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Sandwich Platelet-Rich Plasma-Decellularized Amnion Scaffold (PRP-DAS)-Coated Transobturator Tape for Stress Urinary Incontinence in Complex Pelvic Floor Reconstruction: A Preliminary Safety Case Series

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ABSTRACT

Transobturator Tape (TOT) is the surgical gold standard for Stress Urinary Incontinence (SUI), but mesh-related complications remain a concern in complex multi-compartment reconstruction. The Sandwich Platelet-Rich Plasma-Decellularized Amnion Scaffold (PRP-DAS) is a novel biological mesh coating designed to enhance biocompatibility and regenerative healing at the mesh-tissue interface. We report the early safety and feasibility of PRP-DAS-coated TOT mesh in three consecutive patients undergoing complex pelvic floor reconstruction, including two patients with Stage IV prolapse managed by colpocleisis and one patient with Stage III prolapse managed by anterior colporrhaphy, posterior colpoperineorrhaphy, and sacrospinous fixation. Continence status, mucosal healing, pain, and mesh-related adverse events were assessed at three months. All procedures were uncomplicated. At three months, all patients achieved complete objective SUI cure with negative pad testing, optimal mucosal healing, no mesh exposure or erosion, and low pain scores (VAS<2). These preliminary findings support the feasibility and early safety of PRP-DAS-coated mesh and provide a rationale for a prospective controlled trial with longer follow-up.

Keywords: Stress urinary incontinence, Transobturator tape, Platelet-rich plasma, Decellularized amnion, Biological scaffold, Pelvic organ prolapse

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1. Introduction

Stress urinary incontinence affects between 10% and 35% of women over their lifetime. Its co-occurrence with Pelvic Organ Prolapse (POP) frequently necessitates a combined surgical approach addressing both conditions in a single operative session **(1,2)**. The Transobturator Tape (TOT) procedure has been established as the surgical gold standard for SUI, with sustained success rates of 77-90% at medium- to long-term follow-up **(1,3)**. However, mesh-related complications including exposure, erosion, chronic pelvic pain, and de novo overactive bladder remain a persistent concern, with reported erosion rates ranging from 1.3% to 13.7%, depending on patient selection, surgical technique, and length of follow-up **(4-7)**. Surgical management of the prolapse component encompasses a broad spectrum of approaches, ranging from vaginal native-tissue reconstruction and obliterative procedures to laparoscopic suspension techniques anchored to structures such as the sacral promontory or pectineal ligament, each carrying a distinct risk-benefit profile and recurrence rate **(8)**.

These risks are amplified in patients undergoing concurrent multi-compartment pelvic floor reconstruction, where extensive dissection, urogenital atrophy, and compromised wound-healing environments may potentiate adverse mesh-tissue interactions. Several patient-level variables compound this risk: prior pelvic surgery (OR 10.37), diabetes mellitus (OR 4.63), active smoking (OR 3.38), obesity (OR 2.79), and postmenopausal status (OR 2.34) have all been identified as independent predictors of mesh erosion following midurethral sling procedures in a recent systematic review and meta-analysis **(4)**.

One strategy for improving synthetic mesh tolerance is biological surface modification. Platelet-Rich

Plasma (PRP) an autologous concentrate of TGF-β1, PDGF, VEGF, and EGF attenuates early macrophage-driven inflammation, promotes fibroblast activity, and accelerates angiogenesis at wound surfaces **(9,10)**. Decellularized Human Amniotic Membrane (dHAM) offers complementary properties: its extracellular matrix (ECM) retains type I, III, and IV collagen, as well as fibronectin, laminin, and hyaluronic acid, while decellularization eliminates donor immunogenicity. Residual bioactive molecules, including IL-1 receptor antagonist and Tissue Inhibitors of Metalloproteinases (TIMPs), further dampen the local inflammatory signal **(11,12)**.

When assembled as a sandwich construct flanking a standard polypropylene mesh, the resulting PRP-DAS system provides a bioactive microenvironment at the mesh-host tissue interface. Preclinical evidence from a menopausal rabbit model has demonstrated that PRP-DAS significantly reduces mesh contraction and inflammatory infiltrates, elevates IL-17 and CD31 expression, and augments collagen deposition at 14, 28, and 90 days post-implantation compared with uncoated controls **(13)**. The present report describes the first three consecutive human applications of Sandwich PRP-DAS-coated TOT mesh at a tertiary referral center, with outcomes assessed at three months postoperatively.

