A survey of specimens submitted to five English laboratories[2] showed that the most important contribution of the results to patient management was that they helped to exclude particular possible diagnoses. Urine examinations are a substantial proportion of the work of any microbiology laboratory, and it is clearly unacceptable that the reports on up to 20% of such specimens may be misleading. With the help and encouragement of our clinical colleagues we are reviewing both the rationale and the cost effectiveness of microbiological investigation generally. While the major areas of concern are "routine" screening tests, duplicated specimens on the same patient, and out-of-hours requests, substantial savings in time, money, and temper can clearly be made by avoiding self-inflicted clinical confusion like that described here. Reports on other specimens too may be misleading but faults are not generally as easily demonstrable as in urine.

[1] Sandler G. Cost of unnecessary tests. *Br Med J* 1979;ii:21-4.
[2] Spencely M, Parker KJ, Dewar RAD, Millar DL. The clinical value of microbiological laboratory investigations. *Journal of Infection* 1979; **1**:23-36.

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Sjögren's syndrome treated with bromhexine: a reassessment

Frost-Larsen *et al*[1] reported that bromhexine was effective in the treatment of Sjögren's syndrome. At a dose of 48 mg daily lacrimal secretion significantly increased when measured by the Schirmer test. Salivary flow did not improve, but the authors conceded that their methods for assessing salivary function were crude and of doubtful value. Nevertheless, they concluded that bromhexine was the drug of first choice in treating Sjögren's syndrome.

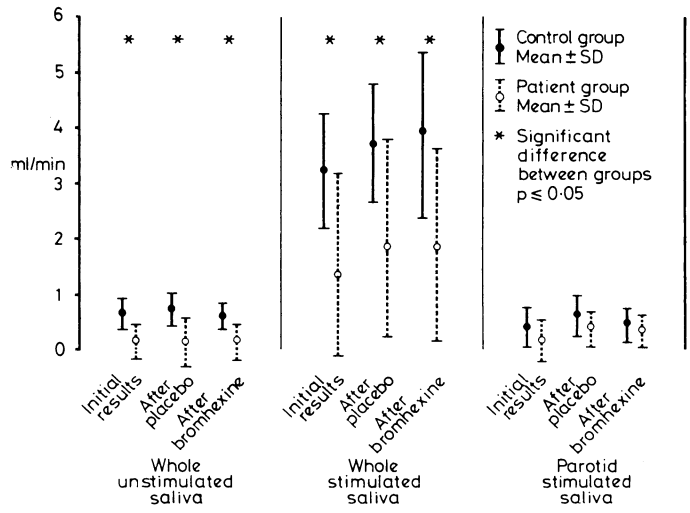
Patients, methods, and results

Using objective tests we investigated whether bromhexine significantly altered lacrimal and salivary function in 14 patients with Sjögren's syndrome,[2] including five with sicca syndrome, and in 11 healthy volunteers. Each patient or volunteer was randomly allocated either bromhexine hydrochloride 16 mg or an identical placebo to be taken by mouth four times daily for two weeks. After a further week without treatment patients and volunteers took the alternative preparation four times daily for a further two weeks. Resting and stimulated whole and parotid salivary flow rates were measured. Lacrimal function was assessed by the Schirmer test and lacrimal lysozyme concentration.[3]

There was no difference in the incidence of side effects reported by subjects when taking active or placebo preparations. Three patients thought that one or more of their symptoms improved while taking bromhexine and four while taking the placebo. There were significant ($p < 0.05$) increases in whole stimulated salivary flow rates in both Sjögren's patients and volunteers after treatment with bromhexine and placebo compared with initial flow rates (fig). Improvement was greater with placebo than with bromhexine in the patients, but the difference was not significant. No significant increases in either Schirmer test values or lysozyme concentrations were detected in response to bromhexine treatment. Seven of the nine patients with Sjögren's syndrome had higher salivary flow rates and seven higher Schirmer-test values with placebo. The patients with sicca syndrome did not show this trend.

Comment

The significant increase in whole stimulated salivary flow rates after bromhexine treatment in Sjögren's patients and healthy volunteers was no more than after the placebo, and is unlikely to represent a pharmacological effect on salivary secretion. Frost-Larsen *et al*[1] and Nahir *et al*[4] were also unable to show that bromhexine increased the production of saliva. Similarly, no subjective improvement attributable to bromhexine occurred in our patients or those of Frost-Larsen *et al*.[1] We have been unable to confirm that lacrimal flow in Sjögren's syndrome is significantly enhanced by bromhexine. In Frost-Larsen's[1] series lacrimal fluid production rose particularly with bromhexine in nine out of 11 patients with Sjögren's syndrome secondary to rheumatoid arthritis or lupus erythematosus. In our series bromhexine showed no such effect; while the placebo was more commonly beneficial among patients with Sjögren's syndrome than those with sicca syndrome.



Salivary flow rates in patients and volunteer controls at initial examination and after bromhexine or placebo.

We have not found that bromhexine is effective in the treatment of Sjögren's syndrome, but harmless placebos may have a valuable place in its management.

[1] Frost-Larsen K, Isager H, Manthorpe R. Sjögren's syndrome treated with bromhexine: a randomised clinical study. *Br med J* 1978;i:1579-81.
[2] Bloch KJ, Buchanan WW, Wohl MJ, Bunim JJ. Sjögren's syndrome—a clinical, pathological and serological study of sixty-two cases. *Medicine* 1965;**44**:187-231.
[3] Mackie IA, Seal DV. Quantitative tear lysozyme assay in units of activity per microlitre. *Br J Ophthalmol* 1976;**60**:70-4.
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Parenteral nutrition at home in management of intestinal failure

Parenteral nutrition can now be continued for long periods and patients can be taught to continue treatment at home. In most cases the inadequacy of the gut is only temporary and feeding by mouth can be started again when the bowel has adapted. Rarely treatment has to be continued indefinitely. Several reports on home parenteral nutrition have come from North America and Europe[1–5] but not from the United Kingdom, although a few centres practise it sporadically. We have treated five cases of intestinal failure of varied aetiology by parenteral nutrition at home. The place of this expensive form of treatment in a society where health care is being subjected to tight cash limits requires careful evaluation.

Patients, methods, and results

Details of the five patients are shown in the table. The indication for prolonged parenteral nutrition was inability to maintain weight and normal