experience suggests that this type of acute anxiety reaction tends to occur more often during hypnography than in verbal hypnoanalysis.

An inadequate, dependent young man was receiving treatment for loss of confidence. When hypnotized he was given a crayon and told that his hand would draw something that represented his problems. With a rhythmical movement he made a series of marks on the paper. He became more and more preoccupied with what he was doing. The rhythmical character of the movement became more pronounced. His expression was very intense, and it seemed obvious that the drawing was a sexual equivalent. He began to verbalize his thoughts, and the sexual nature of the activity was confirmed. He abreacted a good deal of emotion. Hypnosis became lighter. He suddenly turned very pale and started to sweat. He woke from hypnosis spontaneously. In a shaky voice he said that he thought he had woken up and thought he was going to vomit. He became intensely tremulous; the sweating was profuse; his pulse was rapid and of poor volume. He looked alarmingly ill. He was immediately rehypnotized and given suggestions of calm and well-being. His physical condition was restored in ten to fifteen minutes. In subsequent sessions care was taken to maintain an adequate depth of hypnosis, and no further complications were encountered.

At the Inability to Fulfil a Post-Hypnotic Suggestion

Post-hypnotic suggestion is the spear-head of suggestive therapy, but this extremely useful weapon may at times be the means of precipitating an acute anxiety reaction. There is an extremely compelling quality about a post-hypnotic suggestion, and if the patient is unable to carry it out an acute anxiety reaction may result. In this respect it does not matter whether the patient is prevented from fulfilling the suggestion by reason of outside environmental factors or by reason of psychic factors within himself.

Accordingly, in suggestive therapy, specific post-hypnotic suggestions are best used sparingly and only when it is as certain as possible that the patient has both the material and the psychic means of carrying out the suggestions. On the other hand, non-specific post-hypnotic suggestion has not the same power to produce anxiety reactions, but nevertheless can give suitable patients considerable symptomatic relief.

A man of obsessive personality sought relief from particularly intractable insomnia of many years' duration. The severity of the insomnia had been confirmed by the hospital night staff, who reported that the patient hardly slept at all. He had previously been treated by narcoanalysis, "somnifaine," and E.C.T. without benefit. At different times he had been addicted to both paraldehyde and chloral hydrate. He also complained of irritability and uncontrollable rages. He was easily hypnotized, and after several sessions he was given the strong post-hypnotic suggestion that he would sleep each night without sedative until I saw him in a week's time. He was unable to fulfil the post-hypnotic suggestion, and arrived for the next appointment in a state of acute anxiety and covered with a generalized dermatitis. He was given suggestions of calm and relaxation, and ordered to take a sedative at night. In a week's time both the anxiety and the skin condition had subsided. He subsequently gained almost complete relief from the irritability and rages, although the insomnia persisted.

Discussion

Recent British and American literature suggests that there is a revival in the use of hypnosis, not only by psychiatrists using specialized hypnoanalytical techniques but also by the profession in general. Fortunately, acute anxiety reactions are not common, but when they do occur they may be alarming on account of the severity and the rapidity of onset. During the hypnotic session such reactions may occur from the sudden realization of having been hypnotized, or following the sudden awareness of repressed material. In each case the situation is met by immediately increasing the depth of hypnosis or by rehypnotizing the patient. Hypnosis with suggestions of calm allows the usual psychic defence mechanisms to re-establish themselves, and material that is too traumatic at the present degree of insight is automatically repressed again. Any attempt to deal with this type of acute anxiety at a conscious level is likely to get out of hand, and is best avoided.

Anxiety reactions from the inability to fulfil a post-hypnotic suggestion usually occur in the absence of the therapist. Such reactions can be minimized by using non-specific post-hypnotic suggestion, where possible, in place of specific suggestion. Specific suggestion should be used only when it is reasonably sure that the patient has both the physical and the psychic ability to fulfil the suggestion.

