The YEAR BOOK of

Urology

1977

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JOHN T. GRAYHACK, M.D.

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Introduction

You will note as you read this YEAR BOOK that 159 of the 287 articles have editorial comments appended. These have been made for the most part by Drs. William Boyce, Casimir Firlit, Lowell King, John Nanninga, Thomas Stamey and myself. I enjoy reading the comments made by my colleagues and find them informative and thought provoking. Many of you have indicated a similar reaction and state they represent a very valuable aspect of the YEAR BOOK. Nevertheless, I am concerned by our comments and the increasing number of brief statements by experts appended to Journal articles accepted by critical referees as adequately presenting data. In the latter circumstance, an editorial or letter exchange, separated from the article and competing for the readers' attention, seems a more desirable way to incorporate this type of assessment.

In this day and age when we pride ourselves on individual expression and involvement, we seem to intrude on each other to a greater extent than has been customary in the past; in so doing, we may well be losing the advantage that a thoughtful assessment of a problem by many persons with varied backgrounds provides. In this sense, our government's tendency to proscribe action in greater and greater detail may reflect our own philosophy more than we are willing to admit. I was fascinated by an article entitled "Conversation on Canton" by Chandler Smith and an editorial by W. G. Anlyan, both of which appeared in the April, 1977, issue of *Pharos*. The former, on page 2, described an interview with Hsu Chai-Yu, vice chairman, Department of Medicine, Second Teaching Hospital of Shanghai, by a group of faculty and students from the University of Missouri-Kansas City Medical School visiting China. In the interview, a student asked how it could be called freedom if a medical student cannot choose his own career and cannot choose for himself whether to be an internist or a surgeon. Doctor Hsu responded that the student could express his

wishes and ideas but that the final decision was made by the authorities for the benefit of the state as a whole. He stated that the Chinese did not consider that this was a restriction on freedom because this is good for the state. The editorial by Doctor Anlyan was on page 36 of the same issue and dealt with two aspects of the Health Manpower Act of 1976. For a medical school to be eligible for funding, the Act requires that it accept on a quota basis United States graduates of foreign medical schools who were in school in 1976 and who passed Part I of the National Boards. Similarly, the Act requires that a national or institutional goal of 50% residency training positions in family practice, general medicine or general pediatrics must be achieved to secure continuing capitation support. The article dealing with Chinese practice seems to describe direct individual controls, and the editorial describing our current laws seems to deal with institutional controls that are effectively transmitted to the individual. Individually and collectively we are tending to proscribe action and thoughts in greater and greater detail. This tendency may reflect the summation of our individual wishes, but I suspect that assumption would be open to much question, especially if we believe the goose and the gander will share a similar fate.

This discussion should indicate that the consequences of the comments in the YEAR BOOK are not overlooked or minimized. If the stimulating factor does not exceed the stifling factor, their inclusion should be seriously questioned. So should the continuation of a number of other activities that have become commonplace in our society. Despite these reservations, you must know how grateful I am, and hope you are, to Drs. Boycè, Firlit, King, Nanninga and Stamey for their continued participation in the YEAR BOOK. I am not certain how long they will continue to permit us to intrude on their very limited free time; it is my intention to continue to do so for as long as my requests are tolerated.

JOHN T. GRAYHACK, M.D.

General Considerations

Examination of Urine

Urinary Temperature: Clue to Early Diagnosis of Factitious Fever. The diagnosis of factitious fever is usually not easily made and patients often undergo prolonged and costly evaluations and potentially dangerous procedures. Henry W. Murray, Carmelita U. Tuazon, Isabel C. Guerrero, Mediadora S. Claudio, David W. Alling and John N. Sheagren[1] measured oral, rectal and urinary temperatures simultaneously to confirm factitious fever and then studied a number of febrile patients and normal controls. Studies were done in 28 volunteers and 27 febrile patients with a variety of documented illnesses typically associated with fever. Temperatures were taken with an IVAC thermometer on about 100 ml freshly voided urine, and oral and rectal temperatures were then promptly obtained.

Urinary temperature was found to be predictably related to oral and rectal temperatures and to be a simple and reliable means of promptly distinguishing true from factitious fever due to manipulation of the thermometer. A nomogram was constructed for immediately judging whether a given oral temperature was factitious. Probably all three temperatures should be checked, although it is usually the oral temperature that is manipulated. Return to the patient's room for a urine specimen may be relatively unobtrusive, establishing that the fever is factitious and giving the responsible physicians time to plan a coordinated approach to therapy.

Quantitative Urinalysis: Diagnosing Urinary Tract Infection in Men. The reliability of urinalysis in diagnosing urinary tract infection is still not uniformly accepted, at least partly because of continued reliance on data from analysis of centrifuged urine sediment, a crude method. Daniel M. Musher, Sigurdur B. Thorsteinsson and Virgil M. Airola

(1) N. Engl. J. Med. 296:23–24, Jan. 6, 1977

II[2] determined the reliability of quantitative urinalysis in evaluating urinary tract infections in patients with and without urinary catheters. Studies were done in 25 healthy men, aged 20–37 years (controls); 26 hospitalized men, aged 25–80 years, without infection; 41 male patients with bacteriuria; and 90 hospitalized male patients who had indwelling catheters for periods of several hours to more than 6 months. Clean midstream urine specimens were collected and processed within 30–60 minutes. Urine from catheterized patients was obtained by needle aspiration. White blood cells (WBC) were counted with the use of a hemocytometer, a method not detecting less than 10^3 WBCs per ml. Quantitative bacteriologic studies were done with serial 10-fold dilutions of urine.

