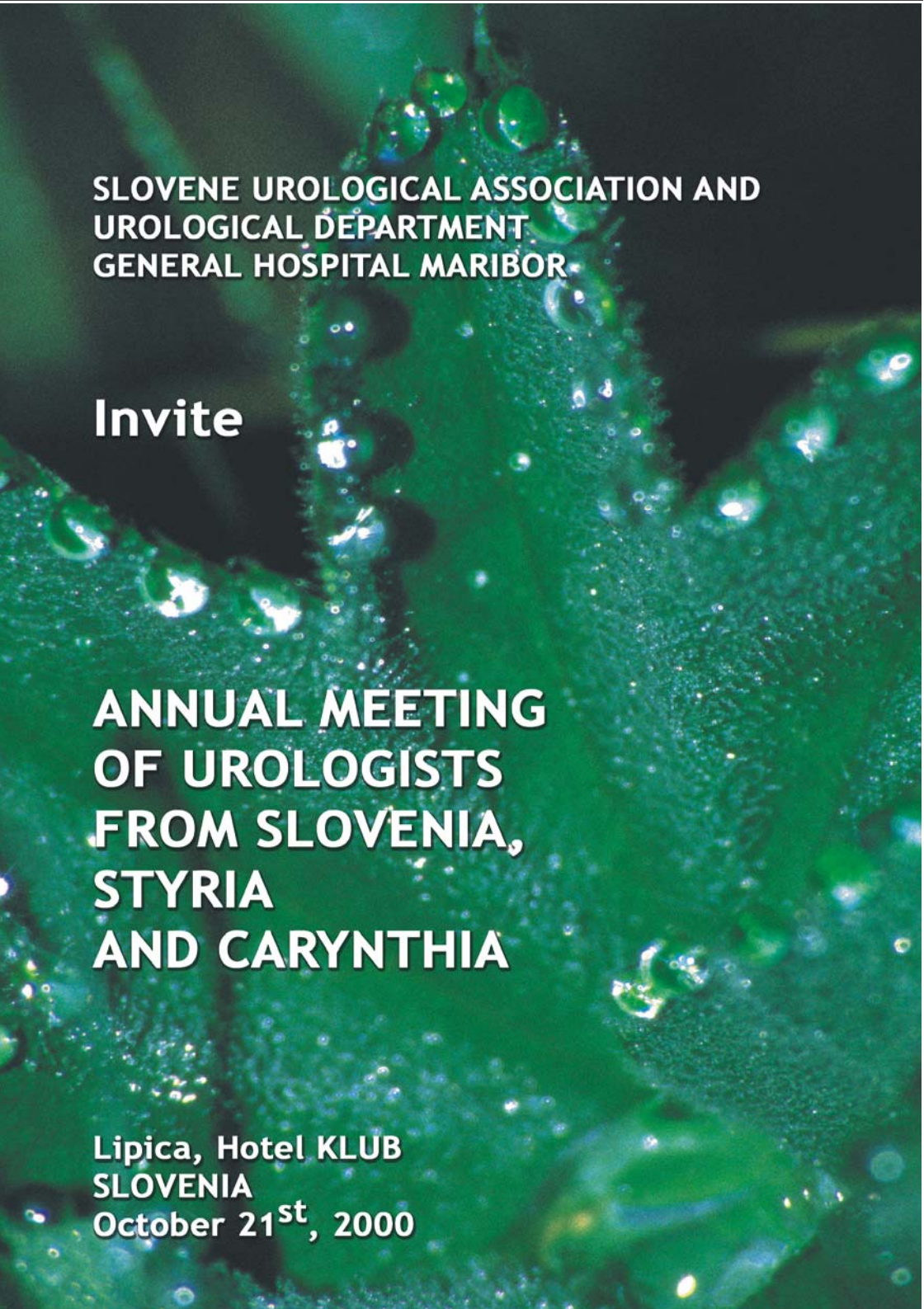
SLOVENE UROLOGICAL ASSOCIATION AND
UROLOGICAL DEPARTMENT
GENERAL HOSPITAL MARIBOR
Invite
ANNUAL MEETING
OF UROLOGISTS
FROM SLOVENIA,
STYRIA
AND CARYNTHIA
Lipica, Hotel KLUB
SLOVENIA
October 21st, 2000