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TRAUMATIC RUPTURE OF THE PANCREAS

BY

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Traumatic subcutaneous rupture of the pancreas is a relatively rare condition. It was first reported by Travers (1827), whose patient was crushed by the wheel of a coach. The subject was reviewed by Stern (1930). Phillips and Seybold (1948) noted that the diagnosis was made pre-operatively in only 4 out of 15 cases found in the literature of the previous ten years. The pancreas lies deeply in the abdomen and is normally well protected against possible injury. However, Aldis (1946) pointed out that if the abdominal muscles happen to be flaccid at the time of injury the pancreas may be crushed against the vertebrae, even by mild force. A variety of other mechanisms may cause pancreatic injury; in a case described by Keynes (1944) rupture was apparently due to blast from an under-sea explosion. As might be expected, injury to the pancreas is often accompanied by damage to other abdominal organs, as in Travers's case, when both duodenum and jejunum were involved. This often complicates early diagnosis but makes operative treatment imperative. The case reported below was one of complete rupture of the pancreas occurring as an isolated injury due to an apparently minor blow.

Case Report

The patient was a young man, aged 20, in good health, with no previous medical history of note. About 24 hours before admission to hospital, while playing football, he had received a blow in the epigastrium from a player's knee. He felt "winded" and nauseated at the time. After a brief rest he returned to the field of play, but had to leave after a few minutes because he felt dizzy. He was able to go home after visiting the casualty department, where no serious symptoms or signs were found. Only slight epigastric pain was felt over the next few hours, but after a meal he vomited three times. The pain also became severe in the entire upper abdominal area. It was worse on moving and hiccuping. There was no pain in the shoulders or back. The pain and vomiting persisted during the night until his admission to hospital the following day.

When first seen he seemed in good general condition and had only moderate epigastric pain. The axillary temperature was 99.2° F. (37.3° C.), the blood pressure 120/80 mm. Hg, and the pulse 88. He was well coloured, the extremities were warm, and the veins were well filled. There was no wound or bruising of the abdominal wall. Only a minor degree of abdominal tenderness was present, generalized but more noticeable on the left side of the abdomen and in the left flank. No true rigidity was found, but there was some increase in muscle tone, again more pronounced on the left side. It was thought that a small amount of fluid was

present in the peritoneal cavity, as shifting dullness was elicited on the left side. Liver and spleen were not palpable. Bowel sounds were diminished, only an occasional sound being heard. Physical examination was otherwise negative. The urine was normal. Radiological examination of the abdomen showed slight gaseous distension of two loops of small intestine in the mid-abdominal region. During the next few hours an improvement occurred; the pulse remained between 70 and 80 and the temperature was 99° F. (37.2° C.). After drinking a cup of tea the symptoms returned; the pulse rose to 86 and the temperature to 101.6° F. (38.7° C.). There was a slight increase in abdominal tenderness and guarding. At this point, about 30 hours after injury, operation was carried out.

Under general anaesthesia, the abdomen was opened through a left paramedian incision. A mild peritonitis was present and a few ounces of blood was found in the left paracolic gutter and in the pelvis. A number of small white plaques were present in the mesentery of the proximal jejunum and in the retroperitoneal region, immediately to the left of the duodeno-jejunal flexure. Oedema and a dirty brown discoloration were seen in the lesser omentum and in the transverse mesocolon. On opening the lesser sac below the greater curvature of the stomach, the pancreas was found to have been completely transected from its upper to its lower border. This had occurred in the region of the portal vein and mesenteric vessels, so that the superior mesenteric artery could be seen pulsating, lying freely immediately behind the torn edge of the right segment of the pancreas. The two parts of the pancreas were separated by a distance varying from 1 to 2 cm. Very little blood was found in the neighbourhood of the injury and no active haemorrhage was occurring. The tail and distal part of the body of the pancreas were oedematous and felt hard and tense. The only other injury found was a small tear 5 cm. long on the costal surface of the right lobe of the liver involving little more than serosa. The abdomen was closed after leading a soft rubber drain to the site of rupture of the pancreas. No repair of the pancreas or pancreatic duct was attempted. The patient's condition at the end of operation was good, the blood pressure being 120/82 and the pulse rate 118.

Post-operative treatment was directed towards keeping pancreatic secretion at a minimum until healing of the pancreas had occurred, with a view to avoiding or minimizing pancreatic necrosis due to the liberation and activation of pancreatic enzymes. Little or no fluid was given by mouth for the first 48 hours after operation, and only 1.5 litres of intravenous fluid was given initially. Intravenous fluid therapy was then discontinued, as it was thought that the water administered might well increase the volume of fluid available for pancreatic secretion. In addition, propantheline bromide was given by mouth in a further effort to restrict the secretion of pancreatic juice. Dosage varied between 15 and 60 mg. daily, and a total of 390 mg. was given over

the first 10 days. On one occasion, 24 hours after treatment, the drug was temporarily stopped, as the blood pressure had risen to 170/120. This rise did not recur when treatment with the drug was resumed.

