

and invasive action, should be engaged only after critical analysis of potential influence of AcD on the presence of hmt. Further studies on this topic would be beneficial for clinicians and health care providers.

N38

How accurate we really are in predicting final stage of non-invasive TCC of the bladder when performing cystoscopy?

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Introduction and Objectives: Approximately 75–85% of patients with bladder cancer present with disease confined to the mucosa (stage Ta-Cis) or submucosa (stage T1). The distinction, whether the bladder carcinoma is non-muscle invasive (NMIBC) or muscle invasive (MIBC) has a cardinal influence on further treatment. The pathological examination of post-TURBT specimen plays the key role in this context. The management of NMIBC became more complex with regard to initial investigation, treatment strategy, intravesical therapy and follow-up. The ability to estimate the tumor stage and grade accurately would be beneficial for patients. Therefore, there is a need to define, if cystoscopy alone can reliably identify tumor stage and grade. The aim was to assess the accuracy of visual staging (by stage and grade) of bladder cancer during cystoscopy. Thereafter, we evaluated the differences in predictability of more and less experienced urologists and analyzed the most common errors in tumor stage and grade identification.

Material and Methods: The records of 189 NMIBC-TURBT procedures performed in 164 patients (aged 29–99, av. 68) from 2007 to 2009 were collected. In all cases stage (T) and grade (G) were assessed by the treating surgeon and documented in operation protocol. Cystoscopic appearance of the tumor was digitally recorded. All data were blindly reevaluated by another two urologists. All clinical results were compared with final pathological examination. Intraobserver and interobserver variations were also noticed.

Results: Urologist predicted correctly both T and G in 60 out of 189 tumors – accuracy of only 31.7%. The accuracy in different pT and G stages were as follows: TaG1 – 25%, TaG2 – 0%, T1G1 – 6%, T1G2 – 66%. The predictability of T was higher than G (53% vs.47%). The overdiagnosis (between TCC and T0) was noticed in 10 out of 11 patients. Overstaging and understaging between Ta and T1 were noticed in 63% and 24% of cases, respectively. The predictability differed between more and less experienced urologists and the accuracy was as follows: 50% and 27%, respectively.

Conclusions: Our study revealed the lack of appropriate knowledge in the intraoperative assessment of tumor stage. Nowadays, the ability of a urologist to predict T and G depends on the clinical experience level. Therefore, a professional training process and teaching programme are necessary.

N39

The evaluation of the angiotensin-converting enzyme gene polymorphism in Ta,T1 and invasive bladder cancer

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Introduction and Objectives: The objectives of this study were to investigate the ACE (Angiotensin-Converting Enzyme Gene) genotype and alleles in patients with Ta,T1 and invasive bladder cancer and to evaluate the effect of ACE gene polymorphism on staging (T stage) of bladder cancer.

Material and Methods: ACE genotypes and alleles were determined in 113 patients with histologically confirmed superficially (Ta,T1) and invasive bladder cancer (mean age: 65±11.3 years) and this findings with number of tumor, sex, risk of profession, and smoking history were analysed.

Results: ACE genotypes are distributed in patients with Ta,T1 and invasive tumors as follows; ID is present in 14 (46.7%), DD in 9 (30%), II in 7 (23.3%) patients with Ta tumors, and ID in 19 (42.2%), DD in 16 (35.6%), II in 10 (22.2%) patients with T1 tumors and ID in 15 (39.5%), DD in 15 (39.5%), II in 8 (21.1%) patients with invasive tumors ($p > 0.05$). I allele was found in 28 (46.7%), 39 (43.3%), 31 (40.8%) in Ta,T1 and invasive tumor respectively ($p > 0.05$). D allele was found in 32 (53.3%), 51 (56.7%), 45 (59.2%) in Ta,T1 and invasive tumor respectively ($p > 0.05$). Smoking history, sex, risk of profession, and number of tumor were similar in patients with Ta,T1 and invasive tumor. There were no significant correlation between ACE genotypes and number and size of tumor, sex.

Conclusions: This present study revealed that no significant association between ACE gene polymorphism and staging (T stage) of bladder cancer.

N40

Optical coherent tomography for surgery and urology using: A systematic review

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Introduction and Objectives: The Optical Coherent Tomography (abbreviated OCT) became a standard diagnostic modality for retinal pathologies nowadays. However, the OCT is exploring for an experimental investigation in surgical branches, especially in urology and basing of this, it is need to clarify any OCT potentials of use. Aim of the study was presenting OCT potentials for imaging in surgery and urology according to literature recourses.

Material and Methods: Medial and Scientific bases were searched using “Biopsy in vivo, OCT, Surgery, Urology” as key words. We used MedLine with PubMed tool. 123 items were retrieved. For analysis we used 21 manuscripts (1 report, 7 abstracts, 12 articles and 1 book).

Results: The principle of OCT consists in lighting by optical radiation of anatomical object under consideration with subsequent light reflection level identifying. It is estimated the spatial resolution of the OCT and the penetration depth as 1–15 µm and up to 4 mm appropriately. The OCT as clinical imaging tool has the sensitivity from 60% to 100%, the specificity from 78% to 100%, the positive prognostic validity from 23% to 98% and the negative prognostic validity from 87% to 100%. The

OCT was utilized in surgery (colonoscopy, colposcopy etc.) and in urology (cystoscopy).

Conclusions: OCT could define anatomical structure at the histological layers (epithelium, submucosa and muscle), also intra-operationally it detected topographic features notably neurovascular bundle during prostate visualization. The future works should be for OCT studying with standardization of findings in surgery and urology.

