premature babies die very soon, so that serological and systematic investigations are not possible. Without such study, death in these cases is often recorded as due to prematurity and atelectasis.

Mild cases of erythroblastosis caused by the A-B factors in first and subsequent heterospecific pregnancies have been reported by Halbrecht (1944), Wiener *et al.* (1949), and Brancato (1950). Halbrecht introduced the term "icterus praecox," which is now widely accepted. Recently he stated that icterus praecox occurred not less frequently than the other forms of haemolytic disease, the proportion being 1 in 25 to 1 in 30 of heterospecific pregnancies (Halbrecht, 1951).

The argument that the mother in Case 1 might have had a previous missed abortion, coinciding with the time of expected menstruation and thus escaping her notice, deserves comment. In such a case the foetus could be only a few weeks old, and its blood group agglutinogens would probably not have developed enough to sensitize the mother. Mackenzie (1950), moreover, considered menstrual molimina to be one of the earliest presumptive signs of gestation.

The baby in Case 1 is known to have been a secretor. The secretor status of Case 2, however, cannot be stated definitely, even though the parents are both secretors, since we were unable to obtain sufficient material for the inhibition test. It is still a controversial matter whether the maternal A and B antibodies affect secretor babies or not. Levine (1946) assumed that only non-secretor babies are affected by those antibodies. On the other hand, Wiener *et al.* (1949), having found that secretor babies were also afflicted with haemolytic disease, concluded that such antibodies did not act directly on the tissue cells, but apparently produced damage through the blood stream, presumably by agglutinating the red cells and thus blocking the circulation. We have observed only one case in which a secretor baby is affected, and we cannot therefore offer an opinion. Further intensive and careful investigations on a large number of similar cases are necessary before a definite conclusion can be warranted. The real problem is rather that of finding out why all babies with appropriate blood groups do not suffer from haemolytic disease.

Summary

Two serologically and histologically proved cases are reported of iso-immunization to the A factor, resulting in the birth and neonatal death of infants suffering from erythroblastosis. In the first case, sensitization to the A₁ factor occurred in the first pregnancy of a young woman, and in the second case to the intermediate A₁-A₂ type in a third pregnancy.

In Case 2, differentiation between A₁, intermediate A₁-A₂, and A₂ is required, and is shown by the quantitative method.

The significance of serological investigation of premature babies is discussed.

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A PECULIAR SYNDROME OF "BLADDER PARALYSIS" IN NATIVES OF SOUTH CENTRAL AFRICA

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For some years in this hospital we have become increasingly aware of a form of bladder "palsy" in the male African adult with urinary bilharziasis, running as a rule a typical course of brief duration followed by complete recovery.

The patient is generally between the ages of 20 and 50, previously in good health, and first observes a fairly rapid inability to void urine. The difficulty increases over a day or more, less urine being evacuated with each effort. He next finds he cannot pass any at all, the bladder at this stage becoming grossly distended. All efforts to pass urine are without avail; but while he may have some pain, it is never severe or as discomfiting as is usual with other forms of retention. The next stage is one of dribbling or overflow incontinence, a few drops of urine issuing from the distended viscus. At this stage the patient generally seeks medical aid at the hospital, being admitted as a case of "acute retention." When seen the diagnosis usually made is one of obstruction due to a urethral stricture, an enlarged prostate, or perhaps a calculus. Yet a striking feature is the relative comfort and ease of the patient (Fig. 1) and the absence of anything to support an obstructive disturbance.

A small soft catheter can be passed without difficulty. Instead of encountering any form of obstruction or resistance, it will be found to pass with perfect ease into the bladder, which is then emptied. A little puzzled, one withdraws the catheter only to find that after some hours the bladder tumour appears again, the patient being totally unable to void, and so the catheter is again passed and the whole performance repeated. The patient is thus in a state which might best be described as *complete atony of the bladder*. He knows his bladder is full, but in spite of this he is not disturbed, and appears to be fairly comfortable. This stage lasts several days, and then the organ seems to regain its "tone" and a similar process in reverse to the onset denotes the stage of recovery. The bladder slowly appears to regain its former tone, the degree of retention becoming progressively less over a couple of days and the amount voided increasing.

The patient has now recovered, and as a rule recovery may be regarded as permanent. Occasionally, however, we have seen a relapse after a few weeks, the second attack being less severe and recovery more rapid; nevertheless, the same stages as already described are seen.