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(30 min)

12. 00

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NEPHRON SPARING SURGERY FOR-RENAL CELL CARCINOMA: RISK FACTORS FOR TUMOR PROGRESSION

R.E. Zigeuner, A. Altziebler, H.Trummer, L, Schips, K. Pummer, G. Hubmer
Department of Urology, University of Graz , Austria

Objectives: Nephron sparing surgery (NSS) for renal cell carcinoma (RCC) has gained increased interest during the last years. We wanted to evaluate risk factors for progressive tumor disease after NSS to improve patient selection for and follow-up managment after this treatment strategy.

Materials and Methods: From 1974 to 03/1999, NSS for RCC was performed 98 times in 95 patients at our institution. Patients undergoing NSS for kidney diseases other than RCC were excluded from this study. The indication for NSS was elective in 48 patients with a normal contralateral kidney and imperative in 47 patients, including 18 with bilateral RCC (either synchronous or metachronous) and 29 with an impaired or missing contralateral kidney not related to RCC. Followup regimen includes renal ultrasound and chest-X-Ray twice and abdominal computed tomography once a year. Progressice disease was defined as local recurrence or metastases. A current followup was available in 93 out of 95 95 patients.

Results: The histological evaluation revealed stage pT-1 in 36 (36,7%), pT-2 in 42 (42,9%), pT-3a in 18 (18,3%) and pT-x in 2 (2,1%) of cases. Mean followup overal was 75,3 months. Tumor progression could be observed in 15 patients, including distant metastases withaut local recurrence in 10 (10,5%), local recurrence only in 4 (4,1%) and both events simultaneously in 2 (2,1%) cases. One patient had local recurrence followed by distant metastates 31 months later. Only one out of 48 patients (2%) after elective NSS had distant metastases, no local recurrence could be seen in this

subgroup. All other 15 events of progressice disease occurred in 14 patients operated under imperative indication, including 6/29 patients (20, 7%) with unilateral and 9/18 (50%) with bilateral cancer. In a multivariate analysis, imperative indication was identified the only independent risk factor for the development of metastases (p=0.039; logistic regression model), whereas other parameters like T-stage, grading, histological type or tumor diameter were not. No independent risk factor could be identified for local recurrence.

Conclusion: Elective nephron sparing surgery for RCC is a safe procedure with excelent long term results, provided that patients are carefully. Patients undergoing NSS under imperatie indication are at significantly higher risk for progressive disease, and require close followup. However, the prognosis in dependent on the development of distant metastates rather than local recurrence, therefore the preservation of renal funciton is justified even in high risk patients.

IS REPEAT TRANSURETHRAL RESECTION (TUR) JUSTIFIED IN PATIENTS WITH NEWLY DIAGNOSED SUPERFICIAL BLADDER CANCER?

L. Ships, H. Augustin, R. Zigeuner, H.Trummer, K. Pummer and G. Hubmer
Department of Urology, Karl Franzens University, Graz, Austria

Purpose: Repeat TUR in patients with newly diagnosed superficial bladder cancer is still controverisal. In the current study we evalueted its role by analyzing 110 consecutive patients.

Patients and Methods: From January 1993 to May 1999 we performed a second TUR in 110 patients (24 females 86 males) with newrly diagnosed superficial bladder cancer. Mean age was 66 years (range 30-85). Repeat TUR was performed within 4 to 6 weeks after the initial TUR. After the first TUR the pathological stage was pTa in 31 (28%) patients, pT1 in 76 (70%) and Cis in 3 (2%), respectively. 44 (40%) patients had multifocal tumors, 63 (57,2%) had solitary lesions. Microscopically 79% of the lesion were papillary and 18% solid in appearance.

