She was treated with Triplopen (benethamine and procaine penicillin with benzyl penicillin sodium) 1·2 megaunits intramuscularly daily for ten days. Two weeks after treatment she could drink alcohol without adverse effect. The lymphadenopathy resolved within three weeks. At six months her Wassermann test result was negative and she had had no recurrence of the pain with alcohol. Her regular consort was treated for early latent syphilis but had no history of alcohol-induced pain.

Comment

The cause of alcohol-induced pain is not known. Brewin[3] has suggested acute vasocongestion and in this case the patient complained of swelling of the neck associated with the pain. It seems unlikely that it is related to the infecting organism as her consort, who was the source of the infection, had no similar symptom. Conn[5] described the prompt relief of symptoms when the condition was due to an infection once this had been cured as happened in this case.

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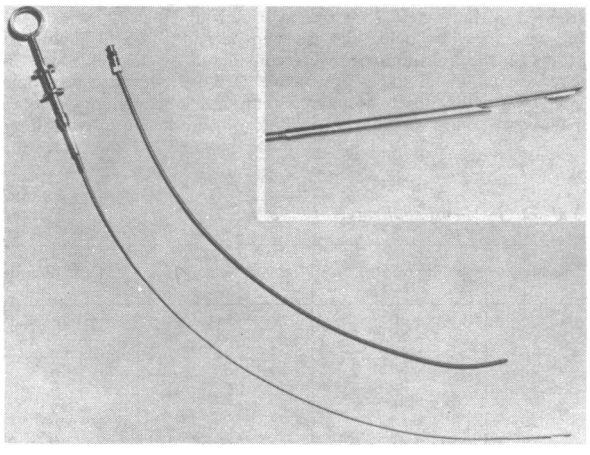
Improved method of transvenous liver biopsy

The transvenous approach to liver biopsy described by Rösch *et al* in 1973 was found to be safe and successful in obtaining biopsy specimens for histological examination in patients with an increased bleeding tendency.[1] The technique has not been widely adopted, however, because the procedure is technically difficult and because the specimens compare unfavourably in size with those obtained when a modified Vim-Silverman Trucut (Travenol Laboratories Inc, USA) percutaneous biopsy needle has been used.[2] We report a new transvenous needle which overcomes some of these problems.

Description, method, and results

The prototype needle was constructed from flexible endoscopy forceps (Olympus Optical Co Ltd, Japan) and the distal end of a Trucut biopsy needle. The jaws of the forceps were removed, and the notched central needle of the Trucut soldered to its central wire. The outer cutting sleeve of the Trucut was then soldered to the flexible outer sheath of the forceps.



Photograph of the catheter and adjustable biopsy needle (inset: Cutting end of needle).

The biopsy mechanism relies on the precise axial orientation of the central needle and the sleeve. This was achieved by locating a pin on the needle within a groove cut in the outer sheath. This created a modified Vim-Silverman cutting end attached to a fully flexible shaft of 50 cm with a proximal operating mechanism (figure). It may be sterilised in an autoclave.

As described,[1 3] the right (or less often the left) internal jugular vein is entered percutaneously using the Seldinger technique, and a 45-cm 9F catheter passed under fluoroscopic control until wedged in a branch of an hepatic vein. The flexible needle is easily passed inside the catheter, and the biopsy specimen taken by advancing the central needle into the hepatic parenchyma and closing the sharp sleeve over it to cut off the specimen. The needle and specimen are removed while leaving the catheter in place, so that further biopsy specimens may be readily taken. Hepatic venography and wedged pressure measurements may also be conveniently performed.

