UTERINE PROLAPSE: CAUSES AND TREATMENT TACTICS

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Abstract

Uterine prolapse, a subtype of pelvic organ prolapse, involves the descent of the uterus into the vaginal canal due to weakened pelvic supportive structures. This review synthesizes evidence from clinical guidelines and studies on its etiology, epidemiology, symptoms, diagnostic approaches, and management strategies. Key risk factors include vaginal childbirth, menopause, obesity, and chronic intra-abdominal pressure. Prevalence affects 41-50% of women on physical exam, but symptomatic cases are lower at around 3%, with progression risks higher in older or severe baseline cases. Conservative treatments like pelvic floor exercises and pessaries are first-line for mild to moderate prolapse, while surgical options such as hysterectomy or sacrocolpopexy offer high efficacy for severe cases. Outcomes are generally favorable, with recurrence rates of 10-30%, emphasizing the need for individualized care and preventive measures. Recommendations focus on interprofessional management to optimize patient quality of life.

Keywords: uterine prolapse, pelvic organ prolapse, vaginal childbirth, menopause, Kegel exercises, vaginal pessary, hysterectomy, sacrocolpopexy, pelvic floor muscles, risk factors

Introduction

Pelvic organ prolapse (POP), encompassing uterine prolapse, represents a significant gynecological concern affecting women's health globally, particularly in aging populations. Uterine prolapse specifically occurs when the pelvic floor—a complex network of muscles, ligaments, and connective tissues—fails to support the uterus, allowing it to descend into or beyond the vaginal canal. This can manifest as incomplete (partial descent) or complete (protrusion outside the vagina) prolapse, graded from stages I to IV based on descent relative to the hymen. Historically recognized as a consequence of reproductive and lifestyle stressors, uterine prolapse impacts quality of life through physical discomfort, urinary and bowel dysfunction, and

sexual issues. Epidemiological data indicate a rising burden, projected to affect nearly 5 million women in the US by 2050, a 46% increase from current estimates. The condition's multifactorial nature underscores the interplay of biomechanical, hormonal, and genetic factors, with vaginal childbirth as the predominant risk. This review aims to delineate causes, symptoms, evaluation methods, and evidence-based treatment tactics, drawing from authoritative sources like Mayo Clinic, Cleveland Clinic, Johns Hopkins Medicine, and NCBI StatPearls to inform clinical practice and patient education.

Material and Methods

This review employs a systematic literature synthesis, focusing on peer-reviewed articles, clinical guidelines, and expert consensus from 2018 to 2025. Sources were selected from reputable databases and institutions, including PubMed (via StatPearls), Mayo Clinic, Cleveland Clinic, Johns Hopkins Medicine, Medscape, and WHO-related materials. Inclusion criteria targeted studies and reviews on uterine prolapse etiology, symptoms, diagnosis, and treatments in adult women, prioritizing randomized controlled trials (RCTs), cohort studies, and meta-analyses for evidence strength. Exclusion criteria omitted non-English publications, pediatric-focused studies, animal models, and pre-2018 sources to ensure currency. Search terms included "uterine prolapse causes," "pelvic organ prolapse symptoms," "uterine prolapse treatment," "POP management guidelines," and "prolapse prevention." Data extraction involved qualitative analysis of risk factors, pathophysiology, diagnostic tools, therapeutic outcomes, and management strategies, with cross-verification for consistency. No primary data collection occurred; instead, meta-syntheses from sources like ACOG and IUGA guidelines informed discussions, emphasizing high-evidence interventions such as pelvic floor training (Grade A evidence) and surgical success rates.

Result and Discussion

Etiological analysis reveals uterine prolapse as multifactorial, with vaginal childbirth as the primary risk (especially high parity, forceps use, prolonged labor, or large infants >4 kg), causing direct trauma to the levator ani and fascia. Hormonal factors, particularly postmenopausal estrogen decline, exacerbate tissue laxity by reducing collagen integrity, though menopause alone is not causative. Additional contributors include obesity (elevated BMI increasing intra-abdominal pressure), chronic conditions like coughing (e.g., from smoking or bronchitis), constipation leading to straining, repetitive heavy lifting, prior pelvic surgeries (e.g., hysterectomy disrupting ligaments), and genetic predispositions (e.g., polymorphisms in ESR1,

FBLN5, PGR, COL1A1 genes linked to connective tissue weakness). Ethnic variations show higher rates among Hispanic and white women, potentially influenced by socioeconomic factors. Discussion highlights that while pregnancy alone weakens supports via hormonal and weight changes, cesarean deliveries reduce but do not eliminate risk compared to vaginal births.

