second malignancy of colonic or extracolonic origin may be expected to develop later in about one-third of patients who survive their colonic cancer. The bladder cancer that this patient developed may have been induced by irradiation, since the bladder would have been within the field of treatment thirteen years previously. McIntyre and Pointon[4] have shown a causal relationship between the development of bladder tumours and previous external pelvic irradiation. In their series of 950 cases they found 16 patients who had developed bladder neoplasm up to 28 years after irradiation, when they would only have expected nine. Castro *et al*[5] reported 26 patients with colonic carcinoma who had had pelvic irradiation for gynaecological malignancy 5 to 30 years previously. Hence possibly the colonic carcinoma in my patient may also have been irradiation-induced.

This case illustrates two important points: firstly, that radical treatment is not contraindicated for second primary neoplasms; secondly, that routine follow-up after radical treatment and the investigation of new symptoms are worthwhile because of the increased risk of second primary neoplasms. Moertel[1] has shown that the incidence of developing new malignancies increases with each successive new cancer even though the patient's chance of surviving to acquire another lesion decreases progressively with each episode.

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Incidence of protein-losing enteropathy in primary lymphoedema using chromium-51 chloride technique

Several cases of protein-losing enteropathy (PLE) in primary lymphoedema have been reported[1] but no one has yet attempted to discover the true incidence of PLE in this condition.

Waldmann[2] has summarised the various radioactive excretory tests used in the diagnosis of PLE.[2] Our test was based on that described by Walker-Smith *et al*,[3] in which $^{51}CrCl_3$ is injected intravenously and faecal loss estimated. The test was modified in that one-third of the dose was used.

Patients, methods, and results

Fifty-five patients, ranging in age from 2 to 72 years, were studied over two years. Their usual mode of presentation was with either unilateral or bilateral lower limb oedema, and some patients also had arm, facial, or genital oedema. Four patients had diarrhoea. $^{51}CrCl_3$ 30 μCi was injected intravenously, and 1 ml of the solution was analysed for a baseline radioactivity count. Stools were collected over the next five days, taking care to prevent urinary contamination, and the radioactivity of the whole stool sample was measured in a large plastic scintillation counter specially constructed at St Thomas's Hospital.[4] Excretion of more than 2% of the administered dose indicated significant PLE.

We discovered significant PLE in 12 of the 55 patients studied (22%). The percentage $^{51}CrCl_3$ excreted in these patients ranged from 2·5% to 18·4%. Total serum protein was normal in two patients and serum albumin in four patients (see table). Three patients, described elsewhere,[5] had a segment of small bowel excised and were followed for over a year. They maintained clinical and biochemical improvement, the percentage $^{51}CrCl_3$ loss falling.

Gut protein loss and serum proteins in patients with PLE in primary lymphoedema

Case No	Age and sex	$^{51}CrCl_3$ Loss (% of administered dose excreted in 5 days)		Protein (normal 63-79 g/l)	Albumin (normal 38-56 g/l)
		Before operation	After operation		
1	15 F	18·4	9·0*	39	28
2	72 M	16·0		42	24
3	24 F	12·0		47	34
4	52 M	10·8	3·4*	38	29
5	12 M	9·3		55	36
6	2 M	7·2		62	43†
7	2 M	6·6			
8	4 F	6·1		63†	40†
9	15 F	5·9		69†	39†
10	56 M	4·6		51	26
11	11 F	4·0		51	34
12	59 M	2·5	1·5*	60	38†

*Gut resected. †Within normal range.

Discussion

PLE in primary lymphoedema is due to lymphangiectasia resulting from blockage of the small bowel lymphatics. It must be emphasised that serum protein and albumin levels may be normal. In our patients with primary lymphoedema $^{51}CrCl_3$ screening revealed an incidence of PLE of 22%.

The $^{51}CrCl_3$ isotope test is a simple and convenient clinical method of screening patients for PLE in primary lymphoedema. It is also reliable as the isotope has a long bench storage life, and less than 1% of the excreted isotope is reabsorbed in the bowel. The test can be performed on outpatients. An adequate stool output is essential and care must be taken to prevent urinary contamination of the stool (especially in children) as up to 30% of the isotope is excreted in the urine.[3]

We thank Professor J B Kinmonth, under whose care these patients were admitted.

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Residual biliary calculi: dispersal by irrigation of common bile duct

When residual gall stones are shown in the bile duct after exploration further surgery is usually advised, but this is fraught with technical difficulties and a high mortality rate. A reliable non-operative method for removing such stones would obviously be welcome and recently success has been reported using a simple washout technique. This paper reports two further successful cases using this procedure.[1]

Technique

Before starting the washout procedure bile is cultured and, if infected, the patient is started on the appropriate antibiotic. Bile is further cultured if indicated clinically. The washout is performed by connecting the T-tube to a litre of sterile 0·9% saline, to which 40 ml of 1% lignocaine has been added. Probanthine 15 mg is given intramuscularly 30 minutes before the start of the irrigation. The saline is initially dripped in slowly, but once discomfort has settled the saline is allowed to flow rapidly through the T-tube. At the end of the procedure the T-tube is clamped. The criterion for success is a post-washout choledochogram showing the disappearance of the stone(s).