RESULTS OF ORAL STEROID TREATMENT IN PATIENTS DIAGNOSED WITH IDIOPATHIC GRANULOMATOUS MASTITIS

İDİOPATİK GRANULOMATÖZ MASTİT TANILI HASTALARDA ORAL STEROİD TEDAVİ SONUÇLARI

Zehra UNAL OZDEMIR[1]

MAKALE BİLGİLERİ
Araştırma Makalesi

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ABSTRACT

Introduction: Idiopathic granulomatous mastitis (IGM) is a benign, chronic disease characterized by granulomatous inflammation in the breast tissue. There is still no standard treatment model for the disease. Treatment methods range from medical treatments to wide excisions. This study aimed to retrospectively analyze high-dose steroid use and its results in patients diagnosed with IGM.

Materials and methods: In this retrospective study, 48 patients diagnosed with granulomatous mastitis were evaluated, and it was determined that 46 of these patients were diagnosed with IGM. Histopathological diagnosis was made by core biopsy. The patients' age, gender, pathological diagnosis, culture results, presence of abscess, treatment dose, treatment duration, treatment responses, and recurrence were evaluated.

Results: 48 patients diagnosed with granulomatous mastitis were evaluated. Two of these patients were excluded from the study because infectious agents were detected. 46 patients were included in the study. All patients were women. The average age of the patients was 36.32 years and the follow-up period was 28.52 months. The average PPD test results of the patients was found to be 5.58 mm. Patients were started on 0.8 mg/kg/day methylprednisolone tablets. After 3 weeks, the treatment was reduced by 0.1 mg/kg/day per week and completed after 10 weeks. Relapse was observed in 3 patients (6.52%). No surgical procedure was performed on the patients. Abscess formation was observed in 9 patients while receiving steroid treatment. Samples were taken from these patients by aspiration and sent for culture. Coagulase (-) staphylococcus grew in 3 patients (6.52%).

Conclusion: It was concluded that high-dose steroid treatment is effective in IGM cases, and good results can be achieved with low recurrence rates and minimal deformity without the need for surgical intervention.

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ÖZET

Giriş: İdiopatik granülomatöz (IGM) mastit meme dokusunda granülomatöz bir inflamasyon ile karakterize benign, kronik bir hastalıktır. Hastalığın halen standart bir tedavi modeli bulunmamaktadır. Medikal tedavilerden geniş eksizyonlara kadar uzanan tedavi yöntemlerine rastlanılmaktadır. Bu çalışmada IGM tanılı hastalarda yüksek doz steroid kullanımı ve sonuçlarının retrospektif analizi amaçlanmıştır.

Gereç ve yöntem: Bu retrospektif çalışmada 48 granülomatöz mastit tanılı hasta değerlendirildi, bu hastaların 46 tanesinin IGM tanısı aldığı belirlendi. Hastalara histopatolojik tanı core biyopsi ile konuldu. Hastaların yaşı, cinsiyeti, patolojik tanıları, kültür sonuçları, abse varlığı, tedavi dozu, tedavi süresi, tedavi cevapları ve nüks durumları değerlendirildi.

Bulgular: Granülomatöz mastit tanısı alan 48 hasta değerlendirildi. Bu hastalardan ikisisinde enfeksiyon ajanları tespit edildiği için çalışma dışı bırakıldı. 46 hasta çalışmaya dahil edildi. Hastaların tamamı kadın idi. Hastaların yaş ortalaması 36,32 yıl, takip süresi 28,52 ay olarak bulundu. Hastaların PPD test sonuçlarının ortalaması 5,58 mm olarak bulundu. Hastalara 0,8 mg/kg/gün metilprednizolon tablet başlandı. 3 hafta sonra haftada 0,1 mg/kg/gün azaltılarak 10 hafta sonra tedavi tamamlandı. 3 hastada (%6,52) nüks görüldü. Hastalara herhangi bir cerrahi işlem yapılmadı. Steroid tedavisi alırken 9 hastada apse formasyonu görüldü. Bu hastalardan aspirasyon ile örnek alınıp kültüre gönderildi. 3 hastada (%6,52) koagülaz (-) stafilokok üredi.

