Charakteristisch für das Tumorrezidiv sind die hyperchromatischen, bizarren Kerne und vitale Tumorzellen. In diesen Fällen müssen aus mehreren Stellen der Harnblasenschleimhaut Biopsien zur histologischen Untersuchung entnommen werden.

Abb. 3. Links des cystokopische Bild ein Jahr nach der Resektion und Bestrahlung eines Blasen-Ca, rechts das zytologische Präparat dieses Patienten mit einem Verband vitaler Tumorzellen; das Rezidiv konnte histologisch bestätigt werden.

Zusammenfassend können wir sagen, daß durch die Ultrafiltrations-Imprinttechnik die Harnzytologie heute eine brauchbare Screening-Methode darstellt. Besonders im Rahmen der Kontrolluntersuchung behandelter Blasencarcinome ist die Urinzytologie eine wesentliche Bereicherung, da sie häufig den ersten Hinweis auf ein Tumorrezidiv liefert. Außerdem kann durch ihre Anwendung die Häufigkeit cystoskopischer Kontrollen reduziert werden. Aber auch bei der chronischen, therapieresistenten Zystitis ist die Urinzytologie sinnvoll um spezielle Formen, wie z. B. eine Soorcystitis, nicht zu übersehen.

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D. C. Utz and H. ZINCKE: The Masquerade of Bladder Cancer In Situ as Interstitial Cystitis

Interstitial cystitis is uncommon in males, but in situ carcinoma of the bladder is not. Commenting on a review of 123 cases of interstitial cystitis in males treated at the Mayo Clinic during a 15-year period, Hanash and Pool [1] declared that at least 90% of the patients with this distressing disease were females and that the lesion was difficult to diagnose and manage. Recently, Utz and associates [2] reported that bladder carcinoma in situ was being diagnosed with increasing frequency and that the most characteristic symptoms of this cancer were frequency, urgency, and dysuria, suggesting the presence of cystitis or some irritative bladder disease.

Material

During the 11 years from 1962 through 1972, 486 patients were treated for interstitial cystitis at the Mayo Clinic. Expectedly, women predominated 5:1. The average age of the 408 women
was 58 years (range, 21 to 82 years). The 78 men had an average age of 63 years (range, 35 to 88 years). It has been reported that this disease occurs at an earlier age in men [3].

For 224 female and 53 male patients, the follow-up ranged from $\frac{1}{2}$ to 33 years after the original diagnosis of interstitial cystitis. Bladder cancer was identified subsequently in 3 female patients (1.3%) and in 12 male patients (23%).

**Clinical Characteristics**

Bladder cancer patients presented with symptoms indistinguishable from those of interstitial cystitis. Day and night frequency, urgency, and suprapubic pain relieved by urination were unrelenting, with paroxysms of intensity that created invalidism. Gross hematuria was an unusual occurrence. 9 patients had a transurethral prostatic resection prior to admission, because of the misconception that the vesical irritability was secondary to prostatic enlargement. It was interesting to note the temporary remission of symptoms as the result of distention of the bladder with irrigating fluid during transurethral resection.

On cystoscopic examination the erythematous lesions usually were multiple and located in the base of the bladder or involved only the trigone. Rarely were they found in the dome or high on the posterior wall as is characteristic of interstitial cystitis. Descriptions of the lesions varied from the classic salmon-pink, stellate appearance of interstitial cystitis to the slightly raised, granular, moderately red, mucosal pattern now recognized as representative of in situ cancer. An important observation was the ill-defined margins of the involved areas. The bladder capacity was usually decreased substantially.

Transurethral bladder biopsies were done in 114 patients and were positive in 14 of the 15 patients with cancer. Cytologic examination of the urine was performed on 128 patients, mostly recently, and yielded positive results in all cancer patients on whom the test was done. Pyuria was common, but routine urine cultures were negative.

The time between initial diagnosis of interstitial cystitis and of bladder cancer was usually less than 3 years but varied from a few months to 8 years.

The most characteristic histologic observation was the occurrence of in situ cancer in 12 of the 15 patients; in only 3 was the lesion infiltrating when first discovered. 13 of the cancers were of the transitional variety and were high-grade lesions. 2 were undifferentiated squamous cell cancers.

Cystectomy and urinary diversion were performed initially or ultimately in 9 patients, 2 had radiation therapy, and 4 were treated with transurethral electroresection.

3 patients died of cancer within 2 years of treatment (one with electroresection and 2 with radiotherapy). In these cases, the lesions were high-grade and infiltrating.

**Discussion**

Hunner [4] described the bladder lesion, which bears his name, as a rare type of bladder ulcer in women occurring at the time of the menopause or some time after this change has taken place. If these criteria alone were used to establish the diagnosis of interstitial cystitis, the number of patients with this disease would indeed be limited. On the other hand, it is apparent that in many instances the conspicuous clinical symptoms attributable to this unusual cystitis create a smoke screen that prejudices the cystoscopist to the degree that any bladder lesion he visualizes is thought to be interstitial cystitis. In the female patient, as this review indicates, the hazard of misrepresentation of the bladder lesion is not enormous. However, in the male, the risk is high. The occurrence of interstitial cystitis in a male is so uncommon that the diagnosis must be made only with substantive evidence and circumspection.

Furthermore, in the male patient with symptoms suggesting chronic cystitis or prostatitis but without evidence of significant outlet tract obstruction, bladder cancer in situ must be excluded.

There are well-known handicaps in the recognition of in situ cancer of the bladder.