Stretching of Anal Sphincters in Treatment of Fissure-in-ano

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From its inception in 1955 up to the present, it has been the practice of this clinic to employ either simple sphincter stretching or internal sphincterotomy in the treatment of fissure-in-ano. In the earlier years internal sphincterotomy was employed almost exclusively, but since 1960 simple stretching of the anal sphincter has become the routine treatment, as part of a deliberate policy to contrast the efficacy of these two operations. We have already published (Bennett and Goligher, 1962) the results obtained in 141 patients treated by sphincterotomy between 1955 and 1962. We now wish to report the results of sphincter-stretching in 99 patients undergoing treatment of anal fissure, mostly between 1960 and 1963. Although the second series is smaller than the first, and the mean period of follow-up shorter, we believe that the series are sufficiently similar to permit a comparative assessment of the two operations.

Clinical Material

Between May 1955 and July 1963 241 patients were treated surgically for fissure-in-ano. They were suffering either from long-standing chronic or recurrent fissures or from acute fissures which had not responded to conservative management. Of these patients 141 were treated by internal sphincterotomy and were the subject of an earlier report (Bennett and Goligher, 1962); one had excision of the fissure; and 99 were treated by sphincter-stretching, the majority during the period 1960-3. Of these 99, 95 have been reviewed by personal interrogation and examination, and they form the basis of this review. Of the four patients not interviewed, two have died and two were unwilling to be interviewed; nevertheless an earlier review had been carried out on each of these patients, and the result of this is included in the final results.

There were 54 males and 45 females, whose ages ranged from 7 months to 79 years. All cases were followed for at least five months, while the longest period between operation and review was eight and a half years. The mean length of follow-up was 21 months.

Operative Technique

In all patients the anal sphincters were stretched under general anaesthesia, and in the great majority this was done as an out-patient procedure. Only in special circumstances was the patient admitted overnight. Dilatation was usually begun by inserting and gradually opening a bivalve speculum, which permitted careful inspection of the site of the fissure. After withdrawal of the instrument, two and ultimately four fingers were introduced into the anal canal. With both forearms strongly pronated, lateral distraction was exerted on the anal sphincters, at first gently but eventually with considerable force, the total period of the stretch being not less than four minutes.

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Particular attention was given to stretching the fibres in the base of the fissure, but hypertrophied anal papillae and sentinel piles were not excised. In male patients the relatively shorter space between the ischial tuberosities often limited the range of distraction in the transverse axis, so that it was found more satisfactory in men to stretch in the anterior-posterior plane. Occasionally some bleeding occurred from splitting at the muco-cutaneous junction, but this was controlled with ease, using direct pressure. It was found that if stretching was performed gradually such tearing was usually avoided. Subsequent bruising in some patients suggested tearing of the muscle fibres, but in no case was disruption of the sphincter noted on palpation, and bruising quickly resolved spontaneously.

Results

Relief of Pain.—This was usually early and complete. Satisfactory relief of pain was obtained in all but five patients. In 75 patients this relief was appreciated within the first day or two of the sphincter stretch, usually at the time of the first bowel action. In 19, however, the pain was relieved more gradually over the course of the first two weeks, but relief of symptoms was eventually complete.

Time Off Work.—It was usual for patients to remain away from work for a few days until they were quite free of pain. This varied from case to case, the mean figure being about eight days.

Recurrence.—The same criteria were used to assess the incidence of recurrence in these patients as were used in the assessment of those cases treated by internal sphincterotomy. If the patients had repeated episodes of pain similar to that experienced before operation, or the presence of a fissure was noted on rectal examination, then they were deemed to have a recurrence. Nine complained of repeated episodes of pain, but only four of these had definite fissures at the time of examination. In addition, two patients had persistent fissures but were free from pain. This makes a total of 11 "recurrences." If we add the five patients who did not obtain relief after operation there is a total of 16 (16%) in whom the treatment did not prove completely successful.

Time of Appearance of Recurrent Episodes of Pain.—Of the nine patients with recurrent episodes of pain, seven experienced further symptoms within six months of operation. Repeated episodes occurred in the other two patients at one year and two years after operation respectively.

Results of Further Treatment.—Some form of further treatment has been necessary in 9 of the 16 patients whose response to treatment was unsatisfactory. Six patients have been treated by internal sphincterotomy, with satisfactory results in five, the other patient having required excision of the fissure. Three patients had a repeat sphincter-stretch, which has been ineffective in all cases, even in one patient when repeated on two occasions. Two of these three patients have had subsequent internal sphincterotomy with satisfactory results to date.

Complications.—These were infrequent, although two patients developed painful perineal oedema within a few hours

of stretching. One of these also developed prolapsed thrombosed haemorrhoids.

Functional Results.—When reviewing the cases treated by internal sphincterotomy it was noted that a surprisingly large number of patients experienced minor defects in anal control after operation (Bennett and Goligher, 1962). Using the same standards of normality, 90 of these patients were also carefully assessed with respect to functional defects occurring after sphincter-stretching. Eleven patients (12%) had imperfect control of flatus, and two (2%) had imperfect control of faeces. Unaccustomed soiling of underclothes occurred in 18 patients (20%). One or more of these imperfections of function occurred in 25 patients (28%).

