

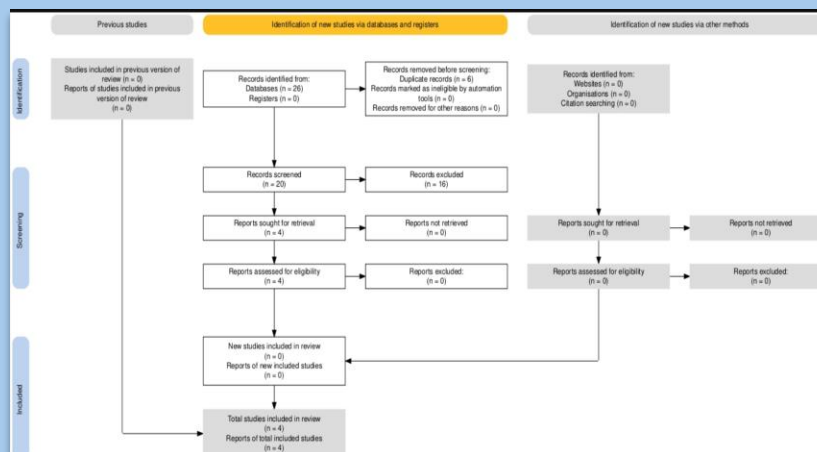
Drug-coated balloon dilation shows promising short-term patency (75–92%) and safety in women with urethral stenosis, but high-quality trials are urgently needed

Background

Female urethral stricture is rare but clinically important, especially in postmenopausal women. Conventional dilation often fails long term, while urethroplasty is effective but invasive. Drug-coated balloon (DCB) dilation, combining mechanical expansion with local paclitaxel delivery, offers a promising minimally invasive alternative

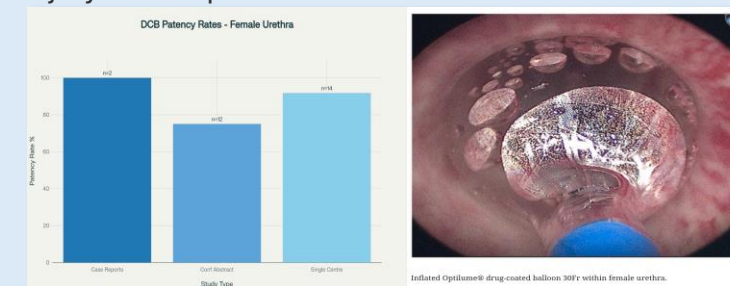
Methods

A systematic scoping review was performed (PRISMA-ScR, JBI). Databases and urology conference proceedings (2010–Apr 2025) were searched for reports of DCB use in adult women with anatomical urethral stenosis. Male-only, functional, or animal studies were excluded. Two reviewers screened and extracted data; study selection is shown in the PRISMA diagram.



Results

Four clinical reports with a total of 28 postmenopausal women treated using Optilume® were identified. Two case reports showed 100% patency and preserved continence at 6 months. A conference abstract of 12 patients reported patency rates above 75% at 6–12 months without major continence issues. A single-centre cohort of 14 patients demonstrated a 91.7% recurrence-free rate at 12 months, with only mild balloon-related discomfort. Follow-up across studies ranged from 6 to 41 months. No major complications such as stricture recurrence, incontinence, or urethral injury were reported.



Implications

Drug-coated balloon dilation appears feasible, safe, and effective in women with urethral stenosis, with short-term patency rates of 75–92% and no major complications. However, the evidence is limited to small, heterogeneous studies without control groups. High-quality, multicentre randomized trials with standardized endpoints are urgently needed to define the role of DCB in female urethral stricture management.

1. Jelisejevas LA, Wassermann J, Tulchiner GA, Kink P, Rehder P. PD05-02 Optilume drug coated balloon dilation in the treatment of female urethral stricture disease. J Urol. 2025;213(5S):e161.
2. Thomas HS, Stern N, Neu S, Herschorn S. Drug-coated balloon dilation for female urethral stricture. Urol Case Rep. 2025;59:102985.
- 3.. ICS 2025 Abstract #654. Early outcomes of drug-coated balloon (Optilume™) vs mechanical dilation in female urethral stricture. International Continence Society Annual Meeting. 2025.

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