Technique.—The routine adopted for patients with previously normal or only slightly irregular menstrual histories consisted of one intramuscular injection of 1 mg. of prostigmin on three successive days, this treatment being discontinued if after the first or second injection the menstrual flow was restored. With the exception of two cases which failed to respond, the longest interval between the last injection and the onset of menstruation was about 72 hours. These periods were normal in quantity and duration, and in two cases biopsy proved the flow to be of a truly menstrual character.

Table of Results

Group	No. of Cases	Bleeding Occurred
1	30	Nil
2	24	82.8%
3	36	94.5%
Control ..	10	Nil

Group 1: Pregnant patients.
Group 2: Poorly selected cases; $\frac{1}{2}$ -mg. doses of prostigmin injected, only occasionally 1 mg.
Group 3: Properly selected cases; 1-mg. doses given from the beginning.
Controls: Out of Groups 2 and 3; sterile water injected.

Illustrative Case.—A 2-para. Has always had regular periods, and presented herself in March and April with a delay of three days each time. She was treated with prostigmin. After one injection of 1 mg. on each occasion a normal period started. In August she had a delay of 8 days. Two full courses of prostigmin at an interval of 8 days had no effect. An A.-Z. test was returned positive, and later the pregnancy was confirmed clinically.

Complications

A number of patients complained of frequency of micturition and giddiness. One woman with a menstrual delay of 8 days complained, 20 minutes after the second injection of 1 mg., of "a film before my eyes, strong palpitations, sickness, and a terrific rush of water which came out of my mouth." She rapidly recovered from the attack without treatment. The action of prostigmin on the salivary secretion may conceivably have been the cause of some of these symptoms (Wright, 1940). This was the only really unpleasant incident in the series.

Conclusions

It appears that the age of the patient and the length of the menstrual delay are not decisive points in selecting the cases; some observers have reported successful treatment in patients with a delay up to 52 days. The character of the previous menstrual cycle, which should have been quite regular or have shown only slight variations, is of greater importance. Prostigmin is reliable in its action, as is shown by its success in 94.5% of this series. One wonders whether the two failures may not have responded to a fourth injection or to slightly larger doses. The drug causes some minor discomfort of a transient and not serious character, but it is quite safe and pregnancy is not disturbed.

The type of patient we had to deal with raises the question whether a wait-and-see policy or any other "psychological treatment" may not have been followed by similar success in a considerable percentage of cases. The injection of sterile water in 10 cases, previous to the proper prostigmin course, gave entirely negative results. Even if it were true that in cases of "functional amenorrhoea" the period will appear sooner or later with rest, tonics, etc., it should be borne in mind that prolonged amenorrhoea may lead to atrophic changes in the uterine muscle. The results are encouraging, and prostigmin deserves further clinical trial. We would suggest that the drug should be tried in all cases of delayed period except those of endocrine origin and those in which pregnancy has been established. Further clinical work may also reveal interesting effects of prostigmin in cases of dysmenorrhoea.

Summary

Ninety cases of amenorrhoea were treated with prostigmin. From 1 to 3 injections of 1 mg. were given.

The results obtained were favourable: in 94.5% of the cases of delayed period not due to pregnancy the menstrual flow was restored.

Prostigmin is safe; from its use no serious ill effects were observed. There is no tendency of the drug to interfere with the course of pregnancy.

This treatment should be reserved for cases with a previously regular or only slightly irregular menstrual cycle.

I wish to thank Miss G. Dearnley, honorary gynaecologist of the hospital, for allowing me access to her cases.

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Medical Memoranda

A Case of Dysentery associated with *Bact. alcalescens*

The following case may be considered of interest seeing that only in the last few years has *Bact. alcalescens* been recognized as an organism capable of producing acute dysentery. Nabarro and Edward's (1939) paper on this subject has induced us to regard the case as worthy of record.

CASE RECORD

Mrs. M., a nursing sister aged 25, was admitted to hospital on Sept. 9, 1941, with a history of intermittent diarrhoea for six weeks. After admission her stools presented typical dysenteriform appearances, and she was given appropriate medicinal and dietetic treatment. At no time was she acutely ill, nor did she have much pain. Under treatment she improved, but blood and mucus in small amounts persisted in the stools for some weeks. On Sept. 9 her stool, submitted before admission, consisted of gross blood-clot without visible faecal matter; it was cultured on two Wilson and Blair plates and tetrathionate broth (paratyphoid infection was suspected), also on two MacConkey plates. The Wilson and Blair plates proved to be entirely negative. Both MacConkey plates were covered by a profuse growth of non-lactose-fermenter with a few colonies of *B. coli*. The non-lactose-fermenting organism was identified from its cultural and fermentative reactions by the E.M.S. Laboratories as *Bact. alcalescens*, but was not agglutinated by either of the two sera available for this organism in the National Collection. Stools examined on Sept. 28 and Oct. 10 and 18 all contained small quantities of blood-stained mucus, and all, on culture on MacConkey plates, gave a heavily preponderant growth of *Bact. alcalescens* with only a few colonies of *B. coli* and *B. lactis aerogenes*. Serum examined on two occasions showed no agglutinins for the typhoid-paratyphoid group. Serum obtained on Oct. 18 showed no agglutinins for the patient's own strain of *Bact. alcalescens*. This was confirmed by the E.M.S. laboratories, which also tested for agglutinins for all the available strains of dysentery bacilli, with a negative result.