Discussion

The treatment of fissure-in-ano by simple stretching of the anal sphincters has been practised for many years, and probably originated with Racamier (1829). Its popularity has fluctuated with the introduction of other methods, but it has always retained some support because of its simplicity and the ease with which it can be performed by junior or relatively untrained staff. Advocates of sphincter-stretching have claimed satisfactory results with minimal inconvenience to the patient, but clearly documented evidence on this point is not readily available. We have been able to discover only two papers providing significant information on the results (Mikkelsen, 1951; Graham-Stewart *et al.*, 1961). Mikkelsen claims that stretching of the anal sphincters afforded a cure in 86% of 764 cases of anal fissure on a one- to four-year follow-up, but this bald statement is not analysed in detail. Graham-Stewart *et al.* report on 37 cases of anal fissure treated by sphincter-stretching, and state that 28 of 33 patients reviewed enjoyed "excellent" or "very good" results. Their assessment related only to the immediate results, as no length of follow-up is given and recurrences are not discussed. Unlike that used in the present series, the technique of stretching employed in their patients was short and forceful, lasting for 10 seconds only.

Our results confirm that most patients gain satisfactory early relief of symptoms following sphincter-stretching—94 of the 99 patients in this series. Rarely, however, relief is not obtained, or recurrence of symptoms occurs at some later stage. It is the combined incidence (16%) of these "recurrences" which demonstrates that sphincter-stretching is slightly inferior to internal sphincterotomy in its long-term results. It is also possible that this figure may increase with longer follow-up studies; however, as 14 of the 16 failures were evident within the first six months after operation, it is likely that the majority of these have already revealed themselves. There does not seem to be any correlation between the length of preceding history and the incidence of recurrence. Just over one-third of all our patients had symptoms for a year or more before operation, and the relative incidence of recurrence in these cases was exactly the same as in the patients with a shorter history.

In our previous study (Bennett and Goligher, 1962) we found a recurrence rate of 7% after internal sphincterotomy. This incidence is much smaller than the 16% "recurrence" rate following sphincter-stretching, but it must also be remembered that only 9 of these latter 16 patients have required further treatment.

Although sphincter-stretching does require a general anaesthetic, the management thereafter is simple both for the doctor and for the patient. No special skill is required to perform the stretching, and the patient is able to return home on the same day without the worry of frequent dressings.

The time off work after the operation is usually short, the mean being eight days in the 64 patients of the series where this was applicable. This period is considerably shorter than the average time off work after sphincterotomy, which was 17

days. In addition, anal dressings were often required for many weeks after sphincterotomy, but were rarely required at all following sphincter-stretch.

The incidence of minor defects in anal continence has been determined by detailed interrogation of patients at the time of review. As after internal sphincterotomy (Bennett and Goligher, 1962), such imperfections in control were recorded *only if the patient claimed that the present state was different from that existing before operation*. The relative incidence of these defects, both in groups of patients after internal sphincterotomy and after sphincter-stretch and in a group of normal patients—whose illnesses were not related to the rectum—is shown in the Table. It will be seen that

Type of Patient	No. of Patients Reviewed	Percentage Incidence of Various Defects			
		Impaired Control of Flatus	Impaired Control of Faeces	Unaccustomed Soiling of Underwear	One or More of the Foregoing Defects
Normal group	100	10	3	2	11
After sphincter-stretching	90	12	2	20	28
After internal sphincterotomy	127	24	11	28	43

defects of all types are less common after sphincter-stretch than after internal sphincterotomy. However, unconscious soiling of the underwear was much more common after sphincter-stretch than in the normal group. It is apparent from these results that stretching of the anal sphincters, although producing some imperfections in anal control, is much superior to internal sphincterotomy in this respect.

Summary

The technique and results of stretching the anal sphincters for fissure-in-ano have been reviewed in 99 patients, the mean length of follow-up being 21 months. The outcome is compared with that of internal sphincterotomy previously reported (Bennett and Goligher, 1962). The following conclusions are reached:

(a) Sphincter-stretching almost invariably produces rapid relief from the pain of fissure-in-ano, but is followed by persistent or recurrent pain and/or fissure in about 16% of cases. In this respect it is inferior to internal sphincterotomy, which had a recurrence rate of 7%. However, recurrent symptoms are often mild, and further treatment was necessary in only slightly more than one-half of these patients.

(b) It is an operation that can be performed with ease by relatively untrained staff, and the patient quickly returns to work with the minimum of post-operative care.

(c) Minor defects of anal control occurred in only 28% of patients after sphincter-stretching, compared with 43% after internal sphincterotomy.

(d) For patients requiring surgical treatment for fissure-in-ano for the first time, whatever the duration of symptoms, stretching of the anal sphincters is, in our opinion, the procedure of choice. It provides an excellent chance of relieving pain and a good chance of permanent cure with minimum inconvenience to the patient. However, if further operation should be required for recurrent symptoms we would recommend internal sphincterotomy, as, in our hands, repeated sphincter-stretching has been found to be ineffective.

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