2. Case Presentation

Written informed consent was obtained from all patients for the publication of these case reports and accompanying clinical data. Ethical approval was granted by the Institutional Ethics Committee of the Faculty of Medicine, Universitas Indonesia / Dr. Cipto Mangunkusumo National Hospital (Protocol No. 25-06-0881; Approval No. KET-B64/UN2.F1/ETIK/PPM.00.02/2025). All procedures were performed by a senior urogynecologist at the Division of Urogynecology and Pelvic Reconstructive Surgery, Dr. Cipto Mangunkusumo National Hospital, Jakarta.

2.1. Preparation of the PRP-DAS Sandwich Construct

Autologous PRP was prepared via a standardized double-spin centrifugation protocol (first spin: 1,500 rpm×10 minutes; second spin: 2,500 rpm×10 minutes) from 20 mL of peripheral venous blood, yielding approximately 3–4 mL of platelet concentrate at three- to five-fold baseline concentration. Decellularized human amniotic membrane was sourced from placentas collected during elective caesarean deliveries, provided the donors tested negative for HIV and hepatitis B and C. The amniotic layer was separated from the chorion, serially treated with 0.1% (w/v) Triton X-100 and 0.05% (w/v) sodium dodecyl sulfate, coated with fibrin, and incubated at 37°C for 24 hours. Acellularity was confirmed via H&E and DAPI staining, and biocompatibility was verified using human bone marrow–derived mesenchymal stem cells. Randomly selected grafts passed all sterility checks **(11)**. Two dHAM sheets were trimmed to the dimensions of a standard TOT mesh (approximately 1.5×15 cm). Immediately prior to insertion, the polypropylene mesh was sandwiched between the two PRP-saturated sheets and held under manual compression for five minutes to form a stable biological-synthetic composite (Figure 1).

2.2. Case 1

A 57-year-old woman (P4A0) presented to the urogynecology outpatient clinic reporting a one-year history of pelvic heaviness, incomplete bladder emptying, and exertional urinary leakage. POP-Q examination documented Stage III uterine prolapse (C: +2 cm), Stage III anterior vaginal wall prolapse (Ba: +3 cm), and Stage II posterior vaginal wall prolapse (Bp: 0 cm). Dynamic transperineal ultrasonography confirmed levator hiatus ballooning (anteroposterior diameter >6 cm at Valsalva), bladder neck descent of 3.52 cm, urethral rotational angle of 145°, and retrovesical angle of 127°. A positive cough stress test at 250 mL bladder filling and a 1-hour pad test of 28.5 g established moderate SUI.

The patient underwent the following combined procedure under regional anesthesia: (1) Total Vaginal Hysterectomy (TVH), (2) anterior colporrhaphy, (3) posterior colpoperineorrhaphy, (4) sacrospinous ligament fixation of the vaginal vault (Richter procedure), and (5) TOT insertion using the Sandwich PRP-DAS coated mesh. A standard outside-in TOT technique was employed, and the assembled construct was positioned at the mid-urethra using tension-free principles, verified by the Bonney test intraoperatively. Total operative time was 150 minutes, with an estimated blood loss of 100 mL and no intraoperative complications.

At the three-month postoperative follow-up, the patient reported complete resolution of SUI symptoms. A negative cough stress test and a negative pad test were confirmed. Physical examination demonstrated well-healed vaginal mucosa without suture dehiscence, mesh visibility, or palpable erosion. There was no erythema, induration, or exudate at the TOT insertion sites bilaterally. Pain was rated as 1/10 on the Visual Analog Scale (VAS), with normal voiding and a post-void residual volume of 20 mL. No mesh-related adverse events, urinary tract infections, or de novo overactive bladder symptoms were reported.

