URETHROSCOPY AFTER URETHRITIS*

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Inflammation or trauma may produce changes in the walls of the urethra which result in a narrowing of the lumen. This narrowing is caused by the contraction of the fibrous elements in the scar tissue and an acquired stricture is formed.

Campbell (1929) found that 90 per cent. of 1,224 cases of stricture were of inflammatory origin, and stated that stricture formation depends on the severity rather than on the duration of the original infection.

The formation of a stricture is a continuing process over a long period of time. McCrea (1940) states that in 126 men questioned about the dates of their gonorrhoeal infection and their symptoms of stricture, the minimum intervening period was two years. He also stated that Gouley had implied that stricture formation followed severe loss of epithelium. Stephenson (1956) found strictures in 5 per cent. of 243 men investigated for urethral discharge, but gave no details as to when urethroscopy was carried out. Dunlop (1961), four weeks after urethritis appeared to have responded to treatment, found strictures in 4.6 per cent. of 498 patients undergoing routine examination of the urethra by instruments; the sites of the strictures were detailed, but not the types of strictures found, with the exception of two of probable congenital origin. Such a high incidence of stricture seemed at variance with the clinical impression of myself and others, and prompted a review of the findings at one small clinic.

Material

The case notes of 598 consecutive patients were reviewed and classified into the following groups:

Group A.—Forty-two patients with signs and symptoms referable to the urethra but with no signs of an active urethritis; 39 (93 per cent.) underwent urethroscopy.

Group B.—One hundred and four patients treated for non-gonococcal urethritis (NGU); 66 (65 per cent.) underwent urethroscopy.

Group C.—Four hundred and fifty-two patients treated for gonorrhoea; 179 (40 per cent.) underwent urethroscopy.

Of the 284 patients in whom urethroscopy was carried out three were non-European. All the tables in this paper refer to these 284 patients (Table I.)

TABLE I
DETAILS OF 284 PATIENTS UNDERGOING URETHROSCOPY

Patients	Group A	Group B	Group C	Total
Total	39	66	179	284
Urethroscooped	36.3	30.5	24.6	
Average Age (yrs)				
Past History of				
Gonorrhoea . .	7	7	52	66
Past History of				
NGU	6	25	5	36

Management

All those with urethral discharge had stained and wet films examined in the clinic. Results were confirmed by laboratory films and cultures. Routine serological tests for syphilis were carried out on all patients and a gonococcal complement-fixation test on 227. This latter test was done to find a correlation between the results obtained and those of prostatic tests, the past history of genito-urinary infection and the urethroscopic findings. A prostatic bead and culture specimen were sent to the laboratory not less than 28 days after urethral discharge had ceased.

Patients in Group B were treated with various antibiotics and the gonorrhoea cases with penicillin.

Urethroscopy

The aim of urethroscopy in Group A and in a few cases in Groups B and C was diagnostic. In the majority of cases, however, urethroscopy formed part of the final test of cure procedure and therefore was performed as late as possible after the results of the prostatic tests were obtained.

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The interval between admission and urethroscopy is shown in Table II.

TABLE II
INTERVAL BETWEEN ADMISSION AND URETHROSCOPY

Period in Weeks	Group A	Group B	Group C	Total
1-5	22	12	20	54
6-10	6	25	47	78
11-15	7	21	60	88
16-20	4	5	26	35
21-25	—	1	14	15
25+	—	2	12	14
	39	66	179	284

The majority of the 54 patients in whom urethroscopy was carried out between the first and fifth weeks had been treated elsewhere. In Groups B and C 184 urethroscopies were carried out between the tenth and twentieth weeks. All the urethroscopies were carried out by the same observer.

Regarding the technique of urethroscopy, the cannula of the Harrison urethroscope used was the largest that would fall by its own weight into the stretched urethra. In each case urethroscopy was followed by the passage of a curved metal sound and a final wash-out with oxycyanide of mercury 1/10,000. There were no complications following this procedure.

Results

These are shown in Table III.

TABLE III
URETHROSCOPY IN 284 CASES

Method	Group A	Group B	Group C
Prostatic bead and culture ..	All findings negative for gonorrhoea		
GCFT			
Negative	22	46	123
Positive	3	3	17
Doubtful	1	0	9
Urethroscopy			
Nothing abnormal discovered	36	65	176
Abandoned due to carcinoma	1	—	—
Meatus too small for 16 cannula	—	2	5
Intrameatal warts	1	—	1
Stricture	2	—	1
Soft infiltration	—	—	1

Stricture was found in 4 patients (1.4 per cent.) and one other patient had a soft infiltration. Further details of these patients were as follows:

Group A.—

Case 1, aged 48 years, had had gonorrhoea in 1933 (21 years ago) and again in 1949. He complained of pain in the right knee. On examination there were no signs of any active venereal disease and no swelling of the knee, but crepitations were present. GCFT negative, prostatic bead and culture negative. No. 20 cannula held up 4 in. from meatus. Curved sound 8/11 passed to bladder.

