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**PHOTODYNAMIC THERAPY WITH
BENZPHORPHYRIN DERIVATIVE MONOACID
RING A IN THE CHICK CHORIOALLANTOIC
MEMBRANE AT 576 nm**

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Background and Objectives: Photodynamic therapy using Benzophorphyrin derivative monoacid ring A, BPD, (Verteporfin, QLT, Vancouver, Canada) and 690 nm light has been used clinically for vascular destruction. BPD also has an absorption peak at 576 nm. This shorter wavelength may be advantageous for treatment of cutaneous vascular malformations such as Port wine stain. We evaluate the effect of BPD and 576 nm light on vasculature utilizing a chick chorioallantoic membrane model.

Study Design/Materials and Methods: Thirty microliters BPD solution was administered intraperitoneally into chick embryos at day 12 of embryonic development. Vessels were videotaped prior to and then 1 hour post-intervention. Vessels were assessed for damage based on the following scale: 0, no damage; 1, coagulation; 1.5, vasoconstriction; 2.0, coagulation + vasoconstriction; 2.5, angiostasis; 3.0, hemorrhage. Damage scores were weighted by vessel "order." Study groups were: (1) control (no BPD, no light), (2) drug only, (3) continuous wave (CW) irradiation (60 mW/cm², 125 seconds) only, (4) BPD + CW irradiation.

Results: Groups 1 and 2 showed no damage. BPD + CW irradiation and CW irradiation alone resulted in damage scores + of 2.8 ± 0.70 (SEM) and 3.8 ± 0.72 (SEM), respectively.

Conclusions: At 576 nm, less damage was observed with CW irradiation alone than BPD + CW irradiation. Further studies are planned.