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(Accepted 7 March 1984)

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Sclerotherapy for hydrocele and epididymal cysts: a five year study

The treatment of hydroceles by injecting various agents has been used intermittently over several centuries.¹ Nevertheless, surgery is now recommended as the definitive treatment. The reason injection treatment has fallen out of favour is not clear but such neglect appears to be based on poor evidence.² The early results of a prospective study of sclerotherapy for hydrocele and epididymal cysts were presented in 1979³; this paper reviews the results five years after treatment.

Patients, methods, and results

Seventy symptomatic patients (mean age 63, range 35-86) with one or more hydrocele or epididymal cysts were included in the study (those who had an ipsilateral inguinal hernia were rejected). Some 14 patients had to be excluded as they did not complete the course of treatment; six required surgery as there was a bloodstained tap or the lump did not transilluminate; five failed to attend follow up appointments; and three died of unrelated causes. The 56 remaining patients had 49 hydroceles and 14 epididymal cysts. The method of treatment³ was, in summary, to transilluminate the scrotum to confirm the diagnosis and identify the testis. A size 18 gauge Medicut was then inserted into the upper border of the hydrocele or cyst under local anaesthesia. The Medicut was used because a plastic cannula is less likely to damage the lining of the sac and is unlikely to slip out when the operator is aspirating fluid or injecting sclerosant. The fluid was completely aspirated and its volume measured. The sclerosant (2.5% phenol in water) was then injected: 5 ml into a sac containing less than 50 ml of fluid, 10 ml for 51-200 ml; 15 ml for 201-400 ml; and 20 ml for over 400 ml. The patients were seen every six weeks and the treatment repeated until no fluid reaccumulated.

All 49 hydroceles and 14 epididymal cysts were successfully treated (table). The commonest side effect was testicular pain at injection, which

Details of treatment

Size (ml)	Type	No	Mean no of times injected (range)	Recurrence at 1 year (size of recurrence)	Recurrence at 5 years (size of recurrence)
0-50	Epididymal cyst	8	1.1 (1-2)		
	Hydrocele	4	1.25 (1-2)	1 (40 ml)	
51-200	Epididymal cyst	5	1.6 (1-3)	1 (15 ml)	
	Hydrocele	18	1.7 (1-3)		1 (20 ml)
201-400	Epididymal cyst	1	4		
	Hydrocele	18	1.7 (1-3)	1 (60 ml)	2 (20 ml, 100 ml)
≥ 401	Hydrocele	9	2.2 (1-4)		1 (15 ml)

lasted for only a short time. Eleven developed some epididymal thickening but this was noted only in the large hydroceles; three complained of testicular tenderness for up to two weeks after injection; two developed a mild infection, which resolved with antibiotics; and one patient developed a transient macular rash thought to be an allergic reaction to phenol. One year after treatment two hydroceles and one epididymal cyst had recurred and these were retreated. After five years 11 patients had died and three could not be traced, leaving 42 for assessment; these patients had had 38 hydroceles and

10 epididymal cysts. Four hydroceles recurred (table), but only one (of 100 ml in what had originally been 270 ml) was noticed by the patient.

Comment

The early results of this study confirmed the efficacy of this method of treatment.⁴ Recently Macfarlane using a different sclerosant has reported equally good early results.⁵ The three early recurrences were successfully retreated and had not recurred at the five year review. Three of the patients with late recurrences were asymptomatic and did not require further treatment, leaving a symptomatic recurrence rate of 3% for hydroceles. The testicular pain after injection of the phenol is mild and may be avoided by injecting a small quantity of local anaesthetic into the sac before the phenol. None of the complications resulted in hospital admission. Residual epididymal or testicular thickening after treatment of the larger hydroceles is not surprising in view of the size of the tunica vaginalis. Nevertheless, the end result was always acceptable to the patient given the appreciable reduction in the size of the swelling. The other six complications were minor and might be regarded as unimportant compared with those of operative treatment.⁴

This report refutes the criticism that recurrences are likely to occur over the long term as only one notable recurrence has appeared over five years. Although this method is simple, it must be performed properly. Thus phenol sclerotherapy is highly effective, safe, and cheap. It should always be considered for the treatment of adults and should be regarded as the treatment of choice in the elderly.

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(Accepted 23 February 1984)

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Reversal with balsalazide of infertility caused by sulphasalazine

Sulphasalazine is commonly used to maintain remission in ulcerative colitis but has many toxic side effects including infertility in men. Compounds of the drug have been designed without the sulphonamide moiety, which is thought to be the specifically toxic factor. We used one of these new compounds, balsalazide (5-(carboxy ethylcarbonyl-4-phenylazo)-salicylic acid), to treat three young men who presented with infertility induced by sulphasalazine. We report here the results.

Patients, methods, and results

Three men with ulcerative colitis, in whom remission of disease was maintained with sulphasalazine 2-3 g daily, presented with infertility. Two had a history of relapse after stopping sulphasalazine and had subsequently taken the drug for nine and 12 months respectively. The third had not experimented with withdrawal of treatment and had taken sulphasalazine continually for five years. Two had fathered children before receiving sulphasalazine. After giving informed consent the patients received balsalazide 2 g daily for four months. They were asked to provide semen specimens before and at monthly intervals during treatment; the numbers and motility of their sperms were determined. Full blood counts, serum biochemical tests, and urine microscopy were performed monthly. Clinical examination and sigmoidoscopy were used to monitor the patients' colitis, and rectal mucosal biopsies were undertaken before and after treatment.

