

dosage of amethocaine; moreover, it was administered through a nasal catheter—a very dangerous method, as pointed out by Steinhaus (1952). Case 3 was probably a case of toxicity to the same drug. No history regarding previous sensitization to local analgesics was available in any of the cases. None of these patients had suffered from any obvious allergic disorder, except Case 4.

### Summary

Five cases of hypersensitivity and/or toxicity to amethocaine and lignocaine during bronchoscopy and bronchography are reported.

I thank Drs. J. V. Davies, H. D. Palmer, and N. Whittaker for allowing me to publish these cases. I am indebted to Dr. R. H. Elphinstone for supplying the details for Case 3.

### REFERENCES

- Hancock, P. E. T. (1939). *Proc. roy. Soc. Med.*, 32, 538.  
 Hewer, C. L., and Lee, J. A. (1957). *Recent Advances in Anaesthesia and Analgesia*, 8th ed., p. 121. London.  
 Jackson, C. A. (1949). *Brit. med. J.*, 1, 99.  
 Morrisset, L. M. (1957). *U.S. armed Forces med. J.*, 8, 741.  
 Steinhaus, J. E. (1952). *Anesthesiology*, 13, 577.

## Medical Memoranda

### Subacute Delirious State due to "Preludin" Addiction

"Preludin" (2-phenyl-3-methyl-tetrahydro-1,4-oxazine hydrochloride) has been introduced as a safe treatment for obesity by controlling appetite. The case described below is of interest as an illustration of preludein addiction causing a subacute delirious state, with auditory hallucinations and visual illusions, merging into the dysmnesic syndrome.

#### CASE REPORT

The patient was a single young woman aged 23. At the age of 17 she began taking dexamphetamine sulphate tablets, and two years later had reached her maximum dosage of 17 5-mg. tablets daily. She had been admitted to a mental hospital twice suffering from irritability, restlessness, and difficulty in carrying on as a student nurse. When the drug became no longer freely available on request she began purchasing preludein instead, increasing the dosage until, after 18 months, she was taking 20 tablets daily.

On August 23, 1957, I visited the patient at her home. She was a young woman of average build who was reluctant to enter into rapport to any real extent. She was restless and elated and had a shallow insipid smile on her face throughout the interview. At intervals she broke into outbursts of laughter that had no obvious relevance to her conversation. There was some clouding of consciousness, and it was difficult to hold her attention for an appreciable length of time. During the examination her condition fluctuated, and at times her thinking became incoherent and frankly confused.

After admission to the psychiatric department of a general hospital she remained elated and had periods of moderate confusion. On the day of admission (August 31), and during one of her lucid periods, she stated that she had heard voices speaking to her three months previously and indicated that she had apparently experienced visual illusions. She added, "I imagined I heard voices. They said, 'Pray hard.' I saw one or two hallucinations—things moving. The mirror would move, then the wall, and then the window." There was memory impairment, particularly for recent events. She

gave the date as August 2, 1957, and thought the Prime Minister was President Truman. She was very slow and hesitant in concluding that she had only come into hospital on the day she was being examined.

The personal history showed that when 17½ years old she began training as a nurse but would rarely arrive on duty in time. She failed one of her examinations, had a row with the matron, and was finally discharged from the course. She ran away from her mother and lived in a convent for a short period. For three years prior to admission to hospital she associated with a married man, sexual intercourse having occurred. The history contained nothing else of note. Her mother was a highly strung, irritable woman. Her eldest brother was a nervous individual who suffered from "twitches." A sister had attempted suicide.

After admission she was placed on paraldehyde, 2-3 dr. (7-10.5 ml.) p.r.n., and "parentrovite" (vitamin-B complex and ascorbic acid), 7 ml. of the "high potency" preparation intramuscularly, daily for one week, followed by the "maintenance" preparation, 4 ml. intramuscularly daily for a further week. Subsequently she was placed on "orovite" (vitamin-B complex), 2 tablets t.d.s., and tabs. vit. C., 100 mg. t.d.s.

She responded to treatment quickly. She became more composed and her confusion and elation subsided. Following the rapid improvement in her frank psychotic state, she insisted on leaving hospital, against advice, on September 17.