The progress of the pancreatic lesion was followed by frequent estimation of the serum amylase. On admission, before operation, the level was 4,180 Somogyi units, rising to 4,600 units after operation. The series of estimations are shown in the Chart. Morphine was not used to control pain, because of its tendency to cause spasm of the sphincter of Oddi. Pethidine was found to be effective, but was required in a dosage of 300 mg. daily for the first three days. By the fifth post-operative day the pain had practically gone, but the patient was very restless. He found it increasingly difficult to swallow fluids and became extremely dehydrated. His weight fell to 6 st. 6 lb. (40.8 kg.) from a normal of 9 st. 11 lb. (62.1 kg.). On the following day the axillary temperature rose to 100° F. (37.8° C.) and a degree of peripheral circulatory failure was apparent; the blood pressure was 104/90 and the pulse rate 120, the extremities were cyanosed, and there was very poor filling of the skin vessels. Examination of the blood gave the following results:

Serum Na	340 mg. per 100 ml.
Serum K	22 " " "
Serum chloride	620 " " "
Co ₂ combining power	46 vols. %

An intravenous infusion of dextran raised the blood pressure to 125/90, and water was given in the form of 5% glucose intravenously over the next 72 hours, by which time he was able to drink adequately and had made a striking clinical improvement. At the time rehydration was complete, coinciding with the end of propantheline therapy, a discharge of pancreatic fluid began from the drainage track. Little or none had occurred up to this point. Shortly after the fistula became active the serum amylase fell (see Chart). It had previously risen during the intravenous therapy. The clinical course now became uneventful, apart from a minor episode as shown by the last rise in serum amylase when the fistula became temporarily blocked. The fistula itself presented no difficulties in management, as only a small amount of pancreatic fluid was lost daily. The skin was prevented from digestion by aluminium paste. By the sixteenth day his weight had risen to 8 st. 8 lb. (54.4 kg.) and by the twenty-sixth day to 8 st. 11 lb. (55.8 kg.). The fistula healed and the patient was discharged after 33 days in hospital. When seen finally two months later, he was in excellent health and had no evidence of pancreatic dysfunction; his weight was static at his normal of 9 st. 11 lb. (62.1 kg.) and there was no radiological evidence of pancreatic calcification.

Discussion

Symptoms and physical signs following rupture of the pancreas can be very variable. They may occur early and be of a severity similar to those found in haemorrhagic pancreatic necrosis, or in others may be mild and delayed (Bockus, 1946).

Estimation of serum amylase may give valuable assistance in making the diagnosis, which should be suspected in all cases of upper abdominal injury. High values were found in all eight cases of a series described by Naffziger and McCorkle (1943). In the case described above, the amylase level seemed to follow the progress of the lesion with some fidelity. The treatment of the condition is operative, as otherwise it is impossible to decide with certainty what damage has been done to the pancreas or other organs. It would seem doubtful whether any operative repair of the pancreas should be attempted, as further pancreatic damage may be thus precipitated. It appears logical to attempt to cut down pancreatic secretion in the early stages to allow healing to occur. Both secretin and vagal mechanisms can be impaired to some extent by combining a reduction of oral intake with the use of a drug such as propantheline bromide. Care must be taken to avoid the production of a severe dehydration by this method.

Serial observations of serum amylase in a case of rupture of pancreas. Values in Somogyi units. The period of propantheline therapy and the delayed onset of pancreatic fistula are also shown.

Summary

A case of subcutaneous rupture of the pancreas due to an apparently minor injury is described. The treatment adopted was an exploratory operation followed by limitation of the secretion of pancreatic juice. The use of serial serum amylase estimations is recommended, both as a diagnostic test and as an index of the progress of the lesion.

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CHLORPROMAZINE HYDROCHLORIDE IN INTRAOCULAR SURGERY

BY

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Anaesthesia for intraocular surgery presents many special problems, and until recently it has not received serious attention from anaesthetists. Ophthalmologists have evolved a very efficient local analgesic technique, and operative results have on the whole been good, but there has always been the risk of an uncooperative patient. Furthermore, patients requiring intraocular surgery are frequently elderly, and the clinical picture is complicated by a varying degree of arteriosclerotic cerebral degeneration, so that complete co-operation cannot be assured. In addition, any operation on the eye must be an unpleasant experience for a conscious patient, who may flinch or "squeeze" the eye in such a manner as to jeopardize the ultimate result—a possibility which must be a constant source of anxiety to the surgeon.