2.3. Case 2

A 63-year-old woman (P7A0) presented with a three-year history of a vaginal bulge protruding beyond the introitus, accompanied by urinary leakage that had progressively limited her social activity. POP-Q examination demonstrated Stage IV uterine prolapse (C: +6 cm), Stage IV anterior wall prolapse (Ba: +6 cm), and Stage III posterior wall prolapse (Bp: +2 cm). Ultrasound confirmed cervical elongation of

approximately 6 cm. Dynamic transperineal ultrasonography showed severe levator hiatus ballooning (anteroposterior diameter >7 cm), bladder neck descent of 4.87 cm, urethral rotational angle of 180°, and retrovesical angle of 121°. A positive cough stress test and a 1-hour pad test of 30 g classified SUI as moderate.

Given the Stage IV complete procidentia, vaginal obliterative surgery (colpocleisis) was deemed appropriate following shared decision-making with the patient, who expressed no desire for future sexual intercourse. The combined procedure comprised: (1) TVH with amputation to address cervical elongation, (2) colpocleisis, (3) levator myorrhaphy (levatorplasty), and (4) TOT insertion using the Sandwich PRP-DAS-coated mesh, performed prior to colpocleisis closure to ensure adequate urethral access. Total operative time was 185 minutes, with an estimated blood loss of 150 mL and no intraoperative complications.

At the three-month follow-up, the patient reported complete resolution of SUI symptoms, and the pad test was negative. Physical examination revealed well-healing colpocleisis repair with no evidence of dehiscence. Inspection of the urethral region and bilateral TOT insertion sites demonstrated intact vaginal mucosa without mesh protrusion, exudate, or erythema. Pain was rated as 1/10 on the VAS. The post-void residual volume was 35 mL. No mesh-related adverse events, urinary tract infection, or de novo overactive bladder symptoms were documented.

2.4. Case 3

An 81-year-old woman (P3A0) was referred with longstanding, complete multi-compartment prolapse and severe SUI, which had substantially disrupted her daily life. POP-Q examination revealed Stage IV uterine prolapse (C: +10 cm), Stage IV anterior wall prolapse (Ba: +8 cm), and Stage III posterior wall prolapse (Bp: +6 cm), alongside elongatio colli. Transperineal ultrasonography documented levator hiatus ballooning (anteroposterior diameter >6 cm), bladder neck descent of 3.27 cm, urethral rotational angle of 71°, and retrovesical angle of 163°. A 1-hour pad test of 90 g confirmed severe SUI, supported by strongly positive cough stress testing. Cardiopulmonary clearance and multidisciplinary optimization were completed prior to surgical planning.

In view of the advanced multi-compartment prolapse, the presence of cervical elongation, and the patient's age and preferences, a combined obliterative and reconstructive approach was selected. The surgical procedure comprised: (1) TVH to address uterine prolapse and elongatio colli, (2) colpocleisis to achieve durable obliterative repair of the vaginal vault, (3) levatorplasty to restore the levator hiatus and reinforce the pelvic floor, and (4) TOT insertion using the Sandwich PRP-DAS-coated mesh to address severe SUI. Consistent with Case 2, the TOT component was performed prior to colpocleisis closure to ensure adequate periurethral access and correct tension-free positioning of the sling at the mid-urethra. Total operative time was 165 minutes, with an estimated blood loss of 180 mL and no intraoperative complications.

