

The efficacy of laser ablation combined with photodynamic therapy vs PDT for CIN2/3 in reproductive women: a prospective case-control study

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Abstract

Objective: To compare the efficacy of laser ablation combined with photodynamic therapy (LA-PDT) versus PDT alone in the treatment of cervical intraepithelial neoplasia grade 2/3 (CIN2/3). **Methods:** Patients diagnosed with CIN2/3 in Tongji Hospital from January 2024 to January 2025 were enrolled. Based on patients' choice, they were allocated to either the LA-PDT or the PDT group. Pathological regression and human papillomavirus (HPV) clearance were compared at 12-month follow-up between the two groups.

Results: Excluding those lost to follow-up, there were 77 patients in the LA-PDT group and 68 patients in the PDT group. Baseline characteristics showed no significant differences between the two groups. At the 12-month follow-up, both the pathological complete remission rate and HPV clearance rate were significantly higher in the LA-PDT group compared to the PDT group (98.7% vs. 86.4%, $P < 0.05$; 92.3% vs. 86.4%, $P < 0.05$). Univariate and multivariate analyses indicated that the pre-treatment pathology of CIN3 was an independent risk factor for both lesion persistence and HPV persistence. Among the 111 patients with CIN2, the pathological complete remission rate was 98.2% and the HPV clearance rate was 95.5%. Among the 33 patients with CIN3, both the pathological complete remission rate and HPV clearance rate were significantly higher in the LA-PDT group than in the PDT group (94.1% vs. 56.3%, $P < 0.05$; 76.5% vs. 37.5%, $P < 0.05$).

Conclusion: LA-PDT for CIN2/3 demonstrates high efficacy and saves time and economic costs. The combined therapy shows significant advantages over PDT alone, particularly for patients with CIN3.

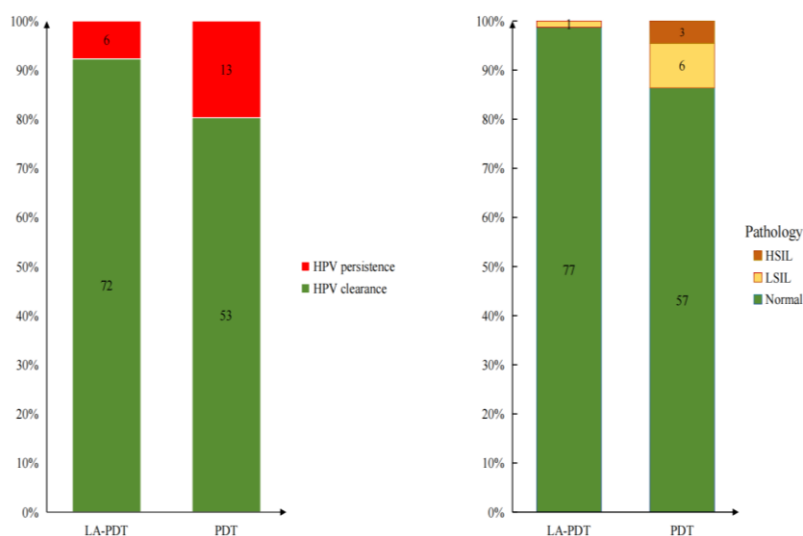


Figure 2 The comparison of efficacy between the two groups at 12 months' follow-up

