nodosal erythema, which showed a fine-needle biopsy of the mass in the left posterior granulomatous lobulitis, administration of prednisolone 40 mg / day, relieved the patient's symptoms, and reduced the size of the breast mass after treatment. Methotrexate caused complete recovery. Houssine *et al.*, In combination therapy with excision local wide and corticosteroids to prevent recurrence, showed that complete recovery occurred in 16 patients treated with local wide excision and corticosteroids simultaneously, and in 4 patients Recurrence occurred when they were also treated with prednisolone 1 mg / kg daily for 2 months when all patients recovered. The end result of this study is a combination therapy of local excision wide and corticosteroids to prevent recurrence of the disease. According to the study and in comparison with the present study, it can be concluded that the use of corticosteroids in the treatment of patients with granulomatous mastitis is necessary. Sometimes, depending on the patient's condition, it can be combined with other treatments such as surgery or antibiotics to have a double effect and less recurrence (22).

CONCLUSION

In the present study, during two years, 50 patients were diagnosed with idiopathic granulomatous mastitis, which seems to be the highest statistics of this disease, in recent years in Iran and other surrounding countries. There is more emphasis on the high prevalence of this disease among women in our country. Therefore, it is important to evaluate the preferred treatment method for this disease. It is suggested that since more than 50% of cases of idiopathic granulomatous mastitis can show symptoms similar to breast cancer, and the study of patients with these clinical manifestations needs to rule out other causes of mastitis and malignancy. Considering that the rate of improvement in patients receiving steroid treatment is desirable, it seems that other comprehensive studies, including futuristic design studies, investigate the underlying factors and how the disease spreads in different geographical areas with different follow-up periods. To be placed.

AUTHOR CONTRIBUTION

All authors contributed to the study conception and design. Material preparation, data collection and acquisition were performed. All authors read and approved the final manuscript.

Compliance with Ethical Standards

Disclosure of Potential Conflicts of Interest

The authors declare no conflict of interest. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sector.

INFORMED CONSENT

Informed consent was obtained from the participant prior to the study for publication of this article.

CONFLICT OF INTERESTS

The authors declare no potential conflict of interest.

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