The mean WBC count in control subjects was 1.3×10^3, all had less than 10^4 WBCs per ml and 49 had less than 5×10^3 per ml. The urine of 50 of 51 patients had 500 bacteria or less per ml on first or second culture. All but 1 of 41 infected urines from noncatheterized patients contained more than 10^4 WBCs per ml, the mean count being 3.1×10^5. The difference in mean WBC counts between infected and uninfected urine was significant. Pyuria was defined as greater than 10^4 WBC per ml urine. Of 226 specimens from catheterized patients, 68 contained 10^5 bacteria or more per ml, and 62 also contained 10^4 WBCs or more per ml. Three of 6 urine specimens that had greater than 10^5 bacteria with less than 10^4 WBCs were in patients receiving high-dose prednisone. Thirty-five of 40 specimens with less than 10^3 bacteria per ml and greater than 10^4 WBC per ml were from patients who received antibiotics.

Urinary tract infection is regularly associated with 10^4 or more WBCs per ml urine. The finding of 2 or less white cells per low-power field in a drop of uncentrifuged urine is likely to exclude infection. Quantitative urinalysis is useful in screening sick patients, and the results are valid in comparison with those obtained by culturing badly collected urine specimens. The procedure is now used routinely in evaluating patients referred to the infectious disease service. It is especially useful in excluding urinary tract infection in patients who cannot provide clean, midstream specimens and

(2) J.A.M.A. 236:2069–2072, Nov. 1, 1976.

who might otherwise require catheterization. Determination of WBCs per ml in uncentrifuged urine with the use of a hemocytometer should replace the reporting of WBCs per visual field in the resuspended centrifuged sediment.

► [Quantitation of leukocytes, in addition to examination of the centrifuged sediment, adds significant information to urinalysis. Our data from adult women (96 observations) show that the midstream urine from normal volunteers contains 900 ± 2,400 leukocytes per ml; thus, 99% (3 standard deviations) of all midstream urines from normal women will contain less than 8,100 leukocytes per ml, values not too different from the control men described in this article. Because 20% of symptomatic bacteriuric women will present with bacterial colony counts of less than 10^5 per ml (Medicine 56:55, 1977), quantitation of leukocytes is extremely helpful in these instances in confirming bacterial inflammation.—Thomas A. Stamey.] ◄

Yale Studies of Patient Care: II. Use of Urine Culture in Management of Urinary Tract Infections. C. Lynn Morrow, Walter J. Hierholzer, Jr., and Richard V. Lee[3] (Yale Univ.) determined how the results of quantitative urine cultures are used in the management of patients with urinary tract infection (UTI), symptoms of UTI or conditions predisposing to UTI. Review was made of 15,391 patient visits to an emergency room, extended emergency room and general medical clinics in a 3-month period. Of the 638 urine cultures ordered, 16% were positive and 5.2% were borderline. The final study group included 87 patients with positive, 26 with borderline and 87 with negative urine cultures. Risk factors were present in 115 of 155 evaluable patients, and suggestive clinical findings of UTI were present in 112 patients. The combination of risk factors and major clinical findings was present in 71 patients. The clinical history and findings were unreliable indicators of infection. Positive cultures were obtained in 31% of patients with no major clinical findings of UTI, and 37% of patients judged not to be at risk had a positive urine culture.

Half of the 200 study patients received antimicrobial therapy. This was prescribed before the result of the culture was known in 75% of patients with a positive culture and 25% of patients with a negative urine culture. Predisposing conditions or risk factors had no effect on antibiotic use, but only 19% of patients without suggestive clinical findings of UTI received antimicrobial drugs. Of 65 patients with posi-

(3) Yale J. Biol. Med. 49:341–346, September, 1976.

tive cultures who were treated initially, 6 were referred or admitted, 17 returned for follow-up visits and 42 did not return. Only 6 of 16 untreated patients with positive cultures who were not admitted returned, and, of these, 4 received no antibiotics on the return visit. There was no correlation between a positive initial urine culture and a follow-up clinic visit.

The evaluation and management of patients with suspected UTI in a busy teaching hospital outpatient department often proceed with little attention paid to the results of urine culture. The culture findings had little if anything to do with decisions to start antimicrobial therapy in the present survey. There is a delay before culture results are available, and the results are not conveyed to the treating physician as soon as they are available. Similar misuse of cultures has been documented in the office management of pediatric patients and in the management of hospitalized children and adults. The faculty supervising house staff and other physicians in the outpatient department can monitor the effectiveness of the physician's performance by auditing patients' records, with particular attention as to whether or not written recommendations for follow-up care are present.

► [This is a useful study. I find it hard to believe that the same lack of interest in urine culture results on the part of 2d-year medical house officers would have been true in the days Professor Paul Beeson was at Yale University. Education is obviously a very difficult process, even in a university.—Thomas A. Stamey.] ◄

Significance of Urinary Cytology in Early Detection of Transitional Cell Cancer of the Upper Urinary Tract. Horst Zincke, Juan J. Aguilo, George M. Farrow, David C. Utz and Ansar U. Khan[4] (Mayo Clinic and Found.) compared the value of the cytologic findings in voided urine in the presence or absence of concomitant upper urinary tract and bladder tumors with that of the findings in ureteral urine in patients with transitional cell cancer of the upper urinary tract. Of 100 patients seen in 1970–75 with studies of bladder urine cytology, retrograde ureteral urinary cytologic study was done with the use of furosemide diuresis in 18.

Fresh urine was obtained by a clean-catch method or by retrograde ureteral catheterization and filtered under slight

(4) J. Urol. 116:781–783, December, 1976.