centage of cures by his psychotherapeutic methods than he obtained by allergic therapy. An interesting observation has been made in this connexion by Wittkower and Petow, that when the asthma has been cured by psychotherapy the allergic skin reaction remains unaltered. For example, a patient with tobacco asthma suffered less with his asthma as the result of hypnotic suggestion, while after psychological treatment of a more analytic kind he lost his attacks altogether for a time.

Recently an experiment in the treatment of asthma has been conducted in the department of psychological medicine at Guy's Hospital by Rogerson, Hardcastle, and Duguid. It had been observed by Dr. H. W. Barber that asthmatic children or children suffering from the eczema-asthma-prurigo complex who were sent to convalescent homes commonly remained free from their attacks while they were away, but relapsed immediately on coming home, or soon afterwards. One case, for example, had an attack on alighting from the train at his destination. Twenty-three children who had been treated unsuccessfully by other methods were chosen for investigation and treatment. The following facts stood out.

As the result of treatment, the duration of which varied from a few weeks only to a year, ten of the twenty-three were free or almost completely free from symptoms, and four were much improved. Four showed some improvement and five were not better. The treatment consisted in educating the parents in their own attitude and in their attitude to the child, and in treating the child either in a manner similar to that used in adult psychotherapy or through his play.

The psychological factors which were discovered were chiefly these. In seventeen of them parental over-protection was prominent. This over-anxiety on the parent's part was due to one of two opposing attitudes—either the child was an only child, or had been for some reason very much wanted (for example, an only boy), or the child had not been wanted at all, and this knowledge conflicted with the maternal conscience and made the mother become over-anxious and fuss the child unduly. In addition, most of the children displayed certain traits of temperament and character which were summed up as high intelligence, over-anxiety, and lack of self-confidence, much latent aggressiveness, and egocentricity in comparison with other children.

Incidentally, the results seem to point to the necessity in speculating as to the psychological significance of asthmatic attacks, of applying Occam's razor—*entia non sunt multiplicanda praeter necessitatem*. The children did not have their attacks in order to get away from parental control or to get parental sympathy. Neither is it necessary to suppose that the anxiety which generated their attacks was a reaction against latent aggressiveness in most cases. It is sufficient in order to explain the results of most of them to assume that anxiety is infectious, which indeed is a matter of common observation; that the parental attitude aroused corresponding fear and tension in the child; and that the latter, with a constitutional or more rarely accidental predisposition to respond with asthma as well as fear, did so as an inevitable resultant of these factors. The tension sympathetically generated had to find an outlet, but it is rare that asthma is symbolically appropriate to the particular psychological cause. The only specific relationship that I see as possible in most cases is that of an underlying constitution which on the one hand makes the subject prone to asthmatic attacks and on the other prone to the excessive development of anxious emotions.

The relationships which have been demonstrated between asthma and psychological factors will also probably be found to hold over a wide range of allied

conditions—that is, in a certain proportion of cases of eczema, prurigo, urticaria, epilepsy, migraine, and what Ryle has called in general the “visceral neuroses.”

BIBLIOGRAPHY

- Dunbar: *Emotions and Bodily Changes*.
 Moos: *Munch. med. Woch.*, 1928, lxxv, 1841.
 Oberndorf, O. P.: *New York State Journ. Med.*, 1935, xxxv, 41.
 Rogerson, Hardcastle, and Duguid: *Guy's Hosp. Reports*, lxxxviii, 289.
 Romer: *Deut. Arch. f. klin. Med.*, 1927, clv, 307.
 Saxl: *Wien. klin. Woch.*, 1933, xlii, 1515.
 Wittkower and Petow: *Zeit. f. klin. Med.*, 1932, cxix, 293.

LISTER'S STRAIGHT BOUGIES IN THE TREATMENT OF URETHRAL STRICTURE

BY

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Notwithstanding the widespread use of gum-elastic bougies for dilating urethral strictures, the employment of such instruments suffers from the disadvantage that with them the surgeon has hardly any guiding control over the point of the bougie. He is therefore in some cases forced to discard the gum-elastic, and to have recourse to rigid metal instruments. On the other hand, it has to be admitted that, while the general use of the latter is preferred by some surgeons, there are cases where failure to pass a metal may be followed by success with a gum-elastic instrument.

