

SHORT REPORTS

Deglycyrrhizinised liquorice in duodenal ulcer

Liquorice extracts from which glycyrrhizinic acid (the substance from which carbenoxolone is synthesised) has been largely removed appear to accelerate the healing of gastric ulcers,¹ and have been claimed to produce symptomatic and radiological improvement in duodenal ulcer.² Deglycyrrhizinised liquorice (DGL) is substantially free of side effects, and therefore any claims of efficacy deserve careful consideration, but there have been no controlled endoscopic trials in visible active duodenal ulcer. Epidemiological evidence also suggests that the stimulation of salivary flow by promoting mastication may be an important protective factor against duodenal ulcer.³ We have therefore carried out a controlled endoscopic trial of DGL given as a chewing gum or in capsules in duodenal ulcer.

Methods and results

Patients with endoscopically active duodenal ulcers who agreed to take part were randomly allocated treatment with DGL (Ulcedal capsules) or a placebo (lactose coloured with caramel), given either as a capsule or in a chewing-gum base. Patients were excluded if they were aged over 70, if surgery was indicated, or if serious coincident disease made repeated endoscopy undesirable. They took two capsules or two blocks of gum five times daily on an empty stomach for eight weeks, each dose containing 900 mg of DGL or the placebo. They swallowed the capsules whole and chewed the gum for 30 minutes. They were advised to eat small frequent meals, avoiding fatty foods, and were given a supply of magnesium trisilicate compound or aluminium hydroxide compound tablets to take as required and asked to record their symptoms. A second endoscopy was performed after eight weeks.

Thirty-four patients were treated, 17 receiving DGL and 17 the placebo, while 20 were given the chewing-gum base and 14 the capsule treatment. Patients receiving DGL and the placebo were comparable in the numbers with symptoms at the start of the trial, the proportion of smokers, and in their mean ages (see table).

Deglycyrrhizinised liquorice and placebo. Comparability and responses to treatment

	DGL	Placebo	Chewing gum	Capsules
Mean age in years	39	37	37	40
Smokers	11	13	16	8
No with symptoms	10	12	14	8
Symptoms: Improved	9	8	10	7
Worse or returned	2	1	2	1
Ulcer: Healed	6	2	4	4
Smaller	1	5	5	1
Unchanged	8	5	8	5
Larger	2*	4*	2	4*
Failures†		1	1	
Total no of patients	17	17	20	14

* Includes patients withdrawn because of acute bleeding.

† Stuck to false teeth.

Few ulcers healed, and the proportions healing in any treatment group were similar to those we have observed elsewhere in patients receiving inactive remedies. None of the variations in healing pattern or symptomatic responses were statistically significant. Two patients suffered complications of ulcer bleeding and had to be withdrawn from the trial, one receiving dummy capsules and the other taking DGL capsules. One patient was withdrawn because the chewing gum stuck to her false teeth. No adverse effects of treatment were noted.

Discussion

Uncontrolled studies in duodenal ulceration have frequently given impressive findings with high proportions of patients being clinically improved. Nevertheless, the beneficial results could simply reflect the natural periodicity of ulcer behaviour. In addition, since there may be no correlation between symptom remission and ulcer healing, trials should be controlled endoscopically.

Our factorial trial design allowed us to assess the value of mastication as an accessory treatment. Patients chewed the gum preparations for over two hours a day, and it would have been unreasonable to prolong this period. We could detect no evidence to suggest that chewing had beneficial effects—for instance, by increasing salivation. Such evidence does not contradict the epidemiological suggestion that duodenal ulcers are uncommon in areas where a fibrous diet is taken, for there may be fundamental differences between factors preventing ulcer development and those which alter healing responses.

Our results give no support to the concept that DGL will accelerate the healing of duodenal ulcers, and corroborate the findings of others in large controlled simple symptomatic studies.^{4 5}

¹ Brogden, R N, Speight, T M, and Avery, G S, *Drugs*, 1974, 8, 330.

² Tewari, S N, and Wilson, A K, *Practitioner*, 1973, 210, 820.

³ Malhotra, S L, Saigal, O N, and Mody, G D, *British Medical Journal*, 1965, 1, 1220.

⁴ Feldman, H, and Gilat, T, *Gut*, 1971, 12, 449.

⁵ Multicentre Trial, *British Medical Journal*, 1971, 3, 501.

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Rose spots in shigellosis caused by *Shigella dysenteriae* type 1 infection

We report here a case of rose spots in *Shigella dysenteriae* type 1 infection. To our knowledge their association with this bacillus has not been reported.

Case report

A 29-year-old white volunteer working in rural Bangladesh for one month in 1975 developed pain in the abdomen and fever followed by bloody and mucoid stools with tenesmus. He was brought to the hospital on the third day of the illness, when he was mildly dehydrated with a radial pulse rate of 108, respiratory rate of 28 per minute, and temperature of 38.8°C. The abdomen was tender. The packed cell volume was 50%; the white cell count $7.5 \times 10^9/l$ with 70% neutrophils. The serum protein concentration was 46 g/l. The stool passed was reddish liquid mixed with mucus. Microscopy showed red blood cells, pus cells, and macrophages.

Before admission the patient had been treated for three days with three litres of physiological saline solution with 5% dextrose, tetracycline, and metronidazole. Four hours before admission he had taken one dose of 500 mg of ampicillin. After admission, Dacca Solution—an electrolyte-containing fluid with Na^+ 133 mmol (mEq)/l; K^+ 13 mmol (mEq)/l; HCO_3^- 48 mmol (mEq)/l; and Cl 98 mmol (mEq)/l—was infused to match the output of stool. He was also given 1 g of ampicillin by mouth every six hours. The patient responded and passed a formed stool on the fifth day. On the third day of his hospital stay nearly thirty rose spots (2–3 mm in diameter) were noted on the patient's body. Most of these were present on both arms but there were a few on the back and abdomen. The spots were raised, blanched under pressure, and were painless. They began to fade on the seventh day and completely disappeared, without leaving any mark. A blood culture taken on admission failed to grow any organism. A stool culture taken at the same time yielded *S. dysenteriae* type 1 which was resistant to tetracycline, chloramphenicol, and streptomycin but was sensitive to ampicillin and kanamycin.