Results: Second Tumor was negative in 70 pts. (63,6%). Twenty two (20%) had residual cancer of the same stage, 9 (8,2%) had a lower stage and 9 (8,2%) a higher stage. Initially pTa had no tumor in 19 (61,3%) cases, the same stage in 10 (32 ,3%) and a higher stage in 2 (6,4%). All patients with pTis had residual superficial tumor, either pTis, pTa, pT1 respectively. 51 (67,1%) cases with pT1 had no tumor during repeat TUR, 11 (14,5%) the same stage, 8 (10,5%) a lower and 6 (7,9%) a higher stage. Of14 patients with multifocal pT1 G3 only 6 (42,9%) were tumor free and of13 cases with solid pT1 G3 5 (38,5%) patients had a negative second TUR.

Conclusion: Our data suggest that patients with primary Cis and macroscopically complete resection do not benefit from repeat TUR due to the lack of additional information and the unnecessary delay of topisal therapy. However, for all other patients we recommend a second TUR for several reason: A negative second TUR provides important prognostic informations during further follow-up because of a clear differentiation between persister and true recurrence. Removal of residual cancer is achived early. And finally, patients with either multifocal or solid pT1 G3 tumors are at high risk for residual or even invasive cancer and should be offered definitive therapie as early as possible.

PATIENTS AGE DETERMINES THE IMPACT OF ERECTILE DYSFUNCTION AFTER RADICAL PROSTATECTOMY

H. Augustin, H.Habermann, G. Primus, K. Pummer, G. Hubmer
Department of urology, Karl Franzenz University, Graz, Austria

Indroduction & Objectives: The impact of erectile dysfunction on quality of life following radical prostatectomy (RRP) is well recognized. In this study weinvestigated the existence of age specific differences in quality of life, ego, partnership, and general well-being.

Patients and Methods: A total of 473 patients who underwent RRP between January 1993 and June 1998 were invited to fill out a mailed questionaire including questions regarding quality of life, ego partnership and general well-being. Patients scored each question on a 5-point Likert type scale as no , minimal, moderate, severe, or very severe negative influence. Patients were then goruped by mean age into group one (< 66,5 years) and group two (> 66,5). 32 patients in group one and 37 patients in group two had adjuvant hormonal therapy at the time of evalution.

Results: 368 (77,8%) patients responded. The mean follow-up time from RRP was 38 months (range 12 to 78 months). 277 (75,3%) patients experienced postoperative erectile dysfunction. Mean age was 61.5 years in group one (n=138) and 71,2 years in group two (n=139), respectively. In group one the negative influence on quality of life, ego, partnership, and general well-being was scored as being ,,severe,, or ,,very severe,, by 41,3%, 47,8%, 33,3% and 25% of the patients , respectively, whreas the corresponding figures in group two were 10,1%, 16,6%, 18,7% and 7,9%, respectively.
Conclusions: Our data suggest that the majority of patients undergoing RRP suffer from erectile dysfunction. However, the severity of

how the patients perceive this negative impact on quality of life , ego, partnership and general well.being is highly dependent on patients age.

THE INFLUENCE OF CRYPTORCHISM AND ORCHIDOPEXY ON FERTILITY POTENTAL IN MEN

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B. Tršinar
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Objective: Cryptorchidism is the most common developmental disorder in male children. In newborn the incidence is 2-4%. There is a natural descent in the scrotum in more than 50% of cases after the 1st year of life. For the undescended testes the treatment is essential. Orchidopexy or fixation of testes in the scrotum is the most common operation performed in childhood.

Purpose: The aim of this study was to investigate the influence of unilateral and bilateral cryptorchidism with orchidopexy and age at orchidopexy on men fertility potential. The role of inhibin B was investigated as a new marker of spermatogenesis. the correlation between inhibin B and follicle-stimulating hormone (FSH), between both hormones and sperm concentration and between both hormones and age at operation was studied.

Methods: There were 68 men (age 25-30 years) included in the study, 49 men after unilateral and 19 after bilateral orchidopexy. In the unilateral group there were 26 men operated before 8 and 23 men operated after 8 years of age. The fertility potential in men was estimated with semen analysis: sperm concentration, motility, morphology and testicular volume and hormonal status: FSH and inhibin B concentrations. The differences in fertility potential were analyzed with the nonparametric Mann-Whitney test.