Sonuç: IGM olgularında yüksek doz steroid tedavisinin etkin, cerrahi müdahaleye gerek kalmadan düşük nüks oranları ve minimal deformite ile iyi sonuçlar ortaya koyabileceği sonucuna varılmıştır.

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Introduction

Idiopathic granulomatous mastitis (IGM) is a rare chronic granulomatous inflammation of the breast (1). The etiology of granulomatous mastitis includes diseases characterized by granuloma formation such as tuberculosis, sarcoidosis, and cat scratch disease. The term idiopathic granulomatous mastitis is used when no specific cause of granuloma formation can be identified. IGM is a benign breast pathology (2). IGM can present with clinical and radiological features similar to breast cancer (3). There is no standard approach to the treatment of IGM, and various treatment modalities ranging from medical treatments to wide excisions have been reported (1,4). IGM is a pathology based on a chronic disease that can have recurrences. Surgical procedures performed in patients diagnosed with IGM can result in volume loss and deformities in the breast. Therefore, medical treatments that preserve breast integrity and result in less deformation are more widely accepted nowadays.
This study aimed to retrospectively evaluate the outcomes of high-dose oral steroid treatment without any surgical intervention in patients diagnosed with IGM.

Materials and Methods

Patients who presented to the same general surgeon diagnosed with granulomatous mastitis based on biopsy results between January 2015 and July 2020 were retrospectively evaluated. A total of 48 patients diagnosed with granulomatous mastitis were identified, and their data were reviewed retrospectively through the hospital record system. Age, gender, histopathological and microbiological data, treatment methods applied, presence of abscess, treatment dose, treatment duration, treatment response, and recurrence status were recorded for all patients. This study was conducted retrospectively using data obtained from the hospital database. Hospital retrospective study permission was obtained for the study (2020-13626).

Results

A total of 48 patients diagnosed with granulomatous mastitis were retrospectively screened. It was determined that all patients were diagnosed through histopathological examination by performing a core biopsy under ultrasound guidance.
Out of the 48 patients diagnosed with granulomatous mastitis, one was male (2.08%) and 47 were female (97.92%).

