

## EFFICACY OF INTRAVESICAL PREDNISOLONE IN THE TREATMENT OF CHRONIC CYSTITIS COMPLICATED BY BLADDER ULCERATION

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**Abstract.** *The study evaluated the effectiveness of intravesical prednisolone in 40 patients with chronic cystitis complicated by bladder ulceration. Patients were divided into three groups: standard therapy, prednisolone monotherapy, and combined treatment with antibiotics plus prednisolone. Prednisolone led to greater ulcer reduction, improved symptoms, and better inflammatory markers compared with standard therapy, while the combined regimen produced the strongest overall clinical response. Intravesical prednisolone was well tolerated and showed no systemic adverse effects. The findings support its use as an effective component in the management of ulcerative chronic cystitis.*

**Keywords:** *chronic cystitis, bladder ulcer, prednisolone, intravesical therapy, anti-inflammatory treatment, combination therapy.*

**Introduction.** Chronic cystitis complicated by bladder ulceration is a persistent and treatment-resistant inflammatory disorder characterized by mucosal destruction, recurrent exacerbations, and insufficient response to standard intravesical therapy [1]. Traditional agents such as collargol or sea-buckthorn oil support mucosal regeneration, yet they often do not provide meaningful suppression of the underlying immune inflammation that sustains ulcer formation [2, 3]. Recent clinical evidence from studies in ulcerative interstitial cystitis suggests that glucocorticoids, especially prednisolone, may significantly reduce inflammatory activity and promote faster epithelial recovery. However, the potential of local intravesical administration of prednisolone in ulcerative chronic cystitis remains poorly explored [4].

**Aim.** To evaluate the therapeutic efficacy and safety of intravesical prednisolone in patients with chronic cystitis complicated by bladder ulceration and to compare outcomes with standard therapy and a combination regimen including antibiotics.

**Materials and methods.** A prospective clinical study was conducted on 40 patients diagnosed with chronic cystitis and endoscopically verified bladder ulceration. The cohort included 34 women and 6 men aged 22–67 years (mean age  $46.8 \pm 11.4$ ). All patients were randomized into three treatment groups: standard therapy with collargol and sea-buckthorn oil; intravesical prednisolone monotherapy administered as 30 mg prednisolone diluted in saline three times weekly for 14 days; and a combination regimen consisting of culture-directed antibiotic therapy together with intravesical prednisolone. The primary endpoint was the reduction in ulcer size according to cystoscopic evaluation.

Secondary outcomes included pain intensity, urinary frequency, leukocyturia, C-reactive protein levels, and overall clinical response. Safety was monitored throughout the study period.

**Results.** At baseline, the mean ulcer diameter was comparable across all groups ( $1.8 \pm 0.4$  cm).

Following two weeks of therapy, patients receiving standard treatment demonstrated only moderate improvement, with average ulcer reduction to approximately 1.3 cm and slight relief of dysuria and pain. In the prednisolone monotherapy group, the therapeutic response was significantly stronger: most patients exhibited a pronounced decrease in ulcer diameter to about 0.9 cm, accompanied by clear improvement in urinary symptoms and normalization of urinalysis parameters.

The most substantial clinical benefit was observed in the combination therapy group, where ulcer size decreased to approximately 0.7 cm, and patients reported the most rapid reduction in pain, urinary frequency, and inflammatory markers.

Moreover, the overall clinical response rate, defined as at least moderate improvement on the Global Response Assessment scale, reached 28.5% in the standard therapy group, 69.2% in the prednisolone group, and 84.6% in the combined therapy group. Laboratory findings supported these outcomes: leukocyturia and C-reactive protein levels decreased most prominently in patients receiving both prednisolone and antibiotics.

Importantly, intravesical prednisolone was well tolerated. No systemic corticosteroid-related adverse effects were observed, and mild transient dysuria occurred only in a few patients undergoing steroid instillation, resolving without intervention.

**Conclusion.** Intravesical prednisolone demonstrated clear superiority over standard therapy in achieving ulcer reduction, symptom relief, and normalization of inflammatory indicators in chronic cystitis complicated by bladder ulceration. The addition of antibiotics to prednisolone further enhanced therapeutic efficacy, suggesting a synergistic antimicrobial and anti-inflammatory effect.

The favorable safety profile indicates that local steroid administration minimizes systemic exposure while providing significant local benefit. These findings support the incorporation of intravesical prednisolone, particularly in combination regimens, into the management of ulcerative chronic cystitis, especially in patients who show insufficient response to traditional intravesical treatments.

#### References:

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