The procedure has been performed by the transjugular approach in 30 patients, most of whom have had prolonged prothrombin times or low platelet counts, and 13 have had cirrhosis. Biopsy specimens were obtained in all 30 patients, and have been diagnostic in all but one. The specimens were of the same size as those obtained by the conventional percutaneous route using a Trucut needle (viz 15-20 × 2 mm), and in particular have shown well the disturbance of architecture in those patients with cirrhosis. They have been greatly superior to specimens previously obtained by the transjugular route.[3]

Comment

The new needle overcomes the main drawback of the method previously described—namely, the small size and fragmentation of the specimens—while retaining the advantages of the transvenous approach.[3] Furthermore, multiple biopsy specimens may be taken without discomfort to the patient once the catheter has been introduced into an hepatic vein, and this may be aimed at a particular site under fluoroscopic control if a localised lesion is suspected. Multiple biopsy specimens may be important in reducing sampling errors—for instance, in assessing chronic hepatitis or cirrhosis—and are useful for additional histochemical or microbiological studies on liver tissue. Also, because of its greater flexibility, this needle will pass into the liver through a catheter introduced through the femoral vein. This approach is being evaluated.

Thus in our experience this design of transvenous liver biopsy needle provides superior specimens and is much easier to use than the rigid needle. As a result, the technique of transvenous liver biopsy may become more widely used when a percutaneous needle biopsy is contraindicated.

We are grateful to Mr D Ford in the Bioengineering Department for making the needle; Dr D Davies and colleagues in the Department of Surgical Pathology; and Miss V Arnold for continuing technical help. ITG was in receipt of an MRC Training Fellowship, and the work was supported by the Special Trustees of St Thomas's Hospital.

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Immunisation of adults against diphtheria

In children adsorbed diphtheria vaccine is a safe, effective prophylactic, but in adults, immunisation is complicated by the frequency of severe local and general reactions. Nevertheless, Edsall *et al*[1] immunised young adult Americans with small doses of adsorbed dipthheria toxoid (1 Lf), without Schick testing, and achieved good results with minimal reactions. An adsorbed vaccine containing a reduced amount of diphtheria toxoid (1·5 Lf) and a normal quantity of tetanus toxoid (7·5 Lf) in a single dose was available from Eli Lilly and Company

(Tetanus and Diphtheria Toxoids Adsorbed—For Adult Use, USP; Adult DT Toxoid). It is recommended for primary immunisation and re-immunisation of adults and older children without prior Schick testing. We report the use of this preparation on medical students, laboratory staff, and nurses.

Study and results

A total of 87 medical students received one dose—0·5 ml intramuscularly—of Adult DT Toxoid and samples of blood were taken from 60 of these, before and 12 days after inoculation. Many had received tetanus vaccine as adults, and most had probably received diphtheria and tetanus vaccine in childhood, but this information could not be confirmed with certainty. Side effects to the vaccine were acceptable and not severe enough to affect normal activity: two students had a painful, red arm and 11 others an itchy red arm; none were febrile. Serum antitoxin concentrations (table) were estimated by a slight modification of the method of Miyamura *et al*[2] for diphtheria, and by the method of the *European Pharmacopoeia*[3] for tetanus.

Antitoxin levels before and after inoculation

Antitoxin IU/ml	Numbers of students	
	Pre-inoculation	Post-inoculation
Diphtheria		
<0·01	19	4
0·01-0·05	9	
0·05-0·15	15	
0·15-1·5	15	28
>1·5	2	28
Tetanus		
<0·01	8	1
0·01-0·03	2	
0·03-0·1	14	1
0·1-1·0	13	2
>1·0	23	56

Given that there is solid protection with a serum antitoxin concentration of 0·01 IU/ml or more, 19 of 60 students tested before immunisation had less than 0·01 IU/ml of diphtheria antitoxin, and eight had less than this concentration of tetanus antitoxin. After a single dose of vaccine the numbers failing to achieve this level of diphtheria antitoxin, and of tetanus antitoxin, were four and one, respectively.

