

Abstract

Background: This study aimed to evaluate the effects of 5-aminolevulinic acid photodynamic therapy (ALA-PDT) on the improvement of symptoms and recurrence rate in patients with vulvar lichen sclerosus (VLS) and observe its side effects. **Methods:** The symptom scores before and after photodynamic therapy (PDT) in 13 enrolled patients with VLS were analyzed retrospectively. All patients were followed-up for at least 6 months to evaluate the recurrence rate after PDT. The patients were treated with PDT only during the study period. During the PDT treatment, a 20% 5-aminolevulinic acid solution was applied to the lesions and marginal areas for 3 hours, and the entire area was then irradiated with 635 nm red light of 80 J/cm² at 80 mW/cm² for 30 minutes. **Results:** In this study, the effective rate of PDT was 92.31%. Lesions recurred in two patients at 6 months after PDT. Post-treatment, the total subjective, total objective, and the Dermatological Life Quality Index scores changed from 11.4, 4.3, and 13.4 at baseline to 4.9, 2, and 5.9, respectively. The difference was statistically significant ($p < 0.05$). PDT was mildly toxic in most patients. **Conclusions:** ALA-PDT is a safe and effective method for the treatment of VLS, and the therapeutic effects can be maintained for at least 3 months. The therapeutic effects may decrease during the 3–6-month period after PDT.