#### COMMENT

This is a further example of addiction to preludein with a resultant toxic psychosis. Like Bethell's (1957) patient her history showed evidence of marked instability. In addition the family history was adverse. The tendency to preludein addiction therefore would appear to be in line with that recognized for amphetamine sulphate in particular, if not for addiction in general—namely, its restriction to neurotic and psychopathic personalities.

For six months before admission she had been on her maximum dosage of preludein. This phase coincided with the period when she was off work, and it was during this time that she was having sexual relations with her boy friend. It seems possible, therefore, that the drug may have played some part in producing sexual excitement, this being a feature that has been recognized in amphetamine addiction (Bleuler, 1949).

Bethell's patient required approximately 12 preludein tablets in order to experience a similar effect to that produced by "a few" tablets of dexamphetamine. However, Randell (1957) gained the impression that preludein was more powerful than amphetamine. The case reported lends support to the findings of Bethell in so far as after two years' habitual usage the maximum number of dexamphetamine tablets taken was 17, whereas after 18 months' addiction to preludein the maximum number of tablets required was 20. This finding also gives limited support to the claim of the manufacturers that the drug's effect on the nervous system is weaker than that of amphetamine. Thomä and Wick (1954) also concluded, on the basis of experiments with unanaesthetized dogs, that the quantity of preludein needed was six times that of amphetamine to produce the equivalent degree of excitement.

This patient showed fluctuating clouding of consciousness, incoherence of thought, and moderate confusion—the essential features of the "subacute delirious state" (Mayer-Gross, Slater, and Roth, 1954). Also, she had experienced auditory hallucinations and visual illusions, and subsequently she developed the

characteristic symptoms of the dysmnesic syndrome. A clinical picture such as this provides further justification for the view that preludein should not be made freely available to the public, but should be restricted in its sale by placing it on the First and Fourth Schedules of the Poisons Rules.

MAURICE SILVERMAN, M.D., D.P.M.,  
Consultant in Psychological Medicine,  
Blackburn Group of Hospitals.

## REFERENCES

- Bethell, M. F. (1957). *Brit. med. J.*, 1, 30.  
Bleuler, M. (1949). In E. Bleuler's *Lehrbuch der Psychiatrie*, 8th ed, edited by M. Bleuler, p. 326. Springer, Berlin.  
Mayer-Gross, W., Slater, E. and Roth, M. (1954). *Clinical Psychiatry*, p. 296. Cassell, London.  
Randall, J. B. (1957). *Brit. med. J.*, 2, 508.  
Thomä, O., and Wick, H. (1954). *Naunyn-Schmiedeberg's Arch. exp. Path. Pharmac.*, 222, 540.

## Pancreatico-gastric Fistula due to Giant Gastric Ulcer

Posterior penetration is a relatively common complication of gastric ulceration, being noted in 15-20% of patients treated surgically (Haubrich, Roth, and Bockus, 1953). In most cases the pancreas is the organ which is penetrated (Ruffin, 1951), but no reports have been found describing the transection of the main pancreatic duct by the ulcerative process. In the following case a giant gastric ulcer had destroyed a segment of the duct 2 cm. long, with the result that the pancreatic secretion was being discharged into the stomach.

## CASE REPORT

A 72-year-old man was admitted to hospital complaining of increasingly severe epigastric pain for four years. He had lost some weight, and had had a small melaena. On examination there was marked tenderness in the left hypochondrium. A barium-meal examination revealed a very large gastric ulcer on the lesser curve, but there was no reflux of barium along the pancreatic duct.

At operation a benign ulcer, 3.5 cm. in diameter, was found midway along the lesser curvature of the stomach, penetrating posteriorly into the pancreas. The ulcer was "nipped" off the pancreas without undue difficulty, and a two-thirds gastric resection and Billroth I anastomosis were performed. At the end of the operation, when the pancreas was again drawn forward in order to dust the ulcer floor with penicillin powder, it was found that a segment of the main pancreatic duct 2 cm. long had been completely destroyed by the ulcer. The divided ends of the duct were clearly visible at each side of the ulcer crater, and from them pancreatic juice was flowing rapidly. It was possible to pass a small rubber tube (3 mm. diameter) into the left part of the duct, but not into the right part.

