

Numbers and motility of sperms before and during treatment with balsalazide

Case No	Age (years)	Sperm count ($\times 10^9/l$) (normal $> 30 \times 10^9/l$)				Sperm motility (%) (normal $> 50\%$)					
		Initially	After (months of treatment):				Initially	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.

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¹ Misiewicz JJ, Lennard-Jones JE, Connell AM, Baron JH, Jones FA. Controlled trial of sulphasalazine in maintenance therapy for ulcerative colitis. *Lancet* 1965;ii:185-8.

² Khan AKA, Piris J, Truelove SC. An experiment to determine the active moiety of sulphasalazine. *Lancet* 1977;ii:892-5.

³ Birnie GG, McLeod TI, Watkinson G. Incidence of sulphasalazine-induced male infertility. *Gut* 1981;22:452-5.

⁴ Levi AJ, Toovey S, Smethurst P, Andrews B. Sulphasalazine and male infertility. In: Jeffcote SL, Sandler M, eds. *Progress towards a male contraceptive*. New York: John Wiley, 1983.

⁵ Chan RR, Pope DJ, Gilbert AP, Sacra PJ, Baron JH, Lennard-Jones JE. Studies of two novel sulfasalazine analogs. *Dig Dis Sci* 1983;28:609-15.

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The undescended testicle: a continuing failure

Maldescent 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.

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² Cohn B. Histology of the cryptorchid testis. *Surgery* 1967;62:536-41.

³ Willumsen A, Zachau-Christiansen B. Spontaneous alterations in position of the testes. *Arch Dis Child* 1966;41:198-200.

⁴ Bevan A. The operation for undescended testes. *Ann Surgery* 1929;90:847-63.

⁵ Mancini R, Rosenberg E, Cullen M, et al. Cryptorchid and scrotal human testes. Cytological, cytochemical and qualitative studies. *J Clin Endocrinol Metab* 1965;25:927-42.

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