From Nov. 4 a live broth culture of *B. acidophilus* was administered daily for a fortnight. A stool examined on Nov. 8 contained no blood or mucus, and gave a negative result to tests for occult blood, and on culture showed only *B. coli* and *B. lactis aerogenes*. A stool examined on Nov. 21 contained no blood or mucus, but on culture a small number of *Bact. alcalescens* were found, with numerous *B. coli*. As the patient was now free from all symptoms she was discharged from hospital.

It has been suggested that the absence of agglutinins is against the causation of dysentery by *Bact. alcalescens* in this case. We find this hard to believe in view of its presence in overwhelming numbers and the complete failure to discover any other cause in spite of repeated examinations.

The apparent clearing up of the remaining symptoms after the administration of *B. acidophilus* culture is suggestive, and might, we think, be of use in other similar cases.

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FRANZ A. HEIMANN, M.D., L.R.C.P.

REFERENCE

- Nabarro, D., and Edward, D. G. FF. (1939). *J. Path. Bact.*, **49**, 515.

A Case of Cystic Hygroma

The following case may be considered unusual enough to warrant publication.

Early in Sept., 1942, a child aged 20 months was brought to me by her mother, who had noticed a swelling in the left side of the neck, gradually becoming more apparent since birth. I found a rounded swelling above the outer half of the left clavicle, and diagnosed a lipoma. I advised leaving it alone unless it showed signs of growing or caused pain. About a year later she was brought back to me with the complaint that the swelling was growing. This was apparent on examination. The child was admitted to Harrow and Wealdstone Hospital, and on Sept. 25, 1943, under general anaesthesia, a large cystic tumour was dissected out apparently complete.

It extended from one and a half inches below and behind the left clavicle to a point near the middle line of the neck behind and deep to the trapezius, and was also adherent to the posterior border of the sternomastoid. The cyst was multiloculated and contained clear straw-coloured fluid. The pathological report from the Middlesex Hospital laboratory was: "The mass consists of oedematous connective tissue with varying-sized spaces lined by a very thin layer of endothelial cells. A fair number of blood vessels are present, but no blood spaces. The picture is that of a cystic hygroma."

The wound was drained for 48 hours owing to the size of the gap, and healed without any apparent discomfort to the child.

HAROLD E. THORN, M.B., B.S.

Thrombocytopenic Purpura following N.A.B. Injections

This is a case of thrombocytopenic purpura following N.A.B. injections in a congenital syphilitic. It is placed on record because of the severity and acuteness of the symptoms and extreme reduction in the platelet count.

CASE HISTORY

The patient, a soldier aged 30, was admitted on April 20, 1943. His complaint was bleeding from the gums for three days, bruising of the limbs, and petechiae all over the body for two days. He gave a history of having been treated with bismuth and arsenic for the past eighteen months for syphilis. The bleeding from his gums started about four hours after his last arsenic injection. He had no previous history of bleeding.

On examination the patient was seen to be a well-nourished man with a good colour. No clinical evidence of anaemia was present. There were petechial haemorrhages all over his body, large bruises on his limbs, and a slight oozing of blood from his gums. The spleen was not palpable. No abnormality was detected in heart or lungs. His pupils were equal, central, and circular, and reacted to light and accommodation. Knee- and ankle-jerks were absent and plantar responses were flexor on both sides. There were no sensory changes. His blood count on admission was: R.B.C., 4,130,000; W.B.C., 5,800; Hb, 78%; C.I., 0.95. The differential white cell count was normal. Platelets numbered 4,130 per c.mm. The red cells showed anisocytosis, with many crenated forms. There were no nucleated red cells. Clotting time was 6½ minutes (normal 4 minutes) (capillary method used). Bleeding time was 14 minutes (normal 3 to 6 minutes).

On April 22 the patient complained of acute pain in the right costo-vertebral angle extending down to the groin, and passed blood-stained urine. He was given vitamin P, ascorbic acid, sodium thiosulphate intravenously, and massive doses of potassium citrate. On the 23rd the bleeding from the gums and the haematuria increased. During the day one pint of Group O (IV) blood was transfused as a slow drip. There was a slight improvement in the patient's condition after this, and the bleeding from the gums became much less. His blood count was now: R.B.C., 4,020,000; W.B.C., 11,700; Hb, 76%; C.I., 0.95. Platelets had fallen to 3,000 per c.mm. On the 24th it was noticed that there was a rather diffuse swelling just beneath his mandible. He was given two pints of whole blood by slow drip (5½ hours). He improved a little after this, and the bleeding from the gums almost stopped. On April 25 his gums started to bleed again and he had haematuria. He was given 1 c.cm. of colloidal calcium every six hours and 2 c.cm. of anahaemin intramuscularly. That night he seemed very much improved, but in the early hours of the 26th he suddenly died.

