OBJECTIVE: We investigated whether a noncoherent intense pulsed light source (IPLS) would be effective in therapy of port-wine stains (PWSs).

DESIGN: To evaluate the efficacy in treatment of PWSs with IPLS, a retrospective study was initiated.

SETTING: The data were collected by physicians working in private practices and departments of university hospitals and medical centers, respectively.

PATIENTS: A total of 37 randomly selected patients with a total of 40 PWSs were included in the study. Clinical PWS characteristics recorded were color and location of the PWS.

INTERVENTIONS: All patients were treated with IPLS.

MAIN OUTCOME MEASURES: Data collected included treatment parameter (filters, pulse duration, fluence, and pulse sequencing), percentage of clearance, and side effects (purpura, blisters, crusting, altered pigmentation, and scarring).

RESULTS: Good and complete (70%-100%) clearance was achieved in 28 of 40 PWSs treated with IPLS. The average number of treatment sessions in PWSs reaching 100% clearance included 4.0 for pink PWSs and 1.5 for red PWSs. The average number of sessions for purple PWSs reaching good clearance (70%-99%) was 4.2 sessions. Parameters used most frequently were 515- and 550-nm cut-off filters, pulse duration of 2.5 to 5.0 milliseconds, and fluences of 24 to 60 J/cm2. Side effects included purpura in 133 (76%), superficial blisters in 14 (8%), and crusting in 35 (20%). Transient pigmentation changes were seen in 10.8% of patients (hypopigmentation in 3 [8.1%), hyperpigmentation in 1 [2.7%]). No scarring was observed.

CONCLUSION: Intense pulsed light source presents an effective and safe method for treating PWSs, especially purple PWSs.