Materials and methods: The research was conducted in several stages to achieve the aim. At the preliminary stage women with complaints on itching, burning, flushing and swelling of external genitalia were selected.

In order to determine the accumulation of alasens-induced protoporphyrin IX in the first stage of research 5 patients with vulvovaginal candidiasis was held the fluorescence spectroscopic study with the diagnostic setting ''Spectrum-Cluster''. After administration of alasens within a specified time it was noted intensive fluorescence of protoporphyrin IX in the red spectrum in the mucosa of the vulva and vagina. The intensity of fluorescence of protoporphyrin IX in the skin of thigh and vulva was 3—7 times lower.

At the second stage we conducted PDT to 35 patients with vulvovaginal candidiasis. Each patient performed 4 sessions of PDT with an interval of 1—2 days. On screening day PCR real-time (Femoflor-16) and cytokins were taken. Before and after each session microscopy of smears stained by Gram was estimated and crops on nutrient medium with the counting of the Candida colonies. And 1 month PCR real-time (Femoflor-16), cytokins and crops on nutrient medium with the counting of the Candida colonies were monitoring.

Age of women in the study ranged from 19 to 59 years (average age 39 years). Duration of disease (vulvovaginal candidiasis) ranged from 6 months to 5 years. The number of relapses ranged from 3 to 10 per year.

Results: After the first session of PDT disappeared or significantly decreased complaints of itching and burning in all 35 patients. In 18 (51%) patients remained on a small amount of complaints for discharging from the genital tract, but in 16 patients, they were passed immediately after the second PDT. In 5 (14%) patients there was increased amount of discharging after the 3rd session.

Positive dynamics was noted analysing smears from vagina. Almost in all patients had been observed 3-fold reduction of Candida and leukocytes immediately after PDT.

The final performance was recorded 4 weeks after the 4th session of PDT. Full effect was observed in 25 patients and was 71,4%.

Conclusion: Analysing the results we observed a sufficiently high efficiency of this method. This evidenced by the disappearance of complaints from patients (itching, discomfort, discharging), and microbiological investigation of the vaginal smear (the disappearance of Candida). It should also be noted a positive effect of photodynamic therapy on vaginal microflora (increasing of lactobacilli in the smear). All patients reported good tolerability of the procedures.

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O154

Antimicrobial photodynamic therapy in *Candida albicans* induced-vaginitis: A murine model study for localized infection

M. Ribeiro, I. Kato, R. Prates, R. de Sena, C. Santos, R. Oliveira

IPEN-CNEN/SP, Center for Lasers and Applications, Sáo Paulo, Brazil

Although several *in vitro* studies have demonstrated positive antifungal activities of photodynamic therapy (PDT), the use of this treatment *in vivo* requires some adjustments. The purpose of this work was to develop a model to study the photodynamic inactivation of *Candida albicans* in induced local fungal infection. A mice model of vaginal candidiasis was developed since there are no evidences of systemical complications from this type of infection. To induce a state of pseudoestrus to establish a persistent infection, twenty female Balb-c mice, 6—8 weeks old, were treated subcutaneously with estradiol valerate diluted in sesame seed oil 72 h before fungal inoculation. Animals were then inoculated intravaginally with 1×10^6 cells of *C. albicans* (90028) suspended in phosphate buffer solution. Vaginitis was verified by clinical evaluation and microbiological analysis 5 days after inoculation. With the infection induced, five mice/group received crescent concentrations of methylene blue (MB) (0, 0.1, 0.5, 1 mM) during 10 min. Thereafter, the vaginal area was illuminated using a red laser (μ = 660 nm, P = 100 mW, E = 3 J) during 6 min. Following PDT, samples were collected from vaginal content for microbiological counts. After that, animals were euthanized in CO_2 chamber and vaginal tissue was removed and included in paraformaldehyde 10% for scan electron microscopy (SEM) analysis. Our findings showed a reduction of 1 log for all tested MB concentrations. Despite the low decrease following PDT, SEM analysis of the infected tissue presented epithelium desquamation, disrepaired fungal cells, and macrophages suggesting an improvement of the infectious process compared to control.

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O156

PDT in the oesophagus

S. Bown

University College London — National Medical Laser Centre, London, UK

PDT has been considered in the management of all stages of oesophageal cancer. It can relieve obstruction in advanced disease, a licensed treatment, but is rarely used for this as other endoscopic techniques, particularly re-canalisation with a thermal laser or insertion of an expanding metal stent, provide more rapid results with fewer side effects.

As PDT is non-thermal and connective tissue preserving, the risk of perforation is small, so it is effective for ablation of dysplasia and intramucosal cancer in extended segments of Barrett's oesophagus. This is a licensed treatment, although using Photofrin, there is a significant risk of oesophageal stricture. There are less strictures using ALA, but more recently, a new treatment, radiofrequency ablation (RFA), has been shown to be equally effective and is becoming more popular, as it is a day case procedure with no drug is required.

Early invasive cancers (submucosal invasion but no detectable evidence of nodal or distal spread at presentation) have a 15—20% risk of nodal spread later becoming apparent. These patients are normally treated by surgery or radical chemoradiation, but for patients who are not fit for such major procedures due to other co-existing diseases or advanced age, PDT (which is unlikely to adequately treat extra-oesophageal nodal disease) may be an option as this risk of distant spread may be acceptable. This group should be considered for randomised trials comparing PDT with some form of chemoradiation, the main outcome measures being quality of life during treatment and recovery and disease related survival time.

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O157

Quantitative Imaging of Photodynamic Therapy and Gemcitabine Combination Treatment Response in 3D Pancreatic Tumor Models

J.P. Celli[1], I. Rizvi[1], A.R. Blanden[2], A.O. Abu-Yousif[1], B.Q. Spring[1], S.A. Elrington[1], T. Hasan[1]

[1] *Wellman Center for Photomedicine, Harvard Medical School, Boston, MA, USA*
[2] *State University of New York, Binghamton, NY, USA*

Background: Pancreatic ductal adenocarcinoma is a lethal disease that is often non-responsive to chemo- and radiotherapy. Treatment typically consists of palliative chemotherapy with the pyrimidine nucleoside analog gemcitabine, which alleviates some disease-related symptoms and provides a modest survival enhancement. Building on promising preclinical and clinical studies of photodynamic therapy (PDT) for treatment of pancreatic cancer, here we