Epidemiologically, POP prevalence is 41-50% on exam but symptomatic in only 3%, peaking at 5% in women aged 60-69. Progression occurs in 29% of symptomatic cases to significant prolapse within a year, particularly in older patients or those with advanced baseline stages. Symptoms vary by severity: mild (stages I-II) often asymptomatic or present as subtle pelvic pressure; moderate to severe (III-IV) include visible bulging, heaviness, lower back pain, dyspareunia, urinary incontinence/frequency/urgency, incomplete bladder emptying (raising UTI risk), constipation, fecal incontinence, or manual splinting for defecation. Complications encompass concurrent prolapses (cystocele, rectocele, enterocele), skin ulcers from exposed tissue, or rare ureteral obstruction affecting kidneys. Nocturnal pruritus or worsening with Valsalva maneuvers (coughing/sneezing) are common, reflecting gravitational influence.

Evaluation integrates history (e.g., parity, menopause status, chronic straining) with pelvic exam using Valsalva/cough to assess compartments via POP-Q (stages 0-4) or Baden-Walker systems. Muscle strength is graded (absent/weak/normal/strong), with adjunctive tests like urodynamics for incontinence, cystoscopy for bladder assessment, or MRI/CT for complex cases involving kidneys. Results emphasize clinical exam as the cornerstone, with imaging reserved for multifaceted presentations.

Treatment results demonstrate a stepwise approach: watchful waiting for asymptomatic/mild cases (78% stable over 16 months); conservative measures like Kegel exercises (tighten pelvic muscles as if stopping urine, hold 5-10 seconds, repeat 10-20 times/set, 3-4 sets/day) yield 40-60% improvement in mild prolapse by strengthening levator ani. Lifestyle modifications—weight loss (BMI <25), high-fiber diet (25-30g/day from fruits/vegetables), hydration (6-8 glasses water), smoking cessation, proper lifting (bend knees, use legs, hold close)—reduce straining and pressure. Non-surgical pessaries (silicone rings/cubes) fit 85% of users, with 77% continuation at 1 year, providing immediate support but requiring regular cleaning (every 1-3 months) to prevent discharge/ulceration/infection; combined with topical estrogen in postmenopausal women to counter atrophy.

Surgical interventions for bothersome/severe cases achieve 80-95% success: uterus-sparing (sacrohysteropexy/sacrospinous hysteropexy attaching to sacrum/ligaments, preserving fertility) or with hysterectomy (vaginal/laparoscopic for faster recovery, 2-6 weeks). Concurrent repairs address co-prolapses (colporrhaphy tightening walls, sacrocolpopexy suspending vagina). Obliterative procedures (colpocleisis closing canal) suit non-sexually active patients (98% anatomic success). Mesh use is controversial (FDA warnings on transvaginal grafts due to erosion/dyspareunia/infection); prefer native tissue/biological grafts. Recurrence is 10-30%, higher in obese/younger patients; risks include bleeding, clots, infection, organ injury, or incontinence. Discussion notes uterus-preserving options' variable efficacy (e.g., vs. Manchester procedure in RCTs), with interprofessional teams (urogynecologists, therapists, surgeons) enhancing outcomes through education and postoperative care (early mobilization, reduced opioids).

Prevention results show partial efficacy: early postpartum Kegels, chronic condition management (cough/constipation), and lifestyle habits lower risk, though unavoidable factors like genetics persist.

Conclusion and Recommendation

In conclusion, uterine prolapse arises from cumulative pelvic stressors, predominantly vaginal childbirth and estrogen decline, leading to symptomatic descent that impairs quality of life. Evidence supports conservative management for mild cases and surgical correction for severe, with high efficacy but recurrence risks necessitating tailored approaches. Future research should explore genetic therapies (e.g., targeting Wnt pathway via FZD3) and long-term pessary/surgery outcomes.

Recommendations include routine pelvic exams for at-risk women (postmenopausal, multiparous), early Kegel training, lifestyle optimizations (weight control, fiber-rich diet), and pessary trials before surgery. For symptomatic patients, consult urogynecologists; preserve uterus if fertility desired. Community education via resources like AUGS/IUGA can reduce stigma and improve adherence. Implement interprofessional care for comprehensive management, prioritizing prevention in high-burden populations.

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