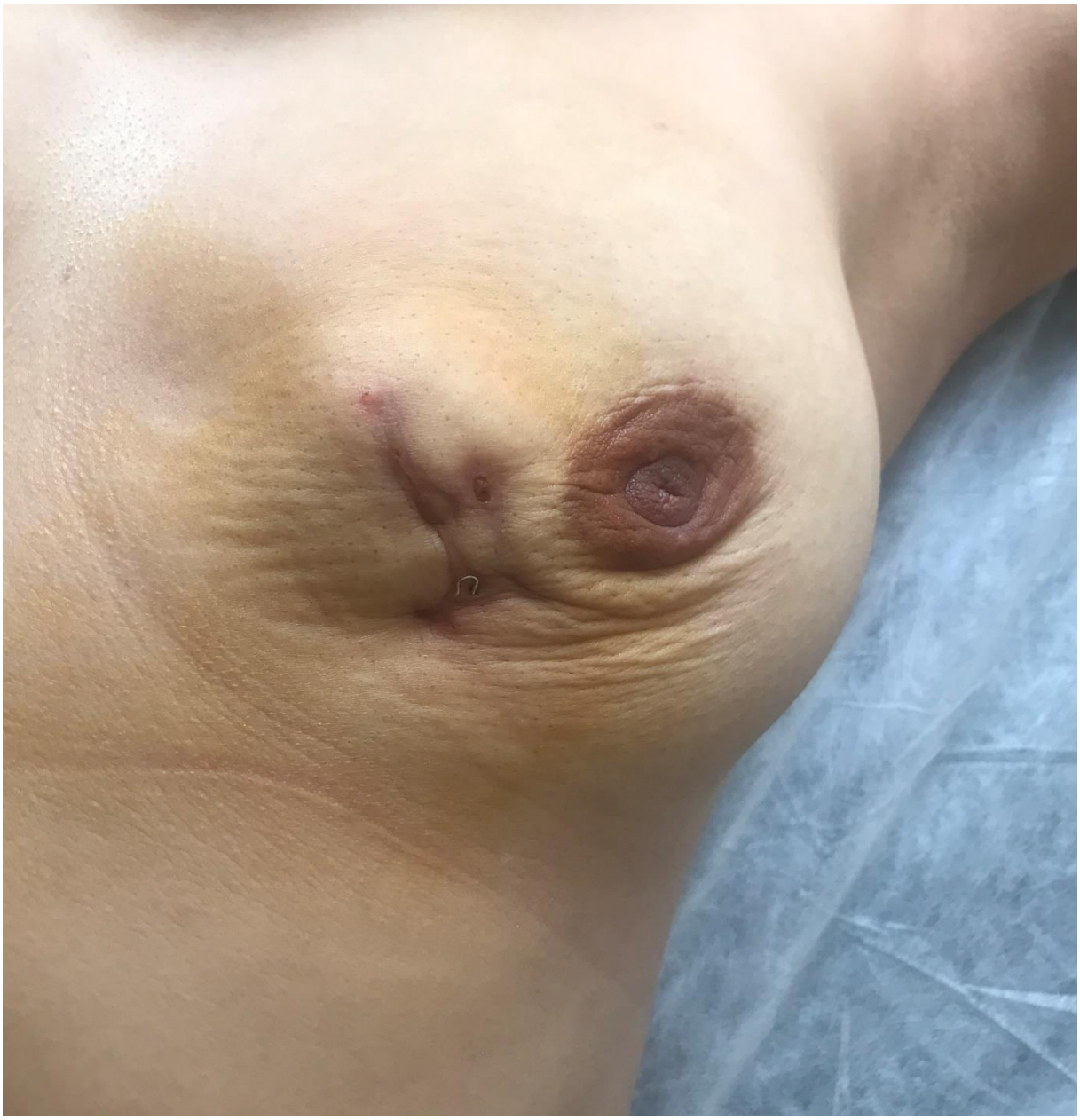
In 2 out of the 48 patients with a diagnosis of granulomatous mastitis, specific causes of granulomatous inflammation were identified. One of these patients had a positive mycobacterium tuberculosis PCR result and mycobacterium tuberculosis growth in the Löwenstein Jensen medium. This patient was started on anti-tuberculosis treatment by the Department of Pulmonary Diseases and followed up. The other patient had an infection with the causative agent Bartonella henselae, confirmed by culture, and was treated with azithromycin by the infectious diseases department. The PPD result of the patient diagnosed with tuberculosis was 22 mm, and the PPD result of the patient with cat scratch was 11 mm. These two patients were excluded from the study as specific causes of granulomatous mastitis were identified. In the remaining 46 patients, no specific cause of granulomatous inflammation was identified, and these 46 patients were diagnosed with "Idiopathic Granulomatous Mastitis". All 46 patients diagnosed with IGM were female. The mean age was 36.32 years, and the mean follow-up duration was 28.52 months. It was determined that 4 of these patients (8.7%) were postmenopausal. When the microbiology culture results obtained during the diagnosis stage were examined, no growth was observed in any of the patients. The average PPD test result was found to be 5.58 mm.

After giving the patients 0.8 mg/kg/day methylprednisolone tablets (Prednol®, Mustafa Nevzat, Istanbul, Turkey) for 3 weeks, the dosage was gradually reduced over the following weeks: 0.7 mg/kg/day in the 4th week, 0.6 mg/kg/day in the 5th week, 0.5 mg/kg/day in the 6th

week, 0.4 mg/kg/day in the 7th week, 0.3 mg/kg/day in the 8th week, 0.2 mg/kg/day in the 9th week, and 0.1 mg/kg/day in the 10th week. To prevent the gastric side effects of methylprednisolone, all patients were given 30 mg/day of lansoprazole.

Aspiration was performed in 9 patients (19.56%) during the follow-up period due to accompanying abscess, and empirical antibiotic therapy was initiated. Coagulase-negative staphylococcus was detected in the culture of 3 patients (6.52%), while no growth was observed in the cultures of the remaining 6 patients.