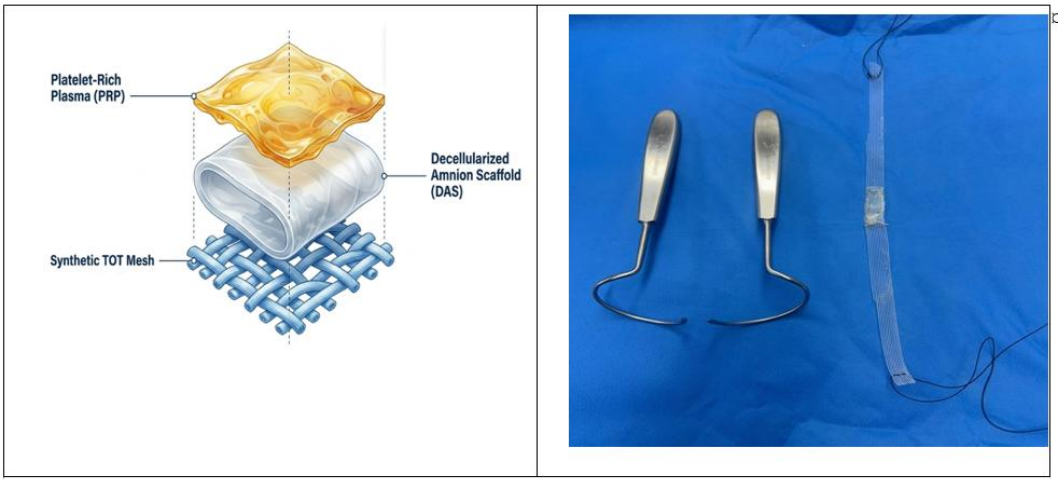


Figure 1. Macroscopic appearance of the Sandwich PRP-DAS construct. (A) PRP-saturated decellularized human amniotic membrane (dHAM) sheet applied to the polypropylene TOT mesh surface. (B) The fully assembled PRP-DAS sandwich composite immediately before transobturator insertion, showing uniform bilateral bioactive coverage of the mesh.

Table 1. Comparative Summary of Patient Characteristics and Clinical Outcomes

Characteristic	Case 1 (Mrs. Y)	Case 2 (Mrs. D)	Case 3 (Mrs. J)
Age (years)	57	63	81
Parity	Multiparous (P4)	Multiparous (P7)	Multiparous (P3)
Preoperative POP-Q/ staging	Stage III uterine prolapse; Stage III cystocele; Stage II rectocele	Stage IV uterine prolapse and cystocele; Stage III rectocele; cervical elongation	Stage IV uterine prolapse; Stage IV cystocele; Stage IV rectocele; cervical elongation (elongatio colli)
Levator hiatus ballooning	Present (AP>6 cm at Valsalva)	Present (AP>7 cm at Valsalva)	Present (AP>6 cm at Valsalva)
Urethral hypermobility	BND 3.52 cm, URA 1450 RVA 1270	BND 4.87 cm, URA 1800 and RVA 1210	BND 3.27 cm, URA 710 and RVA 1630
SUI severity (ICS grading)	Moderate (pad test 28.5 g)	Moderate (pad test 30 g)	Severe (pad test 90 g)
Surgical procedure	TVH + anterior colporrhaphy + posterior colpoperineorrhaphy + sacrospinous fixation + TOT (PRP-DAS)	TVH + colpocleisis + levatorplasty + TOT (PRP-DAS)	TVH + colpocleisis + levatorplasty + TOT (PRP-DAS)
Operative time (minutes)	150	185	165
Estimated blood loss (mL)	100	150	180
Intraoperative complications	None	None	None
Postoperative follow-up	3 months	3 months	3 months
Cough stress test (3 months)	Negative	Negative	Negative
Pad test (3 months)	Negative	Negative	Negative (< 2 g)
Vaginal mucosal healing	Optimal -no exposure/erosion	Optimal -no exposure/erosion	Optimal -no exposure/erosion
Pain score (VAS)	<2	<2	<2
Post-void residual (mL)	20	35	40
Mesh-related adverse events	None	None	None
UTI/de novo OAB	None	None	None

TVH, Total Vaginal Hysterectomy; TOT, Transobturator Tape; PRP-DAS, Platelet-Rich Plasma-Decellularized Amnion Scaffold; POP-Q, Pelvic Organ Prolapse Quantification; VAS, Visual Analog Scale; SUI, Stress Urinary Incontinence; UTI, Urinary Tract Infection; OAB, Overactive Bladder; BND, Bladder Neck Descent; URA, Urethral Rotational Angle; RVA, Retrovesical Angle; AP, Anteroposterior.