Most of the pancreatic secretion was pouring into the peritoneal cavity, and it was therefore decided to anastomose the ends of the divided duct to a defunctioned loop of bowel. An entero-anastomosis was made across the base of a proximal loop of jejunum, which was then brought up behind the transverse colon. The friable ends of the divided duct were unsuitable for direct anastomosis to the jejunum. An opening 1 cm. long was therefore made in the apex of the loop, and through this opening was threaded the end of the rubber tube previously passed into the left portion of the pancreatic duct (see Fig.). The top of the loop was then carefully stitched to the edges of the ulcer crater on the pancreas, and the remains of the gastro-colic omentum were tacked around it.

As soon as he recovered consciousness the patient was given 30 mg. of propantheline bromide ("pro-banthine"), and subsequently received 15 mg. three times a day, with an

additional 30-mg. dose each night for 10 days. Recovery was uneventful, and 16 days after operation the piece of fine rubber tubing was passed.

Nine months later the patient was free from symptoms and gaining weight. There was no evidence of pancreatic insufficiency or cyst formation.

## COMMENT

The accessory pancreatic duct is sometimes injured by a penetrating duodenal ulcer, or during the performance of subtotal

gastrectomy for this type of ulcer (Millbourn, 1949). The relative immunity to injury of the main pancreatic duct is surprising, since the duct is situated in the antero-superior part of the body of the pancreas close to the common site of gastric ulceration (Millbourn, 1949). The wall of the main duct may be more resistant to erosion and destruction by the ulcerative process than is the remainder of the gland tissue. Alternatively, some of the cases of external pancreatic fistulae which develop after gastrectomy may be due to failure to notice at operation that part of the main duct had been damaged or destroyed. Careful inspection of the crater may be necessary to detect the ends of the ducts; a final inspection just before closing the abdomen may reveal a considerable quantity of pancreatic juice in the vicinity of the pancreas.

If a divided duct is found it must be decided, by probing or injecting dye, whether it is the main or the accessory duct. The ends of the accessory duct can be ligated with unabsorbable thread (R. B. Cattell, 1957, personal communication), but if part of the main duct has been destroyed some type of pancreatico-intestinal anastomosis will be necessary; the details of the actual procedure employed will depend on the site and size of the fistula. Propantheline bromide is a powerful inhibitor of pancreatic secretion (Sinclair, 1956), and its administration in the immediate post-operative period may help to protect the anastomosis until the risk of leakage has passed.

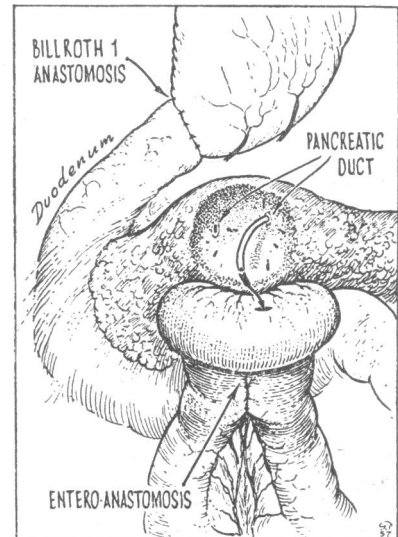
We are grateful to Mr. G. A. Smith for the drawing.

M. LAVERY, M.Sc., F.R.C.S., F.R.C.S.Ed.,  
Senior Surgeon, Belfast City Hospital.

J. KYLE, M.Ch., F.R.C.S., F.R.C.S.I.,  
Lecturer in Surgery, University of Liverpool.

## REFERENCES

- Haubrich, W. S., Roth, J. L. A., and Bockus, H. L. (1953). *Gastroenterology*, 25, 173.  
Millbourn, E. (1949). *Acta chir. scand.*, 98, 1.  
Ruffin, J. M. (1951). In *Peptic Ulcer*, edited by D. J. Sandweiss, p. 685. Saunders, Philadelphia and London.  
Sinclair, I. S. R. (1956). *Brit. J. Surg.*, 44, 250.



A drawing of the operative procedure employed.