Abstract
Bladder cancer is one of the most urgent topics in modern oncurology. Research of more efficient methods of tumor treatment, new ways of antitumor action to bladder mucosa with aim to prevent recurrence and progression of the disease is going on.

Photodynamic therapy (PDT) is promising treatment option of malignant and benign neoplasms. It is based on ability of photosensitizing products which selectively accumulate in tumour and dysplastic tissues. The irradiation of these tissues with a wavelength in visible spectrum (lambda 400-760 nm) produces cytotoxic effects leading to necrosis with further substitution with connective tissue.

The aim of conducted study was assessment of efficacy of FDT with photosensitizer Photosens as adjuvant therapy of non-muscle-invasive bladder cancer. Adjuvant treatment with PDT was performed on 44 patients with transitional-cell bladder cancer in stage T1N0M0G2 after transurethral bladder resection. 24 hours prior to PDT-session intravenous infusion was done with photosensitizer Photosens (0,3-0,8 mg/kg). PDT was performed with diode laser equipment set "Biospec" LFT 630/675-01 (675 nm) with cylindrical fiber optic. Power density was 15 J/cm² in one session. Mean session time was 22 minutes. Further all patients underwent ultrasound, regular and fluorescent cystoscopy, biopsy from postoperative scar and from suspicious for cancer recurrence parts of bladder mucosa.

Follow-up period is no more than 25 months to the recent moment. 7 (15,9%) patients have had recurrence. Registered during PDT session side effects and complications were not life-threatening. 10 (22%) patients had sunburn (oedema and hyperemia of skin) due to misconduct of prescribed regime. During PDT session 12
(27%) patients had annoying or painful sensation in the pelvic area, which passed by itself or required analgesics. There was no systemic or allergic reaction during intravenous infusion of Fotosens.

Adjuvant PDT of bladder cancer can be used in outpatient basis or day hospital. There is need of further studying and development of PDT regimes. First results show significant decrease of bladder cancer recurrence rate after PDT. Further follow-up will help in defining efficacy of this method and produce practical recommendations for its usage.

Key words: photodynamic therapy, bladder cancer, oncourology, photosensitizer