Good visual acuity will often make a great difference to the mental and physical well-being of these difficult patients, so that any improvement in technique is important if it simplifies the surgeon's task and gives a better chance of success. Many patients requiring surgical intervention on the eye are suffering from general medical diseases—hypertension, cardiovascular disease, diabetes, chronic bronchitis—to say nothing of senility; and in this unit the pre- and post-operative supervision of the patient by the anaesthetist has proved of the utmost value.

Anaesthetic Requirements for Intraocular Surgery

The main anaesthetic requirements of a patient undergoing intraocular surgery are: (1) The anaesthetic technique must in no way raise the intraocular tension at any stage, and in fact should lower it so far as possible. (2) No sudden increase in arterial or venous blood pressure must be permitted, and when possible some degree of hypotension is desirable to lower the intraocular tension still further. (3) A tranquil recovery period free from restlessness, vomiting, coughing, and "squeezing" of the eye is essential; in

fact a prolonged period of quiescence for at least 24 hours after the operation is an advantage and reduces the risk of ocular complications.

During the last few years we have endeavoured to improve the technique of anaesthesia for intraocular surgery. In the first place, a method was used whereby the patient was premedicated to such a degree as to produce almost light-plane general anaesthesia, and this was combined with local infiltration analgesia and general akinesia, using D-tubocurarine in sufficient doses to cause relaxation of the levator palpebrae muscle and paresis of the extraocular muscles. This method usually produced good results and eliminated the need for co-operation from the patient; it also overcame the hazard of "squeezing" of the eye during the operation and for some time afterwards, and furthermore it lowered the intraocular tension and thus reduced the chances of vitreous loss during extraction. The main difficulty was, however, to judge the patient's response to premedicant drugs. While in some cases the technique left little to be desired, in others the effect on the patient was such as to produce severe depression of the vital centres, particularly of respiration, so that the procedure became rather hazardous. Furthermore, some patients became excitable and unmanageable.

The Suitability of Chlorpromazine

Chlorpromazine hydrochloride ("largactil") has been used in anaesthesia as one constituent of the "lytic cocktail," a mixture of drugs calculated to depress tissue metabolism and inhibit compensatory autonomic reflexes, thereby reducing the amount of the agent required to induce and maintain anaesthesia; or it may be used to allow operation without a general anaesthetic at all, only local analgesia and a muscle relaxant being necessary. It has also been employed in psychiatric medicine for the treatment of conditions characterized by agitation and central psychomotor overactivity. It was on the last count that we thought that this substance might produce favourable circumstances for intraocular surgery and give more consistent results than the previous techniques.

Chlorpromazine hydrochloride has a variety of pharmacological actions; those important in intraocular surgery are: (1) production of sleep and general lowering of metabolic rate; (2) potentiation of the action of other analgesic and anaesthetic drugs; (3) depressant effect on the vomiting centres; (4) pronounced anti-adrenaline effect; and (5) some reduction in muscle tone. It has a prolonged action, during which the patient sleeps peacefully, returning gradually to full consciousness in 12 to 24 hours; further, although sleeping most of the time, the patient can be roused and answer questions rationally after one to three hours. There is a considerable degree of depression of cerebral activity, but, even so, the respiratory rate is not depressed as much as might be expected; actually the amplitude is slightly increased. The central depressive effect on the vomiting centre is particularly advantageous.

Its effect on the blood pressure in normotensive patients is not so marked, but the greater the degree of hypertension the more precipitous is the fall in blood pressure; however, in no case in the present series did a patient appear to suffer any ill effects as a result of this. There is often a preliminary rise in the pulse rate, but this soon settles at slightly above normal. The patient becomes pale, but the peripheral circulation appears good.

Technique

The night before operation patients receive sedation with quinalbarbitone ("seconal"), 1½ or 3 gr. (0.1 or 0.2 g.). One hour pre-operatively quinalbarbitone, 1½ gr. (0.1 g.) by mouth, and pethidine, 100 mg. intramuscularly, are administered; in some frail subjects the quinalbarbitone has been omitted. The patient is brought to the anaesthetic room 15 minutes before the operation is due to start. An intravenous injection of a mixture of 50 mg. chlorpromazine hydrochloride and 100 mg. pethidine diluted to 20 ml. with