

N14**Could the effect of therapy depend on the prostate movements during irradiation?**

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Introduction and Objectives: Prostate could change localization during fractionated irradiation. We want to estimate the displacements of prostate position during radiotherapy and we want to check if the effect of therapy depend on those displacements.

Material and Methods: The study is based on 40 patients treated with radical radiotherapy for localized prostate cancers between October 2004 and May 2006. Thermoplastic Orfit masks and Orfit HP System Leg Support and Foot Support were used. The PTVs included prostates with reasonable margins. All patients were treated conformally, using high energy photons. The total dose was 74 Gy, delivered in 37 fractions, 7.5 weeks. The positions of prostate were evaluated once a week using CT scans. CTs, all planning procedures and irradiation were performed using the same positioning system. Prostates were delineated and the changes in their positions were measured using appropriate device the 'Eclipse' program. All procedures were performed by the same experienced two radiation oncologists and three radiation technologists. The patients have been observed after therapy every 3 months for the first two years after treatment and every 6 months for next years.

Results: We observed major prostate displacements first of all in anterior-posterior (AP) axis. The mean of prostate movement in AP axis was 4.6 mm and ranged between 0.0 mm and 30.1 mm. We find that only 19 (47.5%) patients had all measured displacements smaller than 10 mm. Displacements larger than 20 mm were observed in 5 patients (25%). Two patients died 29 and 32 months after treatment without recurrence. 38 patients are being observed still. Median follow-up was 41 months. We have found biochemical relapse in 3 patients (7%), all of whom had major displacements: two of them had the largest prostate displacement (median 14.0 and 12.1 mm) and the third one had the fourth largest displacements (median 11.9 mm). We have not found any clinical relapse.

Conclusions: Prostate displacements seem to be the main reason of biochemical relapse in analyzed group.

N15**Surgical anatomy of the prostatic urethra. A pilot ex vivo study**

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Introduction and Objectives: According to literature the majority of urologist become familiar with prostate anatomy. However, the perception of the prostatic urethra (PU) anatomy is based on personal endoscopic experience. PU seems to be integrated, non removable part of the prostate. Nevertheless, a robotic laparoscopy has potential for performing microsurgical movements and the idea to perform urethra-sparing operations of prostate could be taken into consideration. Before we formulate the concept of clinical use, the pilot study on surgical anatomy of prostatic urethra has been done. The aim of the pilot study was to discover and evaluate surgical anatomy of PU by performing ex vivo post-prostatectomy preparation.

Material and Methods: 50 specimens of prostate and PU collected from 32 radical prostatectomies (RP) and 18 radical cystectomies (RC) were analyzed postoperatively ex vivo. An individual programme of the anatomical preparation of PU was engaged in all cases prior to the pathological examination. A three-stage procedure was performed: 1) a preparation of prostate gland and PU excision, 2) a pre-pathological specimen preparation with photo documentation, 3) final pathological report. Immediately after the surgery, each specimen was placed on the posterior surface and fixed with the basis upward. Then, it was prepared gently with the incision dissecting the anterior surface of the gland leading towards PU. In order to minimize the risk of PU disruption, a catheter was inserted intraurethrally. Along with the dissection, the prostate was flattened gradually and the urethra was separated intact from its site, being only attached by ejaculatory duct. In overall, two specimens: prostate and PU were prepared. Next, the standard pre-pathological preservation was performed along with the special tools immobilizing specimens that flattened the prostate. Subsequently, both prostate and PU were analyzed microscopically.

Results: The time of ex vivo preparation of a single specimen varied from 10 to 21 min. (mean 12 min.). In all cases, PU was excised intact. Mean length of PU was 19 mm (9-27 mm). PU was involved by the cancer in none of the cases (0%). The number of ejaculatory ducts was found to be as follows: one - 80% of cases, two - 14%, three - 4%, four - 2%. Pathologies of PU site were not found. Each step of the study procedure was documented digitally and will be presented on the poster. The findings of final pathological examinations were as follows: RP - adenocarcinoma pT1c-18 cases (56%), pT2a-9, pT2b-4, pT3a-1; RC - TCC pT0-1 case, pT1-1, pT2-12, pT3-3, pT4-1.

Conclusions: The study and photo documentation may improve our knowledge on the anatomy of PU and revealed feasibility of PU excision being attached. The fact that PU is cancer negative enables the idea to do urethra sparing surgery theoretically promising. The individual protocol occurred to be an interesting alternative for the standard oncological assessment of prostate specimens.

N16**Vascular disorders in cavernosal bodies limit the effectiveness of treatment of erectile dysfunction following radical prostatectomy**

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Introduction and Objectives: Blood flow disturbances in cavernosal bodies develop in many patients after radical prostatectomy (RP). Impaired hemodynamic of the penis may limit the ability to attain and maintain rigid erection either after natural or pharmacological stimulation, therefore it seems to be an important factor influencing the severity of erectile dysfunction (ED) in men who underwent radical resection of the prostate. The aim of the study is to evaluate: 1) The correlation between impaired blood flow in penile arteries and type of reaction to intracavernosal injection of PGE1. 2) The influence of penile vascular disorders on severity of erectile dysfunction.

Material and Methods: The prospective study comprised 67 preoperatively potent men. The preoperative diagnostics of potency consisted of anaemnesis, IIEF-5 questionnaire, Power Doppler evaluation of blood flow in penis following intracavernosal injection (ICI) of 10 µg of Alprostadil and assessment of reaction to ICI (rigid erection, tumescence, no visible reaction). Only potent men - with normal results were enrolled. These tests were repeated at six months after RP. Correct vascular blood flow was found in 31 patients (46%) -