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Abstracts from IPA 2025 Shanghai

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and fluorescence-based detectors, and review their principles of operation.

Results: Long term stability the in-air calibration coefficient of isotropic detector has been established to be $\pm 10\%$ using an integrating sphere setup. Various correction factors (medium correction factor beta, backscatter correction factor alpha) was established for common isotropic detectors.

Conclusions: The report will recommend strategies to establish calibration and quality assurance procedures for clinical fluence rate dosimetry equipment, and it will establish guidelines for clinical implementation of fluence rate dosimetry.

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495 Poster

Topical 5-aminolevulinic acid photodynamic therapy for recalcitrant cutaneous warts in children

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This article reports a retrospective study evaluating the efficacy and safety of 20% aminolevulinic acid photodynamic therapy (ALA-PDT) in the treatment of recalcitrant warts in children. The study included 7 patients with recalcitrant warts (including 2 cases of single perithyroid warts, 3 cases of multiple perithyroid warts, 2 cases of plantar warts) who received ALA-PDT treatment. Among them, 6 patients had complete clearance of skin lesions, with an effective treatment rate of 85.7%. After 12 weeks of follow-up after treatment, all patients with completely cleared skin lesions did not experience disease recurrence. The adverse reactions of ALA-PDT include pain, swelling, blisters, etc., and all patients have good tolerance to adverse reactions. Research has confirmed that 20% ALA-PDT is safe and effective in treating recalcitrant warts in children, and is worth promoting in clinical practice.

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496 oral

Immunological Research of Interstitial Photodynamic Therapy Using Talaporfin Sodium in a Rat Intracerebral Glioma Model

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The interstitial PDT (i-PDT) is a new method that is expected to malignant gliomas arising deep within the brain, which are difficult to remove. We performed the preclinical study using a rat intracerebral glioma model. that is expected to C6 glioma cells were implanted into the basal ganglia of rats, and 2-3 weeks later, talaporfin sodium (TPS) was administered intraperitoneally. After that, fine plastic optical fiber was punctured into the tumor tissue, and an appropriate dose laser light was irradiated into the tumor. The brain was removed 24-72 hours after the i-PDT and analyzed pathologically. Histological analysis showed that tumor necrosis and apoptosis was induced in the areas. Immunostaining showed that T cells or B cells don't stain, but macrophages and NK cells were stained within the tumor. An experimental system of i-PDT using TPS was established using malignant glioma cells transplanted into the rat brain.

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498 Poster

Photodynamic evaluation of curcumin as a larvicide against *Aedes aegypti* in simulated field conditions

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Significance: This study explore photodynamic inactivation (PDI) as an eco-friendly method for controlling *Aedes aegypti* larvae using curcumin, a photosensitizer ins a simulated field environment.

Approach: Photolarvicidal and persistence bioassays were conducted using curcumin formulations at various concentrations in a 100 L fiberglass container filled with dechlorinated water under simulated field conditions.

Results: The lethal concentrations to eliminate 50% (LC50) and 90% (LC90) of larvae were 2.3 mg/L and 8.7 mg/L, respectively. The residual effect of the curcumin formulation lasted up to 45 days.

Conclusions: These results indicate that large-scale PDI of *Ae. aegypti* larvae is a promising method to reduce virus transmission, offering prolonged efficacy in breeding site simulations.

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506 oral

Retrospective analysis of Hemoporin-mediated photodynamic therapy in the treatment of naive port wine plaques in young patients

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Significance: To compare the influence factors of Hemoporfin-PDT on the midface, peripheral face and neck of young patients with port-wine stains (PWS).

Approach: We retrospectively analyzed young patients with PWS who received Hemoporfin-PDT at our center between August 2017 and July 2024. The difference of treatment times and influencing factors were analyzed when the midface, peripheral face and neck reached 75% curative effect.

Results: Midface and perifacial face purple PWS require more treatments on average than red PWS to achieve a 75% response rate. However, this difference was not observed in the neck. Regardless of treatment history, the average number of treatments required to achieve 75% efficacy was nearly identical for the midface, perifacial face, and neck.

Conclusions: In the midface and peripheral face, patients with the purple type required a higher mean number of treatment sessions compared to those with the red type. Previous treatment history was not a factor.

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507 oral

The Impact of Photodynamic Therapy Frequency on the Efficacy of High-Grade Cervical Squamous Intraepithelial Neoplasia Treatment

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This study investigates the therapeutic effects of different frequencies of photodynamic therapy (PDT) on high-grade cervical squamous intraepi-