

## Is Platelet Rich Plasma an Alternative Treatment in Granulomatous Mastitis?

Trombositten Zengin Plazma, Granülomatöz Mastit Tedavisinde Yeni Bir Alternatif Olabilir mi?

Hande Köksal<sup>1</sup>, Arif Atay<sup>1</sup>, Meryem İlkey Eren Karanis<sup>2</sup>, Ersin Turan<sup>1</sup>, Osman Dođru<sup>1</sup>

<sup>1</sup> Sağlık Bilimleri University, Konya Education and Research Hospital, Department of General Surgery, Konya, Turkey

<sup>2</sup> Sağlık Bilimleri University, Konya Education and Research Hospital, Department of Pathology, Konya, Turkey,

### ABSTRACT

Idiopathic granulomatous mastitis is a rare, chronic inflammatory breast disease. Surgical excision with or without steroids is an acceptable and effective therapy in carefully selected patients. Herein an alternative treatment strategy is reported to discuss if it is beneficial or not.

**Key Words:** Idiopathic granulomatous mastitis, platelet rich plasma, treatment

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### ÖZET

İdiopatik granülomatöz mastit memenin nadir, kronik, inflamatuvar hastalığıdır. Dikkatli seçilmiş olgularda steroid tedavili ya da steroid tedavisiz cerrahi eksizyon kabul edilen etkin bir tedavi yöntemidir. Burada, granülomatöz mastit tedavisinde alternatif bir yöntem olan trombosit zengin plazma kullanımının etkili olup olmadığı tartışıldı.

**Anahtar Sözcükler:** İdiopatik granülomatöz mastit, trombosit zengin plazma, tedavi

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### INTRODUCTION

Idiopathic granulomatous mastitis is a rare, chronic inflammatory breast disease that can be diagnosed by chronic lobulitis with no detectable causative. Although it is benign, it is important because of mimicking carcinoma with abscess and cellulitis formation. Surgical excision with or without steroids is an acceptable and effective therapy in carefully selected patients (1, 2). Herein, we present an alternative treatment strategy to discuss if it is beneficial or not.

### CASE REPORT

A 36 year-old woman was admitted to our breast unit with multiple ulcerated lesions on left breast. It was learnt from her medical history that she gave birth 2 months ago and the wounds were active for three months despite the use of antibiotics. She had no known risk factor for breast cancer. On physical examination, left breast skin was partially necrosed and having multiple ulcerated lesions each about 3 cm in diameter (Fig. 1a).

**Address for Correspondence / Yazışma Adresi:** Hande Köksal, MD. Sağlık Bilimleri University, Konya Education and Research Hospital, Department of General Surgery, Konya, Turkey E-mail: drhandeniz@yahoo.com

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Breast ultrasound revealed diffuse inflammation of breast skin and an increase in breast parenchyma echo with retroareolarly located fluid- abscess collection, 25x13 mm in size that arises to the breast skin by fistula tracts. Breast MRI revealed diffuse inflammation and thickening of breast skin with loculated abscess covering nearly whole left breast and multiple fistula tracts. No microorganism including acinetobacteria and mycobacteria could be isolated from wound swab cultures. Immunological and nephelometric examinations revealed normal neutrophil functions, normal lymphocyte subgroups and adequate immunoglobulin subgroups. Multiple biopsies were resulted as chronic granulomatous mastitis. The empirical antibiotherapy was ineffective, so the wounds were decided to be closed with dressings soaked with platelet rich plasma (Fig. 1b). Platelet rich plasma (PRP) was prepared by using 30 cc venous blood obtained from the patient. The blood was taken into tubes with 3.8% citrate phosphate dextrose adenine. After centrifugation for 10 minutes at 1000 rpm/min, the whole blood separates into three layers: an upper layer that contains mostly platelets and white blood cells (WBC), an intermediate thin layer that is known as the buffy coat and rich in WBCs, and a bottom layer that consists mostly of red blood cells. The upper layer and superficial buffy coat was transferred to an empty sterile tube. After a second centrifugation for 10 minutes at 1300 rpm/min, the upper portion of the volume which was composed mostly of platelet-poor plasma was removed. Remaining part at the bottom was PRP, which we use with 10% calcium gluconate for activation. The wound dressings were checked daily and PRP was repeated if dressings were dry after cleaning the wounds with betadine and saline.

At the tenth day of PRP treatment, recovery in the wounds was manifesting (Fig. 1c) and at 15th day second application was performed. She is under follow up for 36 months with no ulcers, fistulae and abscess (Fig. 1d).



**Figure 1:** Physical appearances of the left breast at the time of admission (Fig. 1a), just before the application of PRP (Fig 1b), 10th day of the application of PRP (Fig 1c), and follow-up at 36th month (Fig 1d)

## DISCUSSION

Granulomatous mastitis is a rare, chronic, non-specific and unilateral granulomatous process affecting the breast in a lobular distribution with unknown etiology. Since the etiology is unclear, the postulated causes are; autoimmunity, undetected organisms and oral contraceptives (3, 4). It usually affects the women generally at childbearing age (1). It mimics carcinoma in approximately half of the cases (5). Following clinical evaluation, it is essential to exclude malignancy. Also in differential diagnosis microbial abscess including mycobacteria and some kinds of fungi, should be taken into consideration to optimize the treatment.

Fortunately uncomplicated cases can be treated by complete excision. Steroid therapy has been found to be useful in some of the persistent cases but there is still no consensus on treatment. The effects and side effects of steroid treatment should be carefully evaluated and steroids should be preserved for selected patients. Although granulomatous mastitis is a benign disease, it is sometimes really difficult to cure. So, new treatment strategies should be improved. Platelet rich plasma has been widely used in many fields of medicine for wound healing. Herein an alternative treatment strategy with no known side effects is reported to discuss if it is beneficial or not. Since it is just a single case report, many prospective studies are needed to validate this treatment option to come into practice. Surely the good results achieved here are promising but large numbers of series are needed.

## Conflict of interest

No conflict of interest was declared by the authors.

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