appear to be synergistic or additive. We were particularly impressed by its safety and freedom from side-effects, and its action tends to counteract depression. Its judicious use should prove to be of benefit to large numbers of epileptics.

Summary

Eleven patients suffering from grand-mal epilepsy with psychosis were treated for five months with nydrane in addition to other anticonvulsants. The results were considered to be satisfactory by subjective and objective standards. Very few side-effects were observed, and in particular there was no evidence of any damage to liver or kidney or depression of haemopoietic function.

We thank the resident medical superintendent for permission to carry out the trial, and Rona Laboratories for their supply of the drug.

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PARTIAL GASTRECTOMY IN VON WILLEBRAND'S DISEASE

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In the haemorrhagic diseases major operations are rightly held to be contraindicated except under the most desperate circumstances. To some extent von Willebrand's (1931) disease (pseudohaemophilia, constitutional thrombopathy) is an exception, and the following case is reported to show that the hazard of operation, though unpredictable, is not as great as is commonly supposed.

Case Report

The patient, a crane-driver aged 42, was one of a family of eight children. His father, one brother, and two sisters all suffered from a tendency to bleed. As a child he had been admitted to hospital on several occasions for severe nose bleeds, and at the age of 27 he had to have a blood transfusion for haemorrhage following a tooth extraction. On other occasions teeth had been extracted without incident. He had often noticed a tendency to easy bruising and had bled for as long as three to four hours after a cut while shaving. After a blood count he usually stopped bleeding at once, but had on one occasion continued to bleed for two hours.

This irregular bleeding tendency was investigated during 1954 and 1955. The bleeding-time (Duke) was generally prolonged. On eight occasions it was between 5 and 30 minutes and on five it was normal. The clotting-time and clot retraction were invariably normal. Hess's capillary fragility test was positive on 16 occasions, sometimes quite strongly, but on five others it was completely negative. The platelet count was always normal. Prothrombin estimations by the one- and two-stage methods and the thromboplastin generation test gave normal results. The family history and the evidence of a normal clotting mechanism associated with a prolonged bleeding-time and frequently positive capillary fragility tests confirmed the diagnosis of von Willebrand's disease, in which the cause of the haemorrhagic tendency is thought to lie in an abnormality of capillary function.

Since the age of 36 the patient had often been troubled by dyspepsia and gastro-intestinal haemorrhage. This was eventually shown radiologically and gastroscopically to be due to a lesser-curve gastric ulcer which healed once under medical treatment, only to recur later. In 1953 operation was thought to be indicated so far as the ulcer was concerned, but was not undertaken on account of the risk of haemorrhage. By 1955, however, the recurrent haemorrhages and increasing pain were causing severe disability, and it was evident that more drastic measures would be needed. It was decided to take advantage of the apparent variability of the haemorrhagic tendency and to operate when the bleeding-time was normal and the capillary fragility test negative.

Accordingly on August 5 laparotomy was performed by one of us: a chronic partly healed ulcer was found on the lesser curve of the stomach and a Billroth-I partial gastrectomy was carried out. No excessive bleeding occurred during the operation, but there was some continued oozing into the stomach for 48 hours afterwards, culminating in a brisk haematemesis, for which 5 pints (2,840 ml.) of blood was transfused. A five-day course of corticotrophin (100 mg. a day) was given, beginning 24 hours after the haematemesis. Recovery was uninterrupted, but there is no clear evidence that this drug affected the issue.

Three months after the operation the patient was very well, had no dyspeptic symptoms, and had put on half a stone (3.2 kg.) in weight.

Discussion

Von Willebrand's disease has recently been the subject of two able studies. Horler (1955) stresses the variability and unpredictability of the haemorrhagic tendency. He points out that the bleeding-time varies greatly from patient to patient, and in the same patient at different times. This agrees well with the experience of our patient, whose bleeding-time was normal on three occasions but prolonged, sometimes greatly, on others. Buchanan and Leavell (1956) have extended this observation by showing that the bleeding-times may vary when estimated simultaneously in different parts of the body. In a patient of theirs the bleeding-time was 17½ minutes in one ear and 180 minutes in the other.

This variability of the haemorrhagic tendency is reflected also in the patient's reaction to surgical operations. A patient may bleed heavily at one operation and no more than normal at another. In one of Horler's cases tonsillectomy led to severe haemorrhage, but a subsequent appendectomy was uneventful. This author's series included nine major operations in five patients. In five operations the bleeding was excessive and in four it was not. In one case the operation had to be abandoned on account of the bleeding, but there were no deaths. Buchanan and Leavell's experience was similar. Thirteen of their patients were submitted to surgery. Several bled heavily, but the haemorrhage was ultimately controlled in all cases. There were no deaths, and no operation had to be abandoned. In their review of the literature these authors show that among 199 reported cases of von Willebrand's disease 39 have undergone surgical operation (excluding the extraction of teeth), with only one death, which followed a splenectomy (Little and Ayres, 1928). Even allowing for the natural tendency for successes to be reported and failures forgotten, this is a remarkable fact, and contrasts sharply with haemophilia, in which the mortality of major operations is at least 50% (Biggs and Macfarlane, 1953).

The cause of von Willebrand's disease is unknown and there is no specific treatment. Therefore nothing can be done at operation to prevent haemorrhage apart from the most scrupulous attention to the usual surgical techniques of haemostasis. Buchanan and Leavell state that the bleeding-time is not always a reliable guide to the behaviour of the patient at operation. Yet it is the only guide of any sort which we possess, and it would seem reasonable to avoid an elective operation when the bleeding-time is greatly

prolonged. The literature contains very little information about the bleeding-time on the day of operation, and there is room for more careful recording of data concerning this point.