Results: We found that fertility potential was statistically significantly decreased in the bilateral group compared to the unilateral group in sperm motility, in inhibin B concentration, testicular volume and sperm concentration. The following parameters show that fertility potential was statistically significantly better when orchidopexy was performed before the age of 8: higher inhibin B concentration, larger testes, lower FSH concentration and higher sperm motility. There were no statistically significant differences in sperm morphology between the two groups.We found a good correlation between inhibin B and FSH concentrations ($p < 0.001$, $rs = - 0.772$) and between both hormones and sperm concentration. Both hormones correlated significantly with the patient age at operation. All correlations were calculated for the whole group and separately for unilateral and bilateral group. A better correlations were found in the bilateral than in the unilateral group.

Conclusion: According to our results we may conclude that children with cryptorchid testes need to be followed. If spontaneous descent of the testes into the scrotum does not happen in the 1st year of life, orchidopexy for cryptorchid testes is essential. Orchidopexy is important in view of fertility potential, esthetic reasons and of palpation of the testes in case of tumor. Orchidopexy should be performed as soon as possible, or before the age of 8 in patients with bilateral cryptorchidism. The age at orchidopexy is not so important in case of unilateral cryptorchidism. It is essential to follow up the patients after orchidopexy. For the evaluation of spermatogenesis in young patients at risk (bilateral orchidopexy and/or operation at older age) it is recommended to perform hormonal test before semen analysis is done. In case of negative prognosis it is useful to freeze the ejaculate or testicular tissue, as spermatogenesis can further decrease with the time. Follow up of these patients is essential also in view of increased risk for testicular tumor.

URETERAL OBSTRUCTION AS A FIRST SIGN OF CECAL CANCER-CASE REPORT

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A 19 years old male patient was transferred to our department from department for abdominal surgery because of the right sided hydronephrosis, diagnosed by ultrasound. The intravenous urography and retrograde ureterography showed an almost complete obstruction of right ureter about 8 cm above the orificium. We performed an ureteroscopy but couldn't reveal the cause of obstruction and neither did the CT scan. At the open surgery we found the ureter, surrounded by fibrotic tissue that was in continuation with the intraabdominal mass. At further inspection we found that the intraabdominal mass was what it seemed like an inflamed appendix so we performed an appendectomy. At the same time the ureter was freed from fibrotic tissue and a DJ stent was introduced. The hystology showed that the appendix was diffusely overgrown by adenocarcinoma. The patient was then transferred back to the department for abdominal surgery where typhlectomy was done. Hystology showed that cecum was the original site of malignancy. We admitted the patient to our department again a few weeks after the second surgery due to fever and pain in the right lumbar region. The ultrasound showed right sided pyelonephritis with hydronephrosis. After the failure of introducing a new DJ stent a percutaneous nephrostomy was placed. The patient underwent several circles of chemotherapy and momentary doesn't show any signs of progression.

INDIRECTLY DETERMINED COMPLEXED PROSTATE SPECIFIC ANTIGEN AND NEW PARAMETER - COMPLEXED PROSTATE SPECIFIC ANTIGEN DENSITY FOR EARLY DETECTION OF PROSTATE CANCER

Boris Sedmak, Bojan Tršinar, Gregor Homan
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Introduction and abjectives: The aim of the study was to compare the value of indirectly determined complexed PSA, and new parameter - complexed PSA density, PSA density, percentage free PSA and total PSA for early detection of prostate cancer.

Patients and methods: A prospective evaluation included 213 referred men with serum PSA level between 4 and 10 μg/L. Total and free PSA levels were determined. Complexed PSA levels were calculated subtracting free PSA from total PSA. Complexed PSA density and total PSA density was calculated. For determination of prostate gland volume prolate ellipsoid formula was used. All men underwent transrectal ultrasound prostatic examination and ultrasound guided systematic sextant biopsies. Evaluations and statistical comparisons were performed by Mann-Whitney-Wilcoxon test and receiver operating characteristic (ROC) curves.

