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**PHOTOCHEMOTHERAPY OF SUPERFICIAL  
HEAD AND NECK CANCER :**

**A PROSPECTIVE STUDY OF 16 PATIENTS**

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The authors analyse the result of laser photodynamic therapy on 16 patients who had presented a superficial squamous cell carcinoma T1 or T2N0M0 of the oral cavity, pharynx and larynx.

In this prospective study, started in 1990, photodynamic therapy was suggested as a curative treatment. After photosensitizing with hematoporphyrin derivative (photophrin), an Argon dye Laser (632nm) delivered a fluence (energy density) of 275 J/cm<sup>2</sup>.

In our series, 75% of the patients showed complete clinical remission with an excellent functional result. 25% did not respond to the treatment and biopsies were positive one month after laser exposure. Thus, they underwent a classical treatment and are now in complete clinical remission.

The results suggest that laser photodynamic therapy is a useful treatment for small superficial tumors and in case of non-response has no adverse impact on the efficacy of the classical treatment.

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**PHOTOCHEMOTHERAPY OF ADVANCED  
HEAD AND NECK CANCER**

**A PROSPECTIVE CLINICAL STUDY**

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The authors present a prospective study begun in 1990, discussing their result of laser photodynamic therapy on 8 patients with advanced head and neck carcinomas.

These patients had presented a recurrence of their advanced carcinoma after a classic treatment (surgery or radiotherapy), photodynamic therapy was suggested as a palliative treatment. After photosensitizing with hematoporphyrin derivative (photophrin) or Adriamycin, an Argon dye Laser (632nm) delivered a fluence (energy density) of 215 J/cm<sup>2</sup>.

In our series, 62% of patients responded to the treatment showing "partial tumor regression" or "clinical improvement".

Our results suggest that laser photodynamic therapy is an attractive alternative for treatment of advanced or recurrent head and neck tumors in cancer patients.

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**Direct Interaction of Light with Cells in Photodynamic  
Therapy**

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Liu TCY et al ('low intensity laser biostimulation', this proceedings) have put forward the biological information model on low intensity light (BIML): low intensity light couples with intracellular messenger through the chromophore absorption in the cell membrane: hot-color (red, orange, yellow) light activates cAMP phosphodiesterase through G<sub>i</sub> protein or activates phosphoinositide phospholipase C through G<sub>q</sub> protein, or activates one of receptor-associated kinases: cAMP↓; cold-color (green, blue, violet) light activates adenylate cyclase through G<sub>s</sub> protein: cAMP↑. In this paper, we applied BIML to studying the direct interaction of light with cells in photodynamic therapy. It was concluded that cold color light PDT is better than hot color light PDT from the viewpoint of the effects on cells and the short term effects on cancer, but hot color light PDT is superior to cold color light PDT with respect to the long term effects on cancer.

**PLASTIC SURGERY/  
DERMATOLOGY**

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**LONG PULSE 532nm LASER TREATMENT OF LOWER EXTREMITY  
TELANGIECTASIAS A CLINICAL AND HISTOLOGIC STUDY**

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At the present time the use of lasers in the treatment of leg veins remains a controversial and problematic area. Although many lasers are capable of improving and eradicating facial telangiectasias, it appears that leg veins are more resistant to currently available laser treatments. Recently a Long-Pulse 532nm Neodymium-YAG laser (VersaPulse<sup>®</sup>, Coherent Medical, Palo Alto, CA) has been introduced for the treatment of facial blood vessels, port wine stains and leg veins. In an attempt to delineate the role of this laser in the treatment of leg veins, we studied one hundred patients with telangiectatic vessels of the lower extremities ranging from 0.4mm to 1.5mm. Simultaneously we conducted a histologic examination of leg veins during laser treatment by obtaining biopsies preoperatively, immediately postoperatively, at 5 days and at 3 weeks. The results of our study indicate that the VersaPulse<sup>®</sup> laser