In stricture cases where, either of choice or of necessity, the surgeon decides to employ metal instruments, it will be found that Lister's conical curved bougies meet most requirements, and that the average stricture usually offers in skilled hands no great impediment to the passage of these instruments. Nevertheless everyone must have at times experienced exceeding difficulty in negotiating the stricture. In the smaller sizes of the curved instruments the angle at which the point is set to the long axis of the shaft prevents strictly precise handling of the instrument, and the risk of making a false passage with them is by no means negligible. The same difficulty attaches to the use of the finer sizes of Syme's urethrotomy staff, and I shall later have occasion to refer to this.

Early in the course of my surgical education I was introduced by my old teacher, the late Sir Hector Cameron, to Lister's straight metal bougies. I was given to understand that Lister originally devised them for dilating penile strictures; but I had many opportunities of observing Cameron using them for strictures in the usual situation—the region of the bulb—in cases where difficulty had been experienced with the curved instruments. In such cases the passage of the straight instrument opened the way for the comparatively easy introduction of the latter. I quickly adopted this practice, and for a longish period of years now I have been in the habit of employing the straight bougies when required, in all difficult cases.

From conversations with my colleagues it would seem that straight metal bougies are not widely if at all used by British surgeons. That assumption is strengthened by the statement of a leading firm of instrument makers, as well as by the absence of the instruments from such of the London catalogues as I have been able to consult.

Description

By “straight” bougies I do not mean the straight conical instrument size 0.2, included in the set of curved bougies, and known to everyone. The instruments to which I refer form a separate set of twelve, ranging from

1 to 12 (English scale). They are cylindrical, not conical, and with the point rounded instead of olivary (Fig. 1). Excluding the disk-like handle, they measure $6\frac{1}{4}$ inches in length, fully 1 inch shorter than the 0-2 instrument accompanying the curved set. The existence of this latter shows, I think, that Lister was aware of the possibility of a straight instrument being passed well beyond the penile urethra. This possibility was also known to and acted on by Bigelow when he devised the straight cannula for his litholapaxy evacuator.

FIG. 1.—Drawn from bougie in Lister's set in Glasgow Royal Infirmary by Miss Brown Kelly (half natural size).

The set of straight bougies in my possession originally belonged to Sir Hector Cameron, and was given by him to me after he had retired from practice. They are of plated brass, and the larger sizes are hollow, with the rounded end brazed on. The bougies are very light in weight—contrasting with the solid steel conicals, the weight of which is, in the higher numbers at least, a factor in assisting their passage along the urethra. The lightness of the straight instruments permits a delicacy of touch and gentler handling of the urethral wall. The chief advantage of straight over curved instruments is that in the former the point is under direct control, can be more accurately applied to the stricture, and more easily finds and enters its narrow lumen. In handling them the utmost gentleness is called for in order to avoid making a false passage.

Method of Use

In cases where, having unsuccessfully tried to pass a large conical curved bougie (size 9 to 12), I gradually work down to size 4 to 7, or perhaps 3 to 6, and still fail to engage in the stricture, my practice is to change over to the straight instruments. I either work down from No. 3 or begin with No. 1 straightaway.

The patient being recumbent, preferably on a hard couch, and with the penis held vertical to the table or couch, the bougie is taken in the finger and thumb and gently inserted into the urethra. If its advance is hindered or stopped by the stricture, traction is made on the penis in the vertical direction. This alone is sometimes sufficient to clear away the obstruction and allow the instrument to pass. When this is not the case it will be found that, if the bougie be withdrawn a little and then gently readvanced, it will usually engage in the mouth of the stricture. Once that has occurred the instrument is gently passed on until a sensation of obstruction is felt. Whenever that happens the penis, with the bougie kept *in situ* by finger and thumb, is depressed a little towards the patient's feet, and the instrument is passed onwards until the sensation of obstruction is again felt. The depression movement is repeated, followed by further advance of the bougie, and by degrees the penis and bougie are brought down to the horizontal or even lower. Traction on the penis may then be remitted to allow of the instrument being run home. This can be attained only when the handle is well depressed—namely, lying much lower than is required in the case of the curved bougie. Successive sizes are passed until No. 4 or No. 6 is reached, after which it is an easy matter to pass a curved bougie of corresponding size. The further

treatment consists in gradual dilatation on the usual lines.