No open drainage or surgical excision was performed in any of the patients during the treatment and follow-up period. One patient with a lesion located in the inner quadrant of the breast showed improvement with deformity after treatment (Picture 1). Recurrence was observed in 3 patients (6.52%) at the 4th, 7th, and 11th months. During the treatment period, patients were called for follow-up every 3 weeks.



Picture 1. A case of IGM that healed with deformity after treatment.

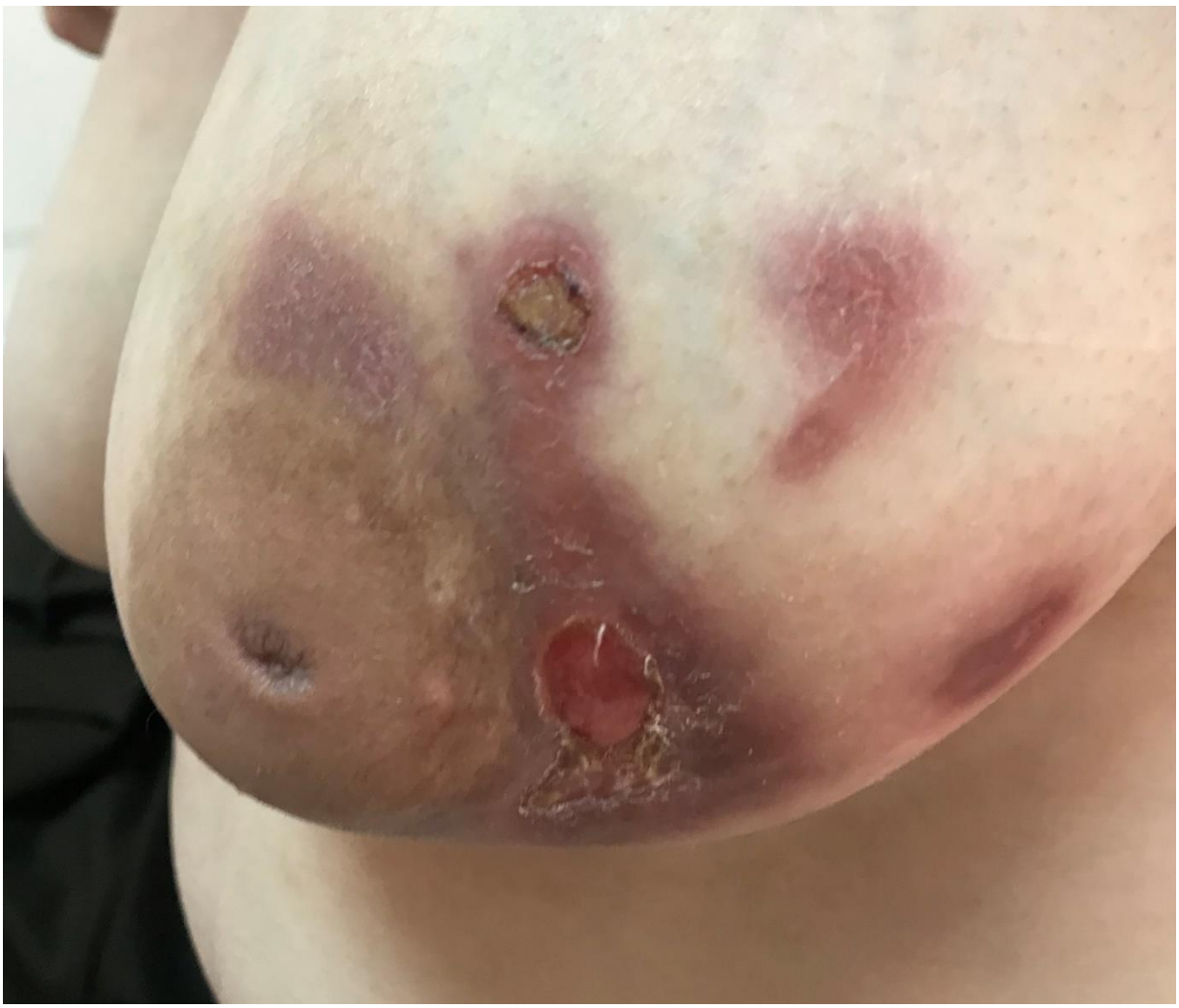
Discussion

IGM is a benign disease that is a chronic inflammatory pathology requiring long-term treatment. IGM is histopathologically