Case 2, aged 68, complained of pain and difficulty in micturition for one week. Past history of syphilis in 1928 (32 years ago). GCFT negative, prostatic bead and culture negative. Mucosa hyperaemic, no dilatation with air insufflation.

Group B.—

Case 3, aged 37 years, with non-gonococcal urethritis, past history of venereal disease denied. GCFT positive. Prostatic bead and culture negative. Cannula held 5 in. from meatus. No dilatation with air insufflation. Curved sounds 6/9-9/11 passed to bladder.

Group C.—

Case 4, aged 66 years, had gonorrhoea. Non-gonococcal urethritis twice in 1953 and 1956 (4 years and 1 year ago). GCFT positive. Prostatic bead and culture negative. Curved sound 6/9 held up at posterior urethra.

Case 5, aged 21. This patient attended at the clinic 18 days after infection. Past history of venereal disease denied. His response to treatment was rapid. The discharge had completely stopped 3 days after treatment with 0.6 mega units of Lenticillin. The GCFT was negative, prostatic bead and culture negative. Seventy days after infection urethroscopy was done before he was transferred. Hyperaemia and subepithelial infiltration were present.

Discussion

Treatment of urethritis with antibiotics produces a rapid cure and therefore minimal loss of urethral epithelium. Complete resolution of the inflammation is a slow process and signs of recent inflammation will be present if urethroscopic examination is carried out soon after the discharge has stopped. What constitutes a stricture? By definition narrowing is implied, although Harkness (1950), describes a "urethroscopic stricture" in which there is no narrowing of the urethral lumen, and no resistance to the passage of large instruments. This condition, caused by non-gonococcal urethritis seems to be the term applied to the soft infiltration which he describes. Unless there is a permanent narrowing of the urethral canal with resistance to the passage of an instrument, with or without interference of some sort with micturition, some term other than stricture should be applied to the condition. This matter of definition of stricture could explain the marked difference between our results and those of Dunlop (1961) and Stephenson (1956). Also, meatal hypospadias may simulate a stricture (Harkness, 1950). The histories obtained from these patients with stricture—Case 1 of gonorrhoea 21 years before, who had further treatment for gonorrhoea, and Case 4 with history of non-gonococcal urethritis 3 years and 1 year before attending—corroborate the opinions expressed that strictures of the urethra require

some considerable time to develop. Dunlop (1961) found 4.6 per cent. of his cases of non-gonococcal urethritis to have strictures. The frequency was almost identical in his European and coloured immigrant patients. All but three patients in this series were European and this racial factor cannot account for the difference in the incidence between the series.

Summary

Urethroscopy was carried out in 284 out of 598 patients, and 4 were found to have strictures. A patient undergoing urethroscopy 70 days after infection showed hyperaemia and soft infiltrations. He was the only one to have both. Hyperaemia was common, but this cannot very well be considered, either with or without soft infiltrations, as a stricture. One patient out of 71 of those submitted to urethroscopy (1.4 per cent.) was found to have a stricture which required dilatation. Two presented with symptoms referable to the urethra.

Of those with a recent history of urethritis treated by antibiotics (Groups B and C, totalling 245 patients) only 2 had stricture, and the findings in each suggested that these were likely to be due to old infection.

While the condition of the urethra should be ascertained in all patients without urethral discharge but with symptoms referable to that organ, the usefulness of urethroscopy as a routine procedure during the few months immediately after modern therapy of a first attack of urethritis must be questioned.

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Urétroscopie après urétrite

RÉSUMÉ

L'urétroscopie fut pratiquée chez 284 patients sur 598; on trouva des rétrécissements chez 4 d'entre eux. Une urétroscopie faite 70 jours après l'infection dans un cas montra une hyperémie et des infiltrations non indurées. Ce fut le seul cas où ces deux symptômes furent associés. On trouva l'hyperémie couramment, mais, accompagnée ou non d'infiltrations molles, on ne peut la considérer comme un rétrécissement. Dans un cas sur 71 urétroscopies (1,4%) le rétrécissement nécessita une dilatation. Deux se présentaient avec des symptômes urétraux.

Parmi les cas récents d'urétrite traités par antibiotiques (Groupes B et C comprenant un total de 245 patients) on trouva seulement 2 rétrécissements et l'examen dans chaque cas suggéra qu'elles étaient probablement dues à une vieille infection.

Alors qu'il est certain que l'urètre de tout malade sans écoulement urétral, mais avec symptômes urétraux, doit être examiné, l'utilité d'une urétroscopie systématique quelques mois après le traitement moderne d'une première atteinte d'urétrite peut être discuté.