Thirty-one members of staff of the Public Health Laboratory were Schick-tested, and six were susceptible. Three of these six responded to one dose of Adult DT Toxoid, but one required further immunisation. The two others, who were hypersensitive to tetanus toxoid, responded to a small dose (5 Lf) of purified diphtheria toxoid, with no side effects. A single dose of Adult DT Toxoid was also given to nurses in a children's hospital, without prior Schick testing, after contact with a case of diphtheria (Dr T N Stanbridge, personal communication). There were minimal side effects and none were off work, contrasting with severe reactions in nurses given 10 Lf doses of diphtheria vaccine during an outbreak of diphtheria in Manchester in 1971.[4]

Comment

Certain sections of the adult civilian community may require diphtheria immunisation. We have taken as examples medical students, sections of the nursing staff, and laboratory staff. Severe local and general reactions may follow the use of routine diphtheria prophylactics, particularly if hypersensitive subjects are not first excluded by Schick testing. Although toxoid-antitoxin floccules (Dip/Vac/TAF) has been widely used for immunising adults, it contains a little horse serum, which may cause sensitisation. The standard preparations of adsorbed diphtheria vaccine or plain diphtheria vaccine are clearly not optimal for adults, as even as little as 5 Lf of purified unadsorbed toxoid can cause severe reactions.[5] The Adult DT Toxoid may be given without prior Schick testing, and, as most young adults have had primary diphtheria and tetanus immunisation at some time, one dose is often sufficient to produce immunity to diphtheria and tetanus with minimal side effects. If it is essential that the individual is known to be fully immune to diphtheria, the immune state may be checked by Schick testing about two weeks after immunisation, and further doses of vaccine given if required. Many young adults are fully immune to tetanus and some are hypersensitive to tetanus toxoid. For these a preparation of adsorbed diphtheria vaccine (1·5 Lf) without tetanus toxoid would be useful.

We recommend, therefore, that stocks of adsorbed diphtheria vaccine (1·5 Lf), and of adsorbed diphtheria-tetanus vaccine with 1·5 Lf of diphtheria toxoid and 7·5 Lf of tetanus toxoid, preferably in individual doses, should be available for use within the National Health Service.

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Increased prevalence of epilepsy in coeliac disease

Several neurological symptoms and disorders have been described in association with coeliac disease, including paraesthesiae, peripheral neuropathy, and myeloneuropathy.[1]

In 30 patients with coeliac disease Morris *et al* described two who had fits—one grand mal and one myoclonic—giving a prevalence of epilepsy of 6%. Cooke and Smith[2] noted "attacks of unexplained loss of consciousness" in five out of 16 patients with coeliac disease, all of whom had other neurological conditions. The term epilepsy was not used. To our knowledge, an increased prevalence of epilepsy in coeliac disease has not been specifically recorded.

Patients, methods, and results

One hundred and eighty-five treated patients with coeliac disease were circulated with a questionnaire inquiring about the occurrence and frequency of faints, fits, blackouts, and other medical conditions. Altogether 165 patients returned the questionnaire and were eligible for inclusion in the survey. All patients with epileptic symptoms were interviewed by two of us (JML, RC) and reviewed by a consultant neurologist. The criterion for coeliac disease was taken as an original abnormal jejunal biopsy specimen of coeliac type and clinical response to gluten withdrawal. To determine the prevalence of epilepsy in a normal population in the area, 165 age- and sex-matched controls were randomly selected from a Southampton general practice. All controls were circulated with a similar questionnaire; 163 replied, and all those with symptoms suggestive of epilepsy were further investigated in the same way as the coeliac group.

Nine patients with coeliac disease who had admitted to having epileptic symptoms on the questionnaire were considered by the neurologist to have epilepsy (see table), giving a prevalence of 5·5%. Seven (five women and two men) were diagnosed as having temporal lobe epilepsy. No cases of epilepsy were found in the control group, in keeping with a national

Age and sex of epileptic patients

Case No	Age (years)	Sex	Type of epilepsy
1	30	M	Grand mal
2	58	M	" "
3	33	M	Temporal lobe
4*	50	M	" "
5*	63	F	" "
6	47	F	" "
7	17	F	" "
8	36	F	" "
9*	22	F	" "

*Epilepsy improved by gluten withdrawal.