Remission of colitis was maintained in all three patients as judged by their symptoms and the sigmoidoscopic and histological appearances of the mucosa. The table shows that the sperm count and motility returned to normal in two patients within the treatment period. The third patient failed to provide more than the initial semen specimen despite repeated requests, but his wife became pregnant during the third month of treatment. No patient reported

Numbers and motility of sperms before and during treatment with balsalazide

Case No	Age (years)	Initially	Sperm count ($\times 10^9$ /l) (normal $> 30 \times 10^9$ /l)				Initially	Sperm motility ($^{\circ}$) (normal $> 50 \%$)			
			After (months of treatment):					After (months of treatment):			
			1	2	3	4		1	2	3	4
1	32	22	25	25	54	60	20	70	70	70	70
2	36	10	10	30	30	40	10	20	50	50	50
3*	30	20									

*No specimen received during treatment; wife became pregnant in third month.

any side effects from balsalazide. There were no abnormalities of haemoglobin concentration, white cell and platelet counts, liver function, or serum electrolyte concentrations. Urine microscopy yielded normal results on all occasions.

Comment

In about 65% of patients with ulcerative colitis remission may be maintained with sulphasalazine 2 g daily for at least a year.¹ Colonic bacteria split the sulphasalazine molecule into 5-aminosalicylic acid and sulphapyridine. The active moiety, 5-aminosalicylic acid,² is excreted mainly in the faeces. Sulphapyridine is absorbed into the blood and probably causes the nausea, headaches, and rashes that preclude the use of sulphasalazine in about 10% of patients. Infertility with oligospermia has also been reported in men receiving sulphasalazine for over two months³ and has been shown to be caused by sulphapyridine.⁴ Substituting an inert, non-absorbed carrier molecule for sulphapyridine could theoretically reduce side effects while maintaining the anti-inflammatory action of 5-aminosalicylic acid. With this aim balsalazide was synthesised by linking 5-aminosalicylic acid and 4-aminobenzylalanine.⁵

After four months' treatment with balsalazide 2 g daily sperm count and motility had definitely returned to normal in two of our patients and had probably done so in the third as inferred from the pregnancy of his wife. Remission of ulcerative colitis was maintained satisfactorily in all three. Balsalazide may be an important new drug for the treatment of young men with ulcerative colitis and an alternative in patients who develop side effects to sulphasalazine.

We thank Biorex Laboratories for the balsalazide used in this trial and the pathology staff who analysed the semen specimens.

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(Accepted 1 March 1984)

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The undescended testicle: a continuing failure

Mal descent of the testis is a common congenital defect occurring in 0.77% of 1 year old boys.¹ Although there is debate about the ideal age for correcting this, data suggest that definitive surgery should be carried out before the age of 5 because if the testis is not in the scrotum then permanent histological damage may occur.² We investigated the ages of referral to a surgeon and the age of operation of all boys having orchidopexy in the Bath Hospitals from 1967 to 1982. In this way we could determine whether the delay was between referral and surgery or whether its cause was late referral.

Methods and results

The Hospital Activity Analysis records and the operating department records were used to recall the notes of all patients on whom orchidopexy was carried out from 1967 to 1982. The number of orchidopexies (table) performed annually from 1967 to 1971 ranged from 24 to 41 (mean 33 per year); from 1972 to 1980 these increased to an mean annual rate of 72 operations (range 55-89) but in 1981 and 1982 decreased to 45 cases annually.

Orchidopexies performed from 1967 to 1982

Year	No of orchidopexies	% Operated on in year of referral	% Under 5 years age	Mean (SD)
1967	41	89	10	10.3 (3.5)
1968	33	93	9	10.2 (3.6)
1969	24	92	4	9.6 (2.7)
1970	31	94	3	10.4 (2.8)
1971	33	100	6	10.0 (2.5)
1972	71	88	7	10.3 (4.8)
1973	62	94	17	9.2 (3.8)
1974	55	97	25	9.8 (6.6)
1975	59	95	12.5	10.2 (5.9)
1976	70	97	8.6	10.2 (5.7)
1977	81	98	16	9.2 (5.1)
1978	89	96	20	8.4 (6.7)
1979	81	97	20	8.8 (4.5)
1980	80	93	22.5	8.8 (4.2)
1981	46	100	21.7	7.3 (3.4)
1982	44	98	36.3	6.9 (3.4)

No specific reason has been elucidated for this decrease, although it may reflect a clearing of the backlog of previously unreferred cases, a decrease in the birth rate, or an alteration in the hospitals to which cases are referred. Most cases have been and are operated on within a few months of referral (mean 4.2 (SD 3.6) months), but the average age of referral has remained high. In the past six years there has been a fall in the referral age to the current (1982) figure of 6.9 years. The percentage having an operation below the age of 5 years remains disappointingly low, although there has been an improvement, with 37% of all orchidopexies performed in boys under 5 in 1982.

Comment

A large proportion of testes noted to be undescended at birth will descend within the first year of life,^{1,3} but probably later descent occurs only occasionally.^{1,4} If the testis is not in the scrotum before the age of 5 histological changes in the testis may become permanent² and some evidence has even suggested that descent by the age of 2 years is desirable.⁵ Although there is debate about the efficacy of orchidopexy in increasing fertility and decreasing the risk of malignant change, undoubtedly the scrotal testis is more easily examined if malignant change should occur.

With the large number of regular examinations performed on babies and infants by obstetricians, health visitors, general practitioners, and school medical officers, all cases of maldescent of the testicle should be detected and referred for a specialist opinion at an early age. Many of these children may have only a retractile testis but a few unnecessary examinations are preferable to the many late referrals that still occur. Our figures suggest that there is an encouraging trend towards early referral for operation, although in this health district there have been no attempts to alter the referral habits of the local clinicians. The improvement seen is likely to reflect only national attempts at lowering the age of referral of these children.

We thank all the consultant surgeons for allowing us to study their patients and Miss C M Fallon for typing the manuscript.

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(Accepted 7 March 1984)

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