Whether the straight bougie is long enough actually to enter the bladder might be open to question and would depend on the length of the individual urethra. It certainly passes well into the posterior urethra, and when the handle is fully depressed and the instrument "run home" there is little doubt that the point passes into the pars prostatica at least. In a fresh cadaver with a penis $3\frac{1}{2}$ inches long I was able without difficulty to pass a No. 12 straight bougie and to demonstrate that its point projected well over an inch into the bladder cavity. Such a result may have been due to marked post-mortem flaccidity of the penis.

After-treatment

I have found the straight bougie of very great value in cases of tight strictures through which I had failed to pass curved instruments. The after-course of the cases showed that, while in most of them the way had successfully been paved to the treatment by curved instruments, there were some in which at each return visit for instrumentation it was found necessary again to begin each session with the straight bougies. Since I have found the straight bougies to be a great stand-by both in hospital and in private work, I venture to bring them to the notice of any of my surgical colleagues who may not already be familiar with them.

In Urethrotomy

The difficulty in the use of the smaller sizes of curved bougies may, as mentioned above, be experienced also with Syme's urethrotomy staffs. In such cases, therefore, as may be found to call for external urethrotomy I have been in the habit of using a substitute for Syme's staff. The instruments, made for me by Messrs. Down Bros., are two: a small straight metal bougie and a straight grooved staff. The bougie is intended as a guide for the staff which, No. 10 in the English scale, is $5\frac{1}{4}$ inches long. It is blunt-pointed and straight, and is grooved ventrally along its whole length. The groove should be wide enough to take a No. 1 bougie, and deep enough to bury it completely so that the groove may be appreciable by the finger on the surface of the perineum.

The bougie is passed along the urethra into the stricture; it is held in position while the staff is run along it until the blunt end is stopped at the face of the stricture, in the same way as the "shoulder" of a Syme's staff. Having located the groove by the finger on the perineum, external urethrotomy is then performed, and the ventral part of the stricture divided by successive cuts against the grooved end of the staff. The final steps of

FIG. 2.—Reproduced from the *British Medical Journal*, 1923. (Block lent by Messrs. Down Bros.)

the operation are the same as in Syme's operation. This simple apparatus has already been described and figured in the *British Medical Journal*.¹ In the illustration (Fig. 2), which I owe to the courtesy of Messrs. Down Bros., it will be seen that I have modified the disk-shaped handle of the bougie to facilitate the passage of the grooved staff.

Note

I have not succeeded in finding any published description by Lister of these bougies. They are not mentioned in his *Collected Papers*.² Mr. Le Fanu, librarian of the Royal College of Surgeons, in a personal communication

tells me that he has been unable to trace any original description of them; he adds that "there does not appear to be any reference to these in our collection of Lister's Manuscripts." In Godlee's *Life of Lister*³ it is stated in the appendix that he, Lister, "introduced three improvements in the treatment of stricture." The first was that "he used straight metal bougies about 6 inches in length which enabled him to deal fearlessly and efficiently with the anterior part of the canal . . . for strictures situated further back he devised some curved metal bougies," Lister's special device being the "olive-headed point."

By the kindness of Professor Shaw Dunn, the present curator of the Lister Memorial Collection in the Glasgow Royal Infirmary, I have had the opportunity of examining the set of straight bougies which were presented to the collection by the late Sir Rickman John Godlee. In the MS. *Inventory of Lister Ward and Museum* (at the Royal Infirmary), compiled by the late Professor J. H. Teacher, they form item No. 5, on page 31. The entry quotes a letter from Godlee in which he says that "they [the bougies] were Lister's and he gave them to me." The case contains thirteen bougies, from 0 up to 10, 12, and one not marked, but finer than 0. This last is tapered,

and has a slightly olive-headed point; the others are cylindrical, with a round point (Fig. 1, from drawing made for me by Miss Brown Kelly). The flat, disk-shaped handle is stamped "Young, Edinburgh." In shape they correspond with Cameron's set (*vide supra*), in my possession; but that set is stamped "Gardner, Edinburgh," and ranges from 1 up to 12. Unfortunately, neither of these firms has been able to give me any information regarding specification or date of manufacture.