described as chronic granulomatous lobulitis. Granulomas containing caseous necrosis are observed in tuberculosis mastitis, granulomas accompanied by vasculitis are observed in Wegener's granulomatosis, and diffuse granulomas are observed in sarcoidosis (5). In this study, tuberculosis was detected in one patient diagnosed with granulomatous mastitis, and cat scratch disease was detected in another patient, so they were not included in the IGM cases.

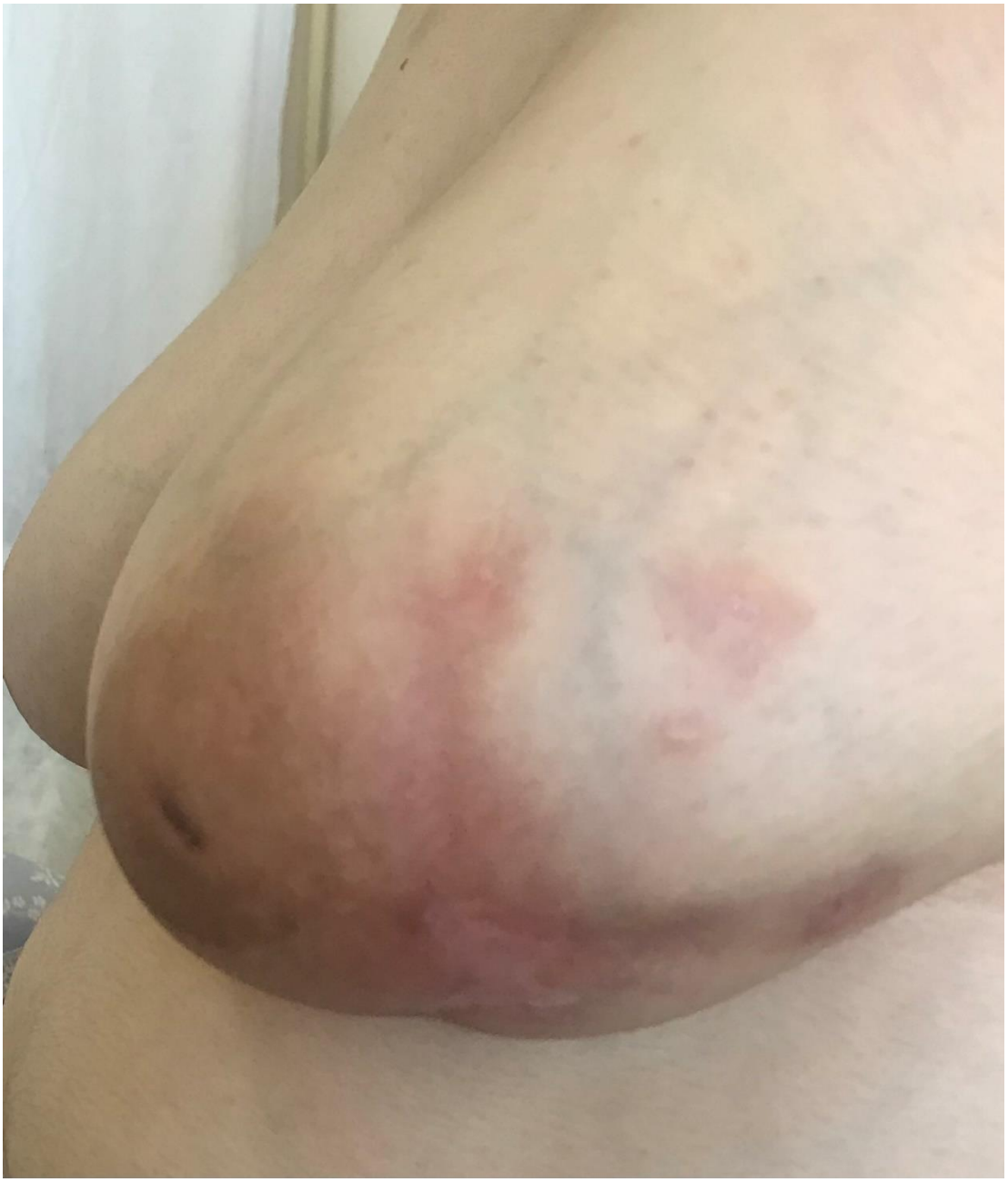
IGM generally affects women in premenopausal (1,4). In this study, 42 of our patients (91.3%) were premenopausal women, which confirms the literature data.