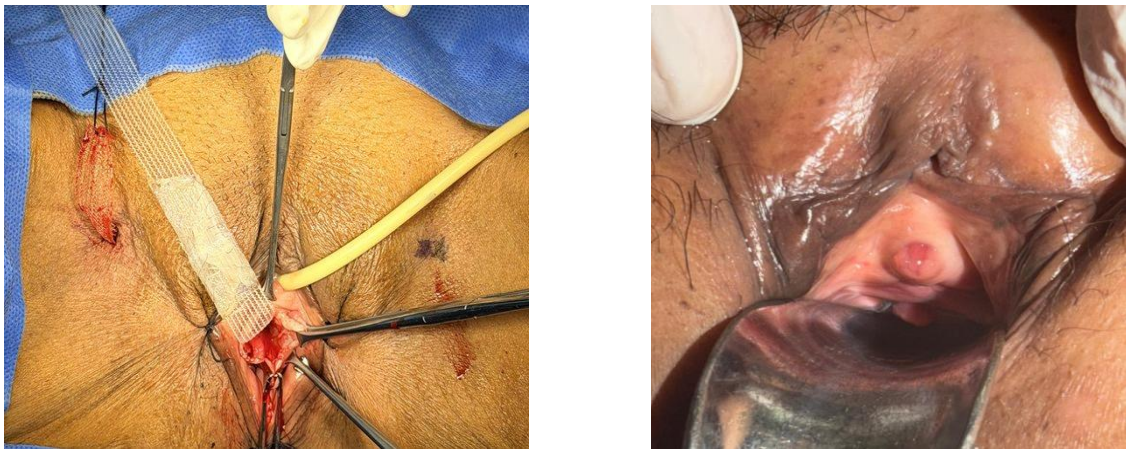


Figure 2. Intraoperative and postoperative findings. (A) Intraoperative view of the PRP-DAS-coated TOT mesh in situ following outside-in transobturator passage; (B) three-month postoperative vaginal examination showing intact, well-healed mucosa at the anterior wall and mid-urethral region without mesh-related complications.

At the three-month postoperative follow-up, the patient reported complete resolution of SUI symptoms with no subjective urinary leakage. The pad test was negative (< 2 g), confirming an objective cure. Physical examination demonstrated complete colpocleisis repair without evidence of vaginal vault descent or wound dehiscence. Inspection of the periurethral region and bilateral TOT insertion sites revealed fully healed vaginal mucosa without mesh protrusion, exudate, erythema, or palpable erosion (Figure 2). Pain was rated as 1/10 on the VAS. The post-void residual volume was 40 mL, which is within acceptable limits. No mesh-related adverse events were identified; specifically, there was no evidence of mesh erosion, urinary tract infection, chronic pelvic pain, or de novo overactive bladder symptoms at the three-month follow-up (Table 1).

3. Discussion

This report presents the first clinical series documenting the application of the Sandwich PRP-DAS-coated TOT mesh in the setting of complex, multi-compartment pelvic floor reconstruction. Across three consecutive cases spanning moderate to extreme surgical complexity, including two elderly patients with Stage IV prolapse managed by colpocleisis and levatorplasty the construct demonstrated consistent technical feasibility and a favorable early safety profile at three months. A complete objective SUI cure was achieved in all patients, as confirmed by negative pad testing and cough stress testing, with no mesh-related adverse events documented in any case.

Mesh erosion after midurethral sling procedures follows a recognizable biological sequence: polypropylene implantation drives M1 macrophage polarization, sustained neutrophil infiltration, and matrix metalloproteinase activity that collectively impair collagen remodelling and thin the overlying epithelium until the mesh extrudes **(6,14)**. PRP-DAS was designed to interrupt this cascade at two levels. PRP delivers a concentration of TGF-β1, PDGF-BB, VEGF, and EGF directly to the mesh-tissue interface, where these mediators redirect macrophage activity toward the M2 reparative phenotype, stimulate fibroblast proliferation, and accelerate neovascularisation **(9,10)**. The dHAM layer simultaneously contributes an intact ECM of type I, III, and IV collagen, fibronectin, laminin, and hyaluronic acid, while residual IL-1 receptor antagonist and TIMPs within the decellularized scaffold attenuate inflammatory signalling without requiring pharmacological immunosuppression **(11,12)**. The full-thickness burn model published by Sandora et al. demonstrated that an amnion bilayer construct employing the same decellularization chemistry substantially lowered TNF-α, IL-6, and MMP-1 gene expression and promoted organized collagen deposition compared with conventional dressings at 28 days **(11),** providing biological plausibility for the anti-erosive effect postulated here. In the menopausal rabbit implantation model by Meutia et al., PRP-DAS reduced mesh contraction and inflammatory infiltrates while enhancing CD31-positive angiogenesis and late collagen deposition (days 28-90), the same biological windows within which periimplant remodelling dictates whether epithelium tolerates or rejects the mesh **(13)**.