Results: Of the 213 patients 53 men had prostate cancer (24,9%). Median values for prostatic carcinoma were: PSA 7,4 μg/L, complexed PSA 5,7 μg/L, total PSA density 0,23, complexed PSA density 0,2, free to total PSA ratio 12,31% and for benign disease: PSA 5,9μg/L, complexed PSA 4,75μg/L, total PSA density 0,13, complexed PSA density 0,1 and free to total PSA ratio 19,29%. Median total PSA, complexed PSA, total PSA density and complexed PSA density were statistically higher ($p < 0,002$, 0,0001, 0,0001, 0,0001, respectively) and free to total PSA ratio was statistically lower

($p<0,0001$). Receiver-operating-characteristic (ROC) curves showed that complexed PSA density was most powerful predictor of prostatic carcinoma. ROC curves also showed that indirectly determined complexed PSA in comparison with total PSA, better discriminate patients with prostate cancer from those with benign disease. In patients, a complexed PSA density cut off level of 0,06 detected 98% of cancers and would have eliminated 17% of negative biopsies.

Conclusions: Measurement of complexed PSA density improves specificity of prostate cancer detection in referred patients with minimal effect on the cancer detection rate and can reduce unnecessary prostate biopsies.

PARTIAL NEPHRECTOMY IN KIDNEY TUMORS OUR 5 YEARS EXPERIENCES

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Introduction: There are 3% of men and 2% of women with kidney tumors in Slovenia just like in most European countries.

It is much more frequent with men (1.5:1), mostly they are in their sixties. It affect one or the other kidney almost equally often, in 1% it affects both kidneys. We treat hipernephroma with radical nephrectomy.

Our aim is to show the results of partial resection of the kidney because of the hipernephroma.

Patients and methods: During the last 20 years (from 1980 to 2000) 1167 patients with kidney tumors were treated at the Clinical Department of urology Ljubljana. 115 (9.8%) were treated with partial nephrectomy.

In years 1990-1996 27 patients (14 women and 13 men) were treated with conservative partial nephrectomy. Their average age was 63.4 years, ranging from 33 to 81 years.

US was done with all patients. We decided for renal angiography in 20 cases, in 13 cases for CT or both analysis. All 27 patients were treated with conservative operation and their kidney was spared. We monitored the patients after the operation for approximately 2 and a half years, namely from 1 to 7 years. We checked them with US, X ray examination of chest and lung, laboratory analysis of the kidney's function, scintigraphy, clinical exam.

Results: Tumor's diameter ranged from 2.8 to 5 cm (mean 3.5). In 11 cases in the lower, in 10 cases in the upper and the rest 6 cases in the central part of the kidney.

Typical resection of the kidney was made in 17 cases and in 10 cases the enucleation of tumor. The histopathological analysis of the kidney showed the diameter of tumor from 2 to 4.5 cm, in average 3.3 cm.

In four cases (14.8%) the pathologist proved positive margin, so radical nephrectomy was done in the following weeks in 3 cases, 1 patient was treated with additional partial resection of the kidney.

During the time of observation (from 1 to 7 years, approximately in 2.5 years) all the patients were without recurrence of disease and the rest of the kidney maintained its function. Patients didn't mention any difficulties because of kidney's sparing treatment (they didn't have higher blood pressure neither pains).

According to the Cancer Register of the Republic of Slovenia out of 27 patients with partial nephrectomy there are still 12 alive (on 31st Dec., 1999). There are no data for 6 patients.

9 patients lived for 2.9 years on average after the kidney operation (from 1 to 8 years). In four cases the reason of death was non malignant disease in 3 cases it was renal tumor, in 1 case bladder tumor and in 1 case nonclassified illness.

Conclusion: In the last 20 years we have been noticing the increase of kidney tumors. At the Clinical Department of Urology in Ljubljana we operate more than 100 kidney tumors per year. We do the partial nephrectomy in about 10% of the selected patients. On the basis of our results we conclude that partial kidney resection due to a tumor is the appropriate method of treatment for chosen patients whose tumors are not bigger than 3 cm in diameter and located properly.

According to the professional literature today the suitable size of the tumor, if we want to carry out the partial nephrectomy, is 2cm, because the growth of hipernephroma is usually multifocal.

IMPORTANCE OF THE NUMBER OF PROSTATE CORE BIOPSIES IN EARLY DETECTION OF PROSTATE CANCER

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Introduction: Regarding the articles on early detection of prostate cancer, the number of transrectal ultrasound (TRUS) guided prostate core biopsies is very important. World urological departments are reporting that early detection of prostate cancer is significant improved with taking more then standard six core biopsies of the prostate.