Summary

The case is reported of a patient with von Willebrand's disease who had a successful partial gastrectomy for gastric ulcer. The operation was performed at a time when the bleeding-time was normal. There was no excessive haemorrhage at operation, but a haematemesis on the second post-operative day responded well to blood transfusion.

The case is discussed in relation to those previously reported, and it is emphasized that, although all authors stress the hazards of operation in von Willebrand's disease, the literature contains only one record of a fatal operation. The relatively favourable prospects for surgery in von Willebrand's disease are contrasted with the extremely bad results of operations in cases of haemophilia.

It is probably desirable to take advantage of the natural fluctuation of the bleeding tendency and to perform an elective operation when the bleeding-time is not greatly prolonged.

We are grateful to Dr. T. H. Boon for permission to report this case.

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Medical Memoranda

A Case of Acute Inversion of the Uterus

As the incidence of acute puerperal inversion of the uterus is estimated at between 1 in 17,000 and 1 in 200,000 deliveries and the extreme gravity of this condition is equalled only by its rarity, it is worth while to record this case.

CASE REPORT

A 2-gravida aged 19 was admitted to hospital at midnight on March 19, 1955, with a history of having started in labour four hours before admission. Her pregnancy had been quite uneventful and the expected date of delivery was March 22.

On examination she was found to be a healthy young woman, well established in labour. The size of the uterus was consistent with a full-time pregnancy and the foetus was presenting by the vertex. The position was left occipito-anterior, with the foetal head in mid-cavity and the cervix uteri well applied to the head and dilated to one finger-breadth. Uterine contractions recurred every four minutes and the foetal heart was satisfactory.

Labour proceeded normally until spontaneous delivery of a live male child, weighing 8 lb. 9 oz. (3.9 kg.), at 3 a.m. after a first stage of seven hours and a second stage of 20 minutes. The placenta appeared to be in the vagina 30 minutes after delivery. There had been only very slight haemorrhage up to this point. An expulsive effort on the part of the mother delivered the placenta readily. There was slight delay with the membranes, but these eventually delivered following gentle traction. Immediately after the delivery of the placenta a severe post-partum haemorrhage occurred, a total of 3 pints (1.7 litres) being lost within a few minutes. On examining the abdomen no definite fundus could be palpated, nor could one be rubbed up. Ergometrine tartrate, 0.2 mg., was immediately given intraven-

ously, and within a minute what appeared to be a fundus developed low in the abdomen.

The blood loss ceased, but the patient's condition continued to deteriorate rapidly. She was in profound shock, was restless, and complained feebly of lower abdominal pain. The pulse rate was 120 a minute and the blood pressure could not be recorded.

On further examination what appeared to be the fundus had a definite cup-shaped depression on its upper surface. A vaginal examination revealed the uterus to be inverted and lying in the vagina. At this point, six minutes from delivery, the only pulses detectable were the carotids and the apex beat. The patient was unconscious. A dextran drip was set up while blood was being cross-matched. The transfusion was run in rapidly, 1 pint (570 ml.) being given in about 15 minutes. Cross-matched blood was then available and a rapid transfusion of this was begun.

The blood pressure was 70/50 mm. Hg and the wrist pulses were detectable. Slight improvement in the general condition having occurred, it was decided to reduce the inversion. With the transfusion continuing, and under nitrous oxide and oxygen anaesthesia, reduction by taxis was accomplished without undue difficulty. After the reduction, recovery could only be described as dramatic. The blood pressure rose to 110/80 mm. Hg and the pulse rate dropped to 80. Colour, respiration, and general appearance improved rapidly.

A further 2 pints (1,140 ml.) of blood was given to replace the initial loss. The patient recovered consciousness two hours after the reduction of the inversion, "feeling fine."

The puerperium was uneventful, involution proceeding normally. Breast-feeding was readily established and the patient was discharged from hospital on the tenth post-partum day, feeling fit and well, with a haemoglobin of 10 g. per 100 ml. Further progress at home was maintained.

COMMENT

Though the majority of inversions seem to be due to some error of management on the part of the attendants, cases of spontaneous inversion have been recorded. In this case the placenta was expelled by the mother's effort, and the only factor that may have contributed to the production of inversion was traction on the foetal membranes. This was very gentle and no resistance to the delivery could be discerned. It is felt that this was probably a case of spontaneous inversion, though traction on the membranes, however gentle, cannot be excluded as a probable cause.

The importance of making a vaginal examination in a case of shock following delivery must be stressed, as an incomplete inversion of the uterus may not be diagnosed unless it is done. We were grateful to have available a plasma substitute: its effect was life-saving while blood was being obtained and matched.

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Agranulocytosis during Phenindione Therapy

Agranulocytosis is an apparently rare complication of anti-coagulant treatment with phenindione (phenylindanedione, "dindevan," "indema"). MacMillan and Brown (1953) reported two Canadian cases, one being fatal; both, however, had also received other drugs. Kirkeby (1954) described a definite case from Norway. A suspected case (without blood counts) was contributed by Mayer (1954).

We estimate that some 900 patients have been treated with phenindione in this hospital: we have been unable to trace a previous case associated with agranulocytosis.

CASE REPORT

A man aged 59, editor of a periodical, was admitted on October 23, 1956, five days after a myocardial infarction and three years after a previous attack. Routine phenindione treatment was supported with heparin for the first