The third case merits particular discussion given its clinical complexity. The patient in Case 3, an 81-year-old with Stage IV prolapse across all three compartments, elongatio colli, and severe SUI (pad test 90 g), represents the highest-risk profile in this series. Elderly patients with advanced multi-compartment prolapse present specific challenges: urogenital atrophy reduces tissue vascularity and healing capacity, collagen synthesis is impaired, and the combination of TVH, colpocleisis, levatorplasty, and

TOT in a single operative setting creates a substantial pelvic floor dissection burden. Postmenopausal status is itself an established independent risk factor for mesh erosion after midurethral sling procedures (OR 2.34; 95% CI 1.67-3.27), attributable to hypoestrogenic-induced vaginal atrophy and diminished tissue resilience **(4,15)**. Despite these risk factors, the patient achieved complete objective SUI cure (pad test <2 g) at three months with no mesh-related complications, providing preliminary evidence that PRP-DAS coating may confer a protective effect even within this highest-risk demographic.

The uniformly favorable outcomes at three months across all three cases support the proof-of-concept safety of this approach. From the perspective of clinical translation, these findings align with the Phase I clinical trial framework, in which primary endpoints center on short-term safety and feasibility rather than efficacy an appropriate evidentiary threshold for a novel biological-synthetic composite at this stage of development. The three-month objective continence outcomes observed across all cases are clinically meaningful and consistent with the reported early continence rates of established TOT procedures **(1,3)**.

Future studies evaluating PRP-DAS-coated mesh should incorporate validated patient-reported outcome measures, including the Urogenital Distress Inventory-6 (UDI-6), Pelvic Floor Distress Inventory-20 (PFDI-20), and Pelvic Floor Impact Questionnaire-7 (PFIQ-7), standardized mesh complication grading per IUGA/ICS terminology **(16)**, objective urodynamic confirmation, and extended follow-up of at least 12-24 months to evaluate long-term continence durability and late-onset mesh complications. A prospective randomized trial comparing PRP-DAS-coated versus standard TOT mesh in complex reconstructive settings represents the natural and necessary next step.

4. Conclusion

The Sandwich PRP-DAS-coated TOT mesh demonstrated technical feasibility and a favorable safety profile in three patients undergoing complex, multi-compartment pelvic floor reconstructive surgery, including two elderly patients with Stage IV prolapse managed via colpocleisis and levatorplasty. Complete objective SUI cure, confirmed by negative pad testing at the three-month follow-up, was in all cases without documented mesh-related adverse events. These preliminary findings support the biological plausibility of PRP-DAS as a protective scaffold for synthetic mesh in high-risk reconstructive settings and provide the clinical foundation for a prospective Phase I trial. However, these conclusions are limited by the small sample size and the short-term observation period; short-term safety should not be equated with long-term efficacy. Larger cohorts with follow-up of at least 12-24 months are required to confirm the durability of continence outcomes and to exclude late-onset mesh-related complications before this approach can be recommended for broader clinical adoption.

5. Declarations

Acknowledgments

The authors declare no acknowledgment.

Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee of the Faculty of Medicine, Universitas Indonesia/Dr. Cipto Mangunkusumo National Hospital (Protocol No. 25-06-0881; Approval No. KET-B64/UN2.F1/ETIK/PPM.00.02/2025). Written informed consent was obtained from all patients.

Authors' Contributions

A.N.D.S.: conceptualization, data curation, formal analysis, writing original draft, writing review and editing. T.P.: conceptualization, supervision, surgical expertise, writing review and editing. A.P.M.: writing review and editing, clinical supervision. N.S.: methodology, resources. All authors have read and approved the final manuscript.

Conflict of Interest

The authors declare no conflicts of interest.

