

## **Platelet-Rich Plasma Therapy as a Minimal Invasive Approach in Pilonidal Disease**

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Pilonidal sinus disease (PSD) is a chronic inflammatory disease characterised by abscess formation and recurrent infections in the natal cleft and sacrococcygeal region. It is generally seen in young men between the ages of 15 - 30 [1]. Although the aetiology of the disease has not been fully elucidated, sedentary lifestyle, being over hairy and white race, local trauma, positive family history known potential risk factors in the incidence of the disease [2]. Although the disease may be asymptomatic, patients complain of pain, discharge, swelling and abscess formation [3]. PSD adversely affects quality of life by causing pain, discharge etc. It also causes post-surgical discomfort, physical activity limitation and labour loss [4].

There is no standard method for the treatment of the disease. Surgical treatment and its modifications, conservative treatment and non-invasive treatment are the main applied methods. Excision of the sinus and closure of the defect by primary or various flap methods are the most common methods [5,6]. In recent years, non-surgical or minimally invasive surgical techniques have begun to be preferred in the treatment of pilonidal sinus. These are minimally invasive techniques such as fibrin glue, silver nitrate, platelet-rich plasma, phenol application, laser applications or endoscopic sinus therapy in the sinus along with curettage of the sinus [5-8]. These chemicals, especially recently applied, cause various side effects such as irritation and necrosis in the tissue [6]. However, since Platelet Rich Plasma (PRP) is obtained from the patient's own blood, it does not cause irritation or infection in the tissue. Thus, PRP, which is considered an innocent material, has taken its place in the treatment of the disease [6,9].

PRP contains transforming growth factor (TGF), insulin-like growth factors, vascular endothelial growth factor (VEGF) and high amounts of factors such as platelet-derived growth factor (PDGF). PRP initiates angiogenesis with these factors. Angiogenesis plays an important role in wound healing and pain duration [10,11]. PRP has been successfully used in fields such as diabetic foot, wounds of skin and soft tissues, plastic surgery, maxillofacial surgery [12]. PRP has different application methods. Basically, the intergluteal region is cleaned while the patient is in the prone position. Under local anaesthesia, the sinus entrance is expanded and the inside of the sinus is curetted and cleaned with 0.9% NaCl solution. The prepared PRP gel is injected into the cavity and the process is terminated with dressing. The patient can be discharged with paracetamol without the need for antibiotic [6].

The main surgical techniques used in the treatment of PSD are methods that require hospitalisation and general or spinal anaesthesia is administered. Thus, the importance of minimally invasive techniques that enable operation with local anaesthesia is increasing [8,13]. The duration of hospitalisation is shown as 1.14 days for primary closure and 3.61 days for flap procedures. The return-to-work time after surgical operations is 7 - 21 days [14]. PRP can be administered under local anaesthesia without need for hospitalisation. This situation provides a great advantage.

PRP gel application has no known side effects and complications. 96 - 97.1% success was achieved by administering it once or twice. Patients can be discharged without pain or with little pain [6,9]. In the study conducted by Mohamadi, et al. PRP gel therapy was shown

to reduce wound healing process, pain and consumption of antibiotics [4]. Wound healing process is less than other methods and is about 4 weeks on average [5].

The main problem for PSD treatment is that it is recurrent. Although the recurrence rate is low in flap techniques, the recurrence rate in surgical methods reaches 30%. The recurrence rate in PRP gel application was found to be 8.2%. This rate is more acceptable compared to other methods [9].

Since pilonidal sinus disease mostly affects young people, it causes long return-to-work time and labour loss. Thus, minimally invasive or non-invasive methods prevent economic loss. Patients undergoing PRP can return to work on the same day without need for hospitalisation. Thus, PRP has been accepted as a cost-effective method [6].

As conclusion, after the inside of the sinus is debrided application of PRP can provide cure within a short time. PRP application method is a painless, simple and cost-effective process that does not require hospitalisation, enables daily activities with minimal wound care. PRP gel is a method which can be applied more than once, without known side effects and which is superior to classical methods.

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