Summary

1. Metal instruments afford to the surgeon greater accuracy and more direct control over the point.
2. In case of difficult strictures requiring finer sizes of bougies, accuracy and control are greater with straight than with curved instruments.
3. Straight bougies are of great use in opening the path for curved instruments.
4. While metal instruments often succeed where gum-elastic fail, the converse is sometimes true.

REFERENCES

- ¹ Edington: *British Medical Journal*, 1923, ii, 69.
- ² Lister's *Collected Papers*, Oxford, 1909.
- ³ Godlee's *Lord Lister*, 1917, p. 622.

AGE-INCIDENCE AND SEX-INCIDENCE OF MILK-BORNE EPIDEMICS

BY

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In the health department and fever hospitals of Glasgow, where I began to work twenty-six years ago, it was expected that a higher proportion than usual of adolescents and adults would be infected in milk-borne epidemics of scarlet fever or diphtheria, and this was the general experience. I do not recollect when the first observation of the fact was made in Glasgow, but Littlejohn noted it in his annual report for Edinburgh in 1899 as regards scarlet fever, and Claude Ker, writing in 1909,¹ found it to be true for diphtheria as well as scarlet fever. The latter, no doubt accepting as valid the opposite view commonly held in England, suggested that the phenomenon might be peculiar to Scotland and attributable to the use of milk with porridge by persons of all ages in that country. More recently the point has been emphasized in papers by Clarke,² and in a survey of milk epidemics of scarlet fever and diphtheria in the U.S.A. Godfrey found that a similar abnormally high age incidence was common.³ In America, it may be noted, adults consume milk to a much greater extent than we do. These papers must, or should, have been widely read, and it has therefore surprised me to find that students in England are still taught that children and women are chiefly involved in any outbreak of milk-borne infection, and that this statement is repeated in a number of popular textbooks.

My interest in the subject was reawakened when reference to it was made in two recent and admirable books on epidemiology, one by Scott⁴ and the other by Greenwood.⁵ In both of these it is assumed that children are especially affected in milk epidemics, although in the latter the reference is specially directed to the enteric group of infections. When, therefore, Dr. Sleight⁶ published his account of the Chelmsford epidemic and Dr. Clarke pointed out⁷ that the high average age incidence in this outbreak, which had caused surprise, was not peculiar to it, I thought that the subject was worthy of a little more attention. Unfortunately (from the

epidemiological point of view) my personal experience during the past fifteen years has been limited to very small outbreaks of milk-borne diphtheria. I am therefore dependent in preparing this note, which is to be regarded as an attempt to arouse interest in the subject rather than to settle the question, upon figures kindly supplied to me by Dr. Sleight of Chelmsford, Dr. Spong of Slough, and Dr. Macgregor of Glasgow, as well as on certain data published elsewhere.

Scarlet Fever

Recent Glasgow outbreaks may be taken first, as being in conformity with Scottish experience.

TABLE I.—Milk Epidemics of Scarlet Fever: Glasgow

Ages	1			1932		
	Milk Epidemic		All Cases	Milk Epidemic		All Cases
	No.	Per cent.	Per cent.	No.	Per cent.	Per cent.
- 5	48	20.5	25.9	32	40.5	25.8
-10	60	25.6	41.6	14	17.7	39.5
-15	31	13.2	16.4	7	8.9	17.6
-20	20	8.5	6.2	5	6.3	6.5
20 and over	75	32.0	9.5	21	26.6	10.6
Total ...	234	100	100	79	100	100

The age distribution of the larger milk epidemic of 1931 might be regarded as typical—a slight deficiency in the age group under 5 years, greatly accentuated for the 5-10 group, and contrasted with a pronounced excess in persons over 20 years of age. In the smaller epidemic of 1932 an excess at ages over 20 years again occurred, but although there was a slight deficiency at ages under 10 years it was due entirely to the small proportion of cases in the age group 5-10 years, children under 5 years being exceptionally affected. This outbreak was associated with a number of cases of sore throat which were presumably not notified as scarlet fever (a point of interest in relation to the Chelmsford outbreak), and was peculiar in that ten cases of erysipelas occurred among consumers of the milk involved.⁸