A PPD test result of 10 mm or higher is considered positive (6). In evaluating 48 cases of granulomatous mastitis in this study, PPD test results of 10 mm or higher were detected in 7 cases (22.92%) and considered positive. The PPD result of the patient who was excluded from the IGM cases due to tuberculosis diagnosis was 22 mm. No evidence supporting tuberculosis was found in the evaluation of the other 6 patients. Performing a PPD test for all patients before diagnosing IGM is important in distinguishing tuberculosis patients.

In their study, Tan et al. stated that they administered 20 mg/day oral methylprednisolone treatment for an average of 45 days to 88 patients diagnosed with IGM and achieved a good response rate of 80.7% (7). Another literature study reported that treatment started with 0.5 mg/kg/day methylprednisolone, the dose was reduced and discontinued after 2 weeks, and a complete response was obtained in 63% of the patients (8). Montazer et al. compared high and low-dose oral steroid use in IGM and stated that high-dose oral steroid use yielded better results and no relapses were observed (9). In this study, 0.8 mg/kg/day (high dose) methylprednisolone was administered for 3 weeks and the dose was reduced by 0.1 mg/kg/day starting from the 4th week, and the treatment was completed in a total of 10 weeks. A good response was obtained in 84.78% of the patients (Picture 2-3). The relapse rates in the literature are reported to be between 0% and 33.3% (6, 9, 10). In this study, the relapse rate was found to be 6.52%. Relapses were observed in the 4th, 7th, and 11th months in 3 out of 46 patients diagnosed with IGM. In addition to mastitis symptoms, cavitary lesions that fistulized to the skin were detected clinically and ultrasonographically in 2 of the relapsed patients. The third patient had symptoms of erythema, edema, tension, and tenderness in the mastitis. The same dose and duration of treatment as the initial treatment were repeated for these 3 patients. Complete response was achieved in the patients who experienced a relapse in the 7th and 11th months. However, no response was obtained in the patient who experienced a relapse in the 4th month. Since erythematous lesions also appeared on the patient's legs and were evaluated by dermatology, a diagnosis of erythema nodosum was made and confirmed by biopsy. Systemic methotrexate treatment was started for this patient. Remission was observed in this patient after treatment. The coexistence of IGM and erythema nodosum is rarely seen in the literature (11).



Picture 2. Pre-treatment appearance of the patient diagnosed with IGM.



Picture 3. Image of a patient diagnosed with IGM 6 months after oral steroid treatment.

There are studies in the literature that have used methylprednisolone treatment for 11 months (11, 12). This situation is associated with the prevalence of the disease, treatment response, and relapse.

The development of suppurative infection during steroid treatment of patients is a possible condition (12). When abscess formation is encountered, aspiration should be performed under ultrasound guidance and the abscess material should be sent for microbiological examination. If there is growth in culture, treatment should be given according to the appropriate antibiogram result.

In 3 out of 46 patients with no infectious agents in the culture results obtained at the beginning of treatment, coagulase-negative staphylococcus was detected in the collections that

developed during steroid treatment (6.52%). These patients were given treatment according to the antibiogram result.

Conclusion

With this study, it was concluded that high-dose oral steroid administration may be an effective treatment option for patients diagnosed with IGM, and good results with low relapse rates and minimal deformity can be achieved without the need for surgery.

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