

Regenerative Applications of Platelet-Rich Plasma in Cosmetic Gynaecology: A Systematic Review

Makin Wright*

Department of Aesthetic Medicine and Trichology, University of Barcelona, Barcelona, Spain

Introduction

The advent of regenerative medicine has revolutionized numerous fields of clinical practice, including dermatology, orthopaedics and, more recently, gynaecology. Among the various bioregenerative agents, Platelet-Rich Plasma (PRP) has emerged as a minimally invasive, autologous therapy with promising potential for tissue regeneration, rejuvenation and healing. Cosmetic gynaecology—an evolving subspecialty at the intersection of aesthetic medicine and women's health—has increasingly incorporated PRP-based treatments to address a spectrum of functional and aesthetic concerns related to the female genital tract. Cosmetic gynaecology encompasses procedures that aim not only to enhance the aesthetic appearance of the vulvovaginal region but also to improve sexual function, treat genitourinary symptoms of menopause and address pelvic floor dysfunction. The inclusion of PRP in these interventions is based on its capability to stimulate collagen production, angiogenesis and cellular regeneration through the release of various growth factors such as PDGF, VEGF, EGF and TGF- β . This systematic review explores the evidence surrounding the use of PRP in cosmetic gynaecology, providing a comprehensive analysis of its regenerative applications, clinical efficacy, safety profile and emerging trends [1-3].

Description

PRP is derived from autologous blood through centrifugation, yielding a concentrate of platelets in plasma that contains higher-than-baseline levels of growth factors and cytokines. These biologically active molecules play a critical role in wound healing, tissue repair and cellular proliferation. The fundamental mechanism of PRP in regenerative medicine lies in its ability to recruit stem cells, stimulate neovascularization and enhance extracellular matrix remodeling. In gynaecology, PRP is typically injected intradermally or submucosally into the vaginal wall, clitoral body, or labia depending on the indication. Its non-allergenic nature and minimal risk of adverse reactions make it an attractive option for women seeking natural, non-surgical interventions for genital rejuvenation.

One of the primary indications for PRP in cosmetic gynaecology is the treatment of vaginal atrophy, particularly in postmenopausal women. Estrogen deficiency leads to thinning of the vaginal epithelium, reduced elasticity, decreased lubrication and increased susceptibility to infections and discomfort. PRP injections into the vaginal mucosa have shown to improve epithelial thickness, enhance vascularity and restore mucosal elasticity. Studies have reported significant improvements in symptoms such as dryness, dyspareunia

(painful intercourse) and vaginal laxity following PRP treatment. When used as a monotherapy or in combination with fractional CO₂ laser therapy, PRP has yielded positive outcomes in terms of both subjective satisfaction and histological evidence of tissue regeneration. Female sexual dysfunction encompasses a range of issues including decreased libido, impaired arousal, anorgasmia and sexual pain disorders. PRP, particularly when administered via the O-Shot (Orgasm Shot), has gained popularity as a novel therapeutic approach to address FSD. The procedure involves injecting PRP into the clitoral body and anterior vaginal wall near the G-spot to enhance sensitivity and sexual responsiveness.

Several observational studies and pilot trials have shown improved scores on the Female Sexual Function Index (FSFI) after PRP therapy. Patients have reported heightened arousal, increased vaginal lubrication and enhanced orgasmic intensity. While placebo-controlled trials are limited, the existing literature supports the potential role of PRP in restoring sexual wellness by revitalizing neurovascular structures and promoting neurosensory regeneration. Stress urinary incontinence—a condition characterized by involuntary urine leakage during physical exertion—affects a substantial proportion of women, particularly after childbirth or during menopause. PRP therapy has been explored as a minimally invasive treatment for mild to moderate SUI. By injecting PRP into the periurethral and vaginal tissues, the growth factors stimulate collagen synthesis and improve the integrity of the urethral sphincter. Early studies indicate a reduction in incontinence episodes, improved pelvic support and patient-reported satisfaction post-treatment. Although PRP is not yet a standard of care, it holds promise as an adjunct or alternative to surgical procedures and pelvic floor exercises. Aesthetic concerns related to the labia majora and minora—such as volume loss, sagging, or wrinkling—can negatively impact a woman's body image and confidence. PRP injections are being used for labial augmentation to restore volume and firmness by stimulating adipocyte and fibroblast activity. Unlike dermal fillers or fat grafting, PRP offers a natural approach that rejuvenates the tissue without introducing foreign materials. When combined with microneedling or hyaluronic acid fillers, PRP enhances collagen induction and prolongs the results, creating a youthful and hydrated appearance of the external genitalia [4,5].

Conclusion

The regenerative applications of platelet-rich plasma in cosmetic gynaecology represent a paradigm shift toward minimally invasive, biologically based therapies that address both functional and aesthetic concerns. PRP has shown potential in treating conditions such as vaginal atrophy, female sexual dysfunction, stress urinary incontinence, vulvar dermatoses and labial atrophy. Its favorable safety profile, coupled with the ability to stimulate natural tissue repair, positions it as a valuable tool in the cosmetic and functional restoration of the female genital tract. However, the field remains in its nascent stage and robust clinical evidence is still needed. Standardization of protocols, well-designed RCTs and long-term safety data are essential to translate the early promise of PRP into established practice. As the boundaries of cosmetic gynaecology expand, PRP may play a central role in fostering women's health, confidence and quality of life through innovative regenerative solutions.

*Address for Correspondence: Makin Wright, Department of Aesthetic Medicine and Trichology, University of Barcelona, Barcelona, Spain; E-mail: wrightmakin@ie.es

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Conflict of Interest

None.

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