N41

Expression levels of P53 and CDKN2a/ARF messenger RNA detected by Real-Time PCR in tumor tissue in bladder cancer-clinicopathological applications

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Introduction and Objectives: Cancer of the urinary bladder is a common malignant disease in the western countries. The majority of patients presents with superficial tumors with a high recurrence frequency, a minor fraction of these patients experience disease progression to muscle invasive stage. The present study aimed to assess whether patients with bladder urothelial tumors can be more objectively stratified into low- or high-risk groups for recurrence or progression.

Material and Methods: 43 lesions were determined to be superficial papillary tumors (pTa), whereas 37 tumors invaded the lamina propria (pT1). Tumor grade was noted low (G1) in 46 cases and high (G2-3) in 34 cases. Reverse transcriptase Real Time PCR was performed in triplicate using iCycler iQ5 System (Bio-Rad). The rate of accumulation of amplified DNA was measured by continuous monitoring of SBER Green fluorescence for P53 and GAPDH (reference gene), and by monitoring the level of fluorescence of Taqman probe for CDKN2a/ARF. Melt-curve analysis was performed immediately following amplifications. Tumor samples were evaluated for P53 and CDKN2a/ARF mutations using SSCP and sequencing methods.

Results: a total 80 patients (69 males) and 4 controls were enrolled into the study. Mean patients age was 68 years. Increase in expression level for P53 were observed in 5/43 pTa (11.6%) and 20/37 >pT1 (54%), for CDKN2a/ARF in 10/43 pTa (23%) and 2/37 >pT1 (5.4%). After a median follow-up 20 months (ranged from 6 to 45) 23/69 (33%) patients developed tumor recurrence and 11 died (2-12 months after first cystoscopy). An abnormal expression level was observed in 8/15 pTa (53%) cases and in 2/8 pT1 (25%) cases. There were no correlations between expression and mutations status.

Conclusions: We present data on the clinical usefulness of expression analysis in bladder carcinoma. Our data confirm that expression analysis is a promising tool for bladder cancer diagnosis and prognosis.

N42

Interesting tumor case – lymphoma of the bladder

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Introduction and Objectives: Lymphoma of the bladder is rare tumor. In the literature is described less than 100 cases. Lymphoma representing 0.2% of the primary neoplastic lesions, and 1.8% of secondary lesions in this organ. In some cases about 40% there was a history of chronic cystitis before lymphoma. Lymphoma of the bladder is more common among female than male, the ratio is 6.5:1. The median age of this lesion is about 64 years. The most common cases found in the literature have a low-grade lymphoma including the MALT, among cases with

high-grade bladder lymphomas the most common is diffuse large cell lymphoma. There is no mortality case of primary lymphoma of the bladder in the literature. In case of non-localised lymphoma an average time of life is 9 years, and in case of secondary lesion 7 months.

Material and Methods: 33 years old woman was admitted to Urological Ward because of the tumor of the bladder, which was identified in ultrasonography. This lesion was found accidentally. The patient did not report any symptoms. She was classified to transurethral electroresection. In the cystoscopic examination there was found two lesions – one on the right wall of the bladder about 2 cm, and the second flat one about 2 cm on the left wall. The TUR-B was performed, a sample of the lesions was taken to histopathological examination.

Results: The final result of histopathological examination was: Lymphoma malignum – WHO large B cell lymphoma. The patient was sent to Haematology Ward for further examination and treatment – chemotherapy, after one year obtain complete remission of lymphoma – PET-CT examination.

Conclusions: The basis of diagnosis is histopathological examination with immunohistochemistry. In the ultrasonography this type of lesion – lymphoma is not to distinguish from a common lesion of the bladder. Chemotherapy with possible additional radiotherapy is the basic treatment of lymphoma in this case.

N43

Is Carcinoma In Situ (CIS), a contra-indication for neoadjuvant chemotherapy for Transitional Cell Carcinoma (TCC) of the bladder?

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Introduction and Objectives: Neoadjuvant chemotherapy has previously been combined with radical cystectomy to improve survival from occult metastatic disease. The purpose of this study was to evaluate disease response to neoadjuvant Gemcitabine (Gem) and Cisplatin (Cis) chemotherapy in muscle-invasive TCC compared to muscle-invasive TCC with concomitant CIS.

Material and Methods: Over 5 years (2003-08), 60 patients (46 male 14 female) at 2 centres (FRH and JCUH) were administered 3-4 intravenous doses of Gem/Cis at 28 day intervals. Mean age was 68 years (50-78). Group 1 had T2 muscle-invasive disease (n=34), and group 2 had T2+CIS (n=26). CT scans were repeated following chemotherapy. All 60 patients subsequently underwent radical cystectomy with lymph-node dissection and ileal conduit formation (55) or neobladder reconstruction (5).

Results: Pathological and radiological responses were noted prospectively (see table).

	Total number of patients	Regression of disease (%)	No Change (%)	Progression of disease (%)
Histological				
Group 1: T2	34	26 (76.4%)	5 (14.7%)	3 (8.8%)
Group 2: T2+CIS	26	7 (26.9%)	15 (57.7%)	4 (15.4%)
Radiological				
Group 1: T2	34	24 (70.6%)	7 (20.6%)	3 (8.8%)
Group 2: T2+CIS	26	6 (23.1%)	15 (57.7%)	5 (19.2%)

Conclusions: Our results clearly show that the response of muscle-invasive TCC to Gem/Cis neoadjuvant chemotherapy is reduced in the presence of concomitant cis. Response rates to T2 disease alone are good, however, in excess of 70%. The role of neoadjuvant chemotherapy is to treat micro-metastatic disease as well as the primary cancer. Our findings suggest