At necropsy the findings were as follows: "There were numerous petechiae all over the body. There was also slight jaundice. The lungs were oedematous and the trachea was filled with blood-stained fluid. There was a recent pleurisy. The external surface of the heart was covered with petechiae. There were large haemorrhages into the mesentery. The liver (1,475 g.) was congested, and there were numerous petechiae on its surface. The kidneys were congested and the pelvis filled with blood-clot. The spleen (250 g.) was soft." The bone marrow was, unfortunately, not examined.

DISCUSSION

In 1930 Bamforth and Elkington recorded four similar cases following N.A.B. and other antisyphilitic preparations. They could find only 19 cases in the literature, and 10 of these were fatal, treatment with blood transfusion and liver extract having no effect. Scarborough and Stewart (1938) and Scarborough and Horne (1940) showed the value of vitamin P (hesperidin) in the treatment of purpura occurring as a toxic manifestation of arsenic and bismuth in the treatment of syphilis.

In the present case vitamin P and all treatment proved of no avail. Blood transfusions caused only temporary improvement in the condition.

I am indebted to Dr. T. J. Hennelly, medical superintendent, for permission to publish this case, and to Dr. J. M. Naftalin for carrying out necropsy and laboratory investigations.

G. M. LEWIS, M.B., B.Ch.

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Reviews

TECHNIQUE OF BLOOD GROUPING

Blood Grouping Technic: A Manual for Clinicians, Serologists, Anthropologists, and Students of Legal and Military Medicine. By Fritz Schiff, M.D., and William C. Boyd, Ph.D. With foreword by Karl Landsteiner. (Pp. 248. \$5.00.) New York: Interscience Publishers Inc. 1942.

Schiff's contributions to our knowledge of blood groups were numerous and important, and ten to fifteen years ago his book *Die Technik der Blutgruppenuntersuchung* was of great use. Before his untimely death Schiff had been for some years in America, and there he sought the help of W. C. Boyd, another well-known worker in the field, in the preparation of an up-to-date account of blood grouping somewhat on the lines of his German book. The plan of the book was Schiff's, and it was more than half finished when he died. From such a source a modern work was bound to be important, and *Blood Grouping Technic: A Manual for Clinicians, Serologists, Anthropologists, and Students of Legal and Military Medicine* is packed with information. It is essentially a book in which to look up points, and the arrangement of the matter in short sections numbered on a decimal system greatly helps reference and cross-reference.

Experienced workers will disagree with many things in it, and beginners will probably be confounded by the elaboration of the complexities and pitfalls. Blood grouping is far from being a simple business, and knowledge of the difficulties is essential for success; but in reading the book the reviewer has several times been struck by a sense of unreality in parts of the subject-matter, and has wondered whether some of it has been written by a theoretical rather than a practical blood grouper. From a lengthy list of things that might be criticized, queried, or contradicted, a few may be mentioned. On page 27 it is recommended that before use the efficiency of anti-A sera for A₂ cells should be tested; no mention is made of testing against A₂B cells in which the A may be very much weaker than in A₂. There is little danger of anti-A serum worth anything at all missing A₂ cells; the danger is with A₂B. Perhaps it is only inadvertently that it is suggested near the bottom of page 38 that 50% of group AB are A₂B. Actually the proportion of A₂ is the same in A and AB—about one in four or five in this country and the U.S.A. The advice on page 42 to use a technique which fails to disclose weak irregular reactions is very bad; this is the way to miss weak A in the AB group. On page 57, "Somewhat more practice and skill are needed for these [MN] tests than for routine blood grouping . . ." is an amazing understatement. Accurate MN work needs very great experience. The statement on page 88 that transfusion of blood of one group into a patient of a different group is "often" successful where the donor's cells do not meet homologous antibodies in the recipient's serum misrepresents the situation; "often" should be omitted.

The book is not merely a manual on technique; there are sections on transfusion, blood donor services, blood substitutes, the Rh factor, medico-legal grouping, anthropology, and, in fact, on everything found in other textbooks on blood grouping. Perhaps the subject is too big nowadays for really adequate treatment by one or even two authors. In the sections on transfusion, donors, and blood substitutes practically no mention is made of what has gone on in this country since the war began. Yet in spite of its defects the book will be very useful, and the reviewer intends to keep a copy handy in the laboratory.

INSECTS OF MEDICAL IMPORTANCE

A Handbook for the Identification of Insects of Medical Importance. By John Smart, Ph.D. With chapters on Fleas by Dr. Karl Jordan, F.R.S., and on Arachnids by R. J. Whittick, B.Sc. British Museum (Natural History). (Pp. 269; illustrated. 15s.) London: Printed by Order of the Trustees of the British Museum. 1943.

Identification of a pest insect is to an entomologist what diagnosis is to a doctor. In this country it is possible to have one's conclusions checked by a museum expert within a short time. But many entomologists and medical men are confronted with noxious insects and insect-borne diseases in the remoter parts of the world where they depend on their own powers