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References

1. Ford AA, Rogerson L, Cody JD, Aluko P, Ogah JA. Mid-urethral sling operations for stress urinary incontinence in women. Cochrane Database Syst Rev. 2017;7(7):CD006375. [doi:10.1002/14651858.CD006375.pub4]
2. Bo K, Frawley HC, Haylen BT, Abramov Y, Almeida FG, Berghmans B, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for the

conservative and nonpharmacological management of female pelvic floor dysfunction. Int Urogynecol J. 2017;28(2):191-213. [doi:10.1007/s00192-016-3123-4]

3. Abdel-Fattah M, Cooper D, Davidson T, Kilonzo M, Hossain M, Boyers D, et al. Single-incision mini-slings for stress urinary incontinence in women. N Engl J Med. 2022;386(13):1230-43. [doi:10.1056/NEJMoa2111815]
4. Priyatini T, Saputra AND, Meutia AP. Patient-related risk factors for mesh erosion following midurethral sling procedures: a systematic review and meta-analysis. Int Urogynecol J. 2026;37(7):1915-27. [doi:10.1007/s00192-026-06519-5]
5. Kokanali MK, Doğanay M, Aksakal O, Cavkaytar S, Topçu HO, Özer İ. Risk factors for mesh erosion after vaginal sling procedures for urinary incontinence. Eur J Obstet Gynecol Reprod Biol. 2014;177:146-50. [doi:10.1016/j.ejogrb.2014.04.022]
6. Schmidt A, Taylor D. Erosion of soft tissue by polypropylene mesh products. J Mech Behav Biomed Mater. 2021;115:104281. [doi:10.1016/j.jmbbm.2020.104281]
7. Siblini T, Baracy M, Kulkarni S, Mabis C, Hagglund K, Aslam M. Midurethral sling mesh exposure confers a high risk of persistent stress urinary incontinence. Int Urogynecol J. 2024;35(6):1177-82. [doi:10.1007/s00192-024-05762-y]
8. Tran DN, Nguyen AT, Nguyen AN, Trinh VT. Anatomy and application of anterior perineal suspension axis in treatment of pelvic organ prolapse. J Obstet Gynecol Cancer Res. 2025;10(12):907-16. [doi:10.24200/jogcr.10.12.907]
9. Everts P, Onishi K, Jayaram P, Lana JF, Mautner K. Platelet-rich plasma: new performance understandings and therapeutic considerations in 2020. Int J Mol Sci. 2020;21(20):7794. [doi:10.3390/ijms21207794]
10. Xu P, Wu Y, Zhou L, Yang Z, Zhang X, Hu X, et al. Platelet-rich plasma accelerates skin wound healing by promoting re-epithelialization. Burns Trauma. 2020;8:tkaa028. [doi:10.1093/burnst/tkaa028]
11. Sandora N, Fitria NA, Kusuma TR, Winarno GA, Tanjunga SF, Wardhana A. Amnion bilayer for dressing and graft replacement for delayed grafting of full-thickness burns: a study in a rat model. PLoS One. 2022;17(1):e0262007. [doi:10.1371/journal.pone.0262007]
12. Fénelon M, Catros S, Meyer C, Fricain JC, Obert L, Auber F, et al. Applications of human amniotic membrane for tissue engineering. Membranes (Basel). 2021;11(6):387. [doi:10.3390/membranes11060387]
13. Meutia AP, Budinurdjaja P, Fauzi A, Boediono A, Djusad S, Prihartono J, et al. Enhancing mesh-tissue integration in menopausal models using a platelet-rich plasma-decellularized amnion scaffold sandwich: a study on mesh contraction, inflammatory infiltrate, IL-17, CD31, and collagen deposition. Int Urogynecol J. 2025;36:1045-52. [doi:10.1007/s00192-025-06084-3]
14. Doyle PJ, Grimes CL, Balk EM, Wieslander C, Richardson M, Mamik M, et al. Surgical removal of midurethral sling in women undergoing surgery for presumed mesh-related complications: a systematic review. Obstet Gynecol. 2022;139(2):277-86. [doi:10.1097/AOG.0000000000004646]
15. Wein AJ. Re: Vaginal estrogen use in postmenopausal women with pelvic floor disorders: systematic review and practice guidelines. J Urol. 2016;195(1):133-4. [doi:10.1016/j.juro.2015.10.075]
16. Toozs-Hobson P, Freeman R, Barber M, Maher C, Haylen B, Athanasiou S, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for reporting outcomes of surgical procedures for pelvic organ prolapse. Neurourol Urodyn. 2012;31(4):415-21. [doi:10.1002/nau.22238]

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