The aim of our study was to find out weather standard sextant core biopsy of the prostate is sufficient for early detection of prostate cancer in patients with borderline raised PSA (4.0 – 10.0) and negative digital rectal examination (DRE) or the number of biopsies should be adapted to the prostate volume. We assumed that in those patients adaptation of the number of prostate core biopsies to the prostate volume will contribute to better detection of prostate cancer and so the treatment and surviving will be more successful.

Patients and methods: Between 1997 and 2000, 140 patients within age 49 and 75 (average 65 years) were examined on Clinical department of Urology in Ljubljana, having borderline raised PSA and negative DRE. These patients have never been treated on prostate (chirurgical or with medicaments), they haven't been on the anticoagulant therapy and at the time of TRUS the active uroinfect has been excluded.

Patients were divided in two main groups. In the first group there were patients with prostate size lower than 40 ccm (average 31,72 ccm) and in the second group were patients with prostate size equal or higher than 40 ccm (average 62,56 ccm).

Using TRUS we performed standard sextant biopsy of the prostate in the half of the patients in each group and in the other half of the patients we did 10 core biopsies of the prostate. Patients for 6 or 10 biopsies have been chosen randomly.

Results: Comparison of the patients that have undergo sextant biopsy (70 patients) with those that have undergo 10 core biopsies (70 patients), without regarding volume of the prostate, doesn't show statistically important difference in detecting of the prostate cancer ($p = 0,084$). Also, there is no statistically important difference between 6 and 10 biopsies in the group of patients with prostate size equally or higher than 40 ccm ($p = 1,0$). Statistically important difference is found only in the group of patients with prostate size lower than 40 ccm ($p = 0,041$).

Conclusion: Regarding our results we are concluding that the number of core biopsies of the prostate in early detection of prostate cancer in patients with borderline raised PSA and negative DRE, should be adapted to the prostate volume. Patients with prostate size lower than 40 ccm should undergo 10 core biopsies. The reason for statistically unimportant difference between 6 and 10 core biopsies of the prostate in the group of patients with prostate size equally or higher than 40 ccm could be in raised PSA produced from the hyperplastic prostate tissue or 10 core biopsies in those patients is still insufficient for early detection of the prostate cancer.

LOCALIZATION OF UROTHELIAL MARKERS DURING TERMINAL DIFFERENTIATION

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Traditionally synthesis of specific proteins is regarded as a marker of cell differentiation. According to this view synthesis of cytokeratins 4, 8, 18 and 20, plus synthesis of urothelium-specific proteins uroplakins Ia, Ib, II and III determine terminal differentiation of urothelial cells in the urinary bladder. We studied the subcellular localisation of actin filaments, cytokeratin 20 and uroplakins in urothelial cells during final stages of differentiation in the rat urothelium. The differentiation was experimentally achieved by a single cyclophosphamide injection that removed differentiated urothelial cells. Remaining cells rapidly proliferated and formed simple hyperplasia. Undifferentiated cells synthesising cytokeratin 17 but not cytokeratin 20 or uroplakins covered such hyperplastic urothelium. Actin filaments surrounded the whole cells as a continuous network under plasma membranes and in the apical region they were arranged into parallel bundles forming numerous microvilli on the cell surface. Later during regeneration synthesis of cytokeratin 17 ceased and instead synthesis of cytokeratin 20 started. At first cytokeratin 20 was diffusely distributed throughout the cytoplasm. At the same time vesicles in the cytoplasm emerged containing uroplakins in their membranes, but they were not inserted into the apical plasma membrane until actin formed a continuous network of filaments. Finally, cytokeratin 20 arranged into a highly ordered three-dimensional mesh and actin filaments disappeared from the subapical regions of cells. Vesicles with uroplakins, now arranged into semi-rigid plaques, began to insert into apical plasma membranes giving them characteristic rigid-looking appearance. These show that not only synthesis of cytokeratin 20, actin and uroplakins but also their specific subcellular localisation are required for urothelial cells to be terminally differentiated.

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