Discussion

Although rose spots are not uncommon in enteric fever, they are extremely rare in shigellosis, having been reported only on three

occasions; in none of these cases was *S dysenteriae* type 1 the causative organism. Two patients had bacteraemia.¹⁻³ Petechial rashes have been seen on some occasions in shigellosis,⁴ but they are quite different from rose spots—which have sharply defined borders and disappear on applying pressure. The size of the spots and absence of itching differentiate them from allergic rashes due to ampicillin. An upsurge of shigellosis due to *S dysenteriae* 1 has been recorded in Bangladesh since the end of war in 1971.⁵ Nevertheless, rose spots were not detected in any one of over 4000 patients seen during the last five years.

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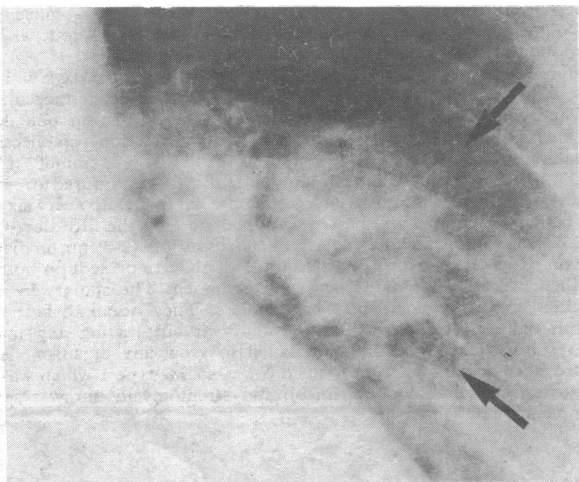
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Fan-shaped shadows due to pulmonary artery catheters: heparin prophylaxis

Since 1971 we have monitored all our patients with myocardial infarction with a Swan-Ganz catheter (5F single lumen or 7F thermol-dilution catheter) positioned in the pulmonary artery. If an AP chest roentgenogram showed that the catheter tip was located too far in the lung fields, the catheter was pulled back 5-10 cm. The lumen was used for intermittent pressure measurements, blood sampling, and intravenous drug administration; it was continuously flushed with glucose 5% in water (with lidocaine added when needed).

By early 1974 we had become aware of curious fan-shaped shadows occasionally observed in the lung fields (fig).¹⁻³ These sometimes resembled the triangular wedge found in pulmonary embolism, but we observed no other symptoms of this condition.



Left parahilar fan-shaped shadow (arrow) at the location of the tip of a Swan-Ganz catheter two days previously. This shadow disappeared over 10 days.

A retrospective analysis of 200 patients showed 20 instances of fan-shaped shadows in the area where the catheter tip had been located. In two patients we found two or three shadows associated with different positions of the catheter tip. The clinical course had always been uncomplicated, and the radiological signs had regressed rapidly.

To prevent thromboembolisms, we administered heparin (50 mg every 6 hours) whenever a Swan-Ganz catheter was used. In addition, KCl was no longer given through the pulmonary artery lumen. In a subsequent series of 201 patients, we found only nine fan-shaped shadows. Heparin had thus halved the incidence of fan-shaped shadows, but they had not been eradicated, suggesting mechanisms other than thromboembolism for their genesis.

Mechanical irritation of the blood vessel by the to-and-fro movements of the catheter tip, or tear of the wall of an arteriole by an excessively inflated balloon^{4 5} could also cause some fan-shaped shadows. This would explain why most (24/29) of the observed shadows were located close to the hilum.

Heparin treatment seems advisable whenever pulmonary artery monitoring is carried out: we have not observed a single haemorrhagic complication in our patient population, and the incidence of fan-shaped shadows was decreased by half.

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Multiple small bowel strictures in a child and accidental potassium chloride ingestion

In the past decade it has become well recognised that enteric-coated potassium chloride tablets may cause strictures of the small bowel.¹ Experimental and clinical studies have shown that these strictures result from the rapid release of potassium chloride when the enteric coat disintegrates in the alkaline medium of the small intestine.² Despite the fact that slow release, non-enteric coated preparations of potassium chloride are virtually free of this complication,³ enteric-coated preparations are still marketed and new cases of intestinal stricture continue to be reported,⁴ typically in adults on long-term medication. We have failed to find any report of this complication in a child.

Case report

A 2-year-old boy was admitted to this hospital about 16 hours after swallowing an unknown quantity of his grandmother's "heart tablets." Gastric lavage retrieved four tablets, which were identified as Salupres, a combination of reserpine and hydrochlorothiazide around an enteric core of potassium chloride. He was discharged home after two uneventful days of observation, but readmitted ten days later with a 24-hour history of abdominal colic and bile-stained vomiting. An abdominal x-ray film showed a complete low small bowel obstruction. At laparotomy this obstruction was found to be caused by omental bands, which were adherent at two points to the antimesenteric border of the terminal ileum. Division of the bands relieved the obstruction, but at both these points the ileum showed a stricture to half its normal diameter for a length of some 3 mm. Two further similar strictures were found more proximally in the ileum, one of which lay at the apex of a short, non-obstructive, intussusception, which was easily reduced. It was elected not to resect the strictures since, firstly, they were not in themselves obstructive, and secondly the natural history of these early strictures is unknown.