



Urology

AUTOLOGOUS PLATELET-RICH PLASMA INJECTIONS FOR PEYRONIE'S DISEASE: A PROSPECTIVE PRELIMINARY CASE SERIES OF 16 PATIENTS

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ABSTRACT **Background:** Peyronie's disease (PD) is an acquired fibrotic disorder of the tunica albuginea. Platelet-rich plasma (PRP) has been proposed as a regenerative treatment, but clinical evidence remains limited. **Methods:** We prospectively evaluated 16 treatment-naïve men with PD treated between February 2019 and March 2020. Autologous PRP was prepared from 10 mL of blood by two centrifugations (8 min each, 3000 rpm). Approximately 8 mL was injected intra- and perilesionally after penile block. Patients received at least four sessions at 15-day intervals and were reassessed at three months. **Results:** Mean curvature decreased from 30° to 19.12°, mean plaque size from 1.62 to 1.20 cm, and pain during intercourse from 68.7% to 31.25%. Thirteen patients (81.2%) improved in at least one assessed domain. Two superficial hematomas occurred; no serious complication was observed. **Conclusion:** PRP was feasible and generally well tolerated, with encouraging short-term clinical changes. Controlled studies are required before efficacy can be established.

KEYWORDS : Peyronie's Disease; Platelet-Rich Plasma; Penile Curvature; Erectile Dysfunction

INTRODUCTION

Peyronie's disease (PD) is an acquired fibrotic disorder of the tunica albuginea that may cause penile curvature, pain, shortening, erectile dysfunction, and sexual distress (Nehra et al., 2015). Clinical assessment combines history with objective documentation of penile deformity and sexual function. The International Index of Erectile Function and its abridged five-item version are validated instruments for assessing erectile dysfunction (Rosen et al., 1997, 1999). Current non-surgical treatments have variable levels of evidence, and established guidelines emphasize individualized management according to disease phase, deformity, erectile function, and patient goals (Nehra et al., 2015). Platelet-rich plasma (PRP) has been proposed as a regenerative intralesional treatment, but published protocols remain heterogeneous and the evidence base is still developing (Alkandari et al., 2022; Asmundo et al., 2024; Ledesma et al., 2024; Panunzio et al., 2026). This prospective preliminary study evaluated the clinical outcomes and safety of repeated autologous PRP injections in men with PD.

MATERIALS AND METHODS

This prospective preliminary case series included 16 treatment-naïve adult men with acquired penile curvature and a palpable tunica albuginea plaque managed in the Department of Urology, Military Hospital Moulay Ismail, Meknes, Morocco, between February 2019 and March 2020. Patients with congenital curvature, previous penile fracture, prior PD treatment, or loss to follow-up were excluded. Baseline evaluation included history, pain during intercourse, IIEF-5 (Rosen et al., 1999), plaque location and largest diameter, maximally stretched penile length, and penile curvature measured with a medical goniometer after prostaglandin-induced erection. Superior and profile photographs were used to document curvature.

For each session, 10 mL of autologous blood was centrifuged twice for eight minutes at 3000 rpm. After a penile block with 2% lidocaine, approximately 8 mL of PRP was injected into and around the plaque and adjacent tunica/cavernosal region using a 21-gauge needle. Manual compression was applied afterward. All patients received at least four sessions at 15-day intervals over approximately two months. Outcomes were reassessed three months after treatment. Data were summarized descriptively using Microsoft Excel 2013. Written informed consent for publication of the clinical photographs was obtained.

RESULTS

The mean age was 57.7 years (range 46–75). Erectile dysfunction was present in 12/16 patients (75%), and 11/16 (68.7%) reported pain during intercourse. Plaques were dorsal in 13 patients (81.2%), ventral in two (12.5%), and circumferential in one (6.2%). Mean baseline plaque size was 1.62 ± 0.62 cm, mean curvature was 30° ± 10.60°, and mean penile length was 10.62 ± 2.66 cm.

At three months, 13/16 patients (81.2%) showed improvement in at least one assessed clinical domain. Mean curvature decreased to 19.12°, corresponding to a mean reduction of 10.88° (36.2%). Mean plaque size decreased to 1.20 cm (25.9% reduction), while mean penile length increased to 11.31 cm. Pain during intercourse decreased from 68.7% to 31.25%. Among the 12 patients with baseline erectile dysfunction, nine (75%) reported easier intercourse. IIEF-5 category distribution shifted from four patients without ED, six with mild ED and six with moderate ED at baseline to 13 without ED, two with mild ED and one with moderate ED after treatment. Two patients (12.5%) developed superficial hematomas; no serious complication was reported.

Table 1. Main Clinical Outcomes Before and Three Months After PRP Treatment

Outcome	Baseline	3 months
Mean penile curvature	30°	19.12°
Mean plaque size	1.62 cm	1.20 cm
Mean penile length	10.62 cm	11.31 cm
Pain during intercourse	11/16 (68.7%)	5/16 (31.25%)
No erectile dysfunction (IIEF-5 category)	4/16	13/16

**Figure 1. Clinical Documentation of Penile Curvature During Erection: (A) Profile View and (B) Superior View.**

Figure 2. Platelet-rich Plasma Injection Technique: Intralesional and Perilesional Injection with Additional Injection at the Adjacent Tunica Albuginea/Cavernosal Region.

DISCUSSION

This preliminary series showed short-term improvements in penile curvature, plaque size, pain, and erectile-function categories after repeated PRP injections. The mean curvature reduction of 10.88° is directionally consistent with subsequent clinical reports. Schirrmann et al. (2022) treated 17 patients with three intraplaque PRP injections given 15 days apart and reported a mean curvature reduction of 11.8°. Chatar et al. (2023), in a prospective Moroccan series of 65 patients, also reported improvements in penile curvature, pain during intercourse, and erectile function after repeated PRP injections. More recently, Dachille et al. (2025) reported reductions in curvature and plaque size in a larger prospective cohort.

CONCLUSION

Repeated autologous PRP injections were feasible and generally well tolerated in this 16-patient prospective series and were associated with encouraging short-term changes in penile curvature, plaque size, pain, and sexual function. Because the study was uncontrolled and exploratory, these findings do not establish treatment efficacy. Controlled studies with standardized protocols and longer follow-up are required.

Declarations

Consent for Publication: Written informed consent for publication of the clinical photographs was obtained.

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Conflict of Interest: The authors declare no conflict of interest.

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