A Typical Case

An intelligent African male aged about 22 was admitted to the Salisbury Hospital on August 9, 1951, with acute retention with overflow of some two days' duration (Fig. 2).

FIG. 1.—A patient with well-marked distension of bladder.

For some years he had been aware of a terminal haematuria, but except for that he enjoyed good health. He denied ever having had venereal disease. Seven days before his admission he became aware of increasing difficulty in emptying his bladder, and in about five days could not pass any urine, though some did dribble away. He then reported

FIG. 2.—The bladder can be seen extending to above the umbilicus.

at a clinic, where he was catheterized. As the retention reappeared he was admitted to hospital, where he was found to have a large bladder tumour with urine dripping from it. He seemed to be relatively comfortable in spite of the enormous distension of the viscus, but said he had some pain in the bladder itself.

A soft rubber catheter (No. 8) entered the bladder with great ease, 18 oz. (510 ml.) of clear urine being evacuated. No sense of obstruction or difficulty was encountered then

or on any of the subsequent occasions he was catheterized. All discomfort would disappear after the organ was emptied. He would get up and sit in the hospital grounds perfectly at ease until his bladder filled again. He would then be catheterized. He continued in this way until August 16, when he began to pass urine on his own accord. At first it was only a few ounces at a time, but next day it increased to about 8 oz. (227 ml.), though the bladder was never completely evacuated. After three days he had completely regained his former bladder function and was ready to leave hospital.

Urine could be made to flow from the bladder by manual pressure over the viscus, and would continue as long as the pressure was maintained. At no time did he mention any penile or perineal pain: he admitted the presence of hypogastric discomfort only when questioned.

The patient was a well-covered native; he could not speak English, but was intelligent, co-operative, and pleasant. We could not find or elicit at any time anything to suggest a neurotic. He was well coloured. A blood count showed: red cells, 5,000,000; haemoglobin, 90% (Newcomer); colour index, 0.9; white cells, 16,200 (neutrophils 78%, lymphocytes 20%, monocytes 2%). He was practically apyrexial during the course of his illness, the temperature occasionally rising to 99° F. (37.2° C.) in the morning. His pulse rate varied between 76 and 80 and the respirations from 16 to 20. The cardiovascular system was normal, the blood pressure being 130/80, and the fundi were clear. The lungs were normal on x-ray film; liver and spleen were not palpable on abdominal examination. The blood urea was 35 mg. per 100 ml. The nervous system was examined carefully and was found to be perfectly intact. There was no alteration in the reflexes. The motor power of the limbs was good and no sensory loss could be detected at any time. The cranial nerves were normal.

The urine showed a trace of albumin, and microscopical examination revealed a few epithelial cells but no leucocytes or blood. At a later examination there were a few leucocytes, plus red cells and ova of *Schistosoma haematobium*. *Bact. coli* was grown on culture. Rectal examination was negative, and a prostatic smear failed to show any significant organisms.

Cystoscopy disclosed a severe and diffuse bilharzial infiltration of bladder mucosa, the whole of which was covered with pale greyish mossy patches. The ureteric orifices were

not seen. Intravenous pyelography done while the patient still had the disorder revealed a well-marked bilateral hydronephrosis typical of bilharzial disease.

His blood Wassermann reaction was negative. The cerebrospinal fluid was unfortunately not a clear tap, there being a little blood in the fluid submitted. Cell count: leucocytes 48 per c.mm.; red cells, 848 per c.mm.; chlorides, 740 mg. per 100 ml.; Nonne-Apelt negative; total proteins, 20 mg. per 100 ml.; no cells or organisms were seen in stained smears; the Wassermann reaction was negative.

Discussion

At no time in these cases were we able to find an obstructive lesion such as a stone, an enlarged prostate, a urethral stricture, or a congenital anomaly of the prostate or urethra. The easy passage of a soft rubber catheter with constant regularity also tends to dismiss a mechanical disorder.

At one time we were rather inclined to believe that these cases might be encephalitic in origin. If so, we would have expected some motor weakness or sensory changes in the lower limbs. A careful examination of these cases never revealed anything to support this condition. The cerebrospinal fluid findings were also disappointing. The Wassermann reaction was negative, and the cell count and so on were usually normal.

When we came to consider a hysterical state we were in difficulties, because this is one of the first suggestions that come to the mind. But the course of the illness in these cases is usually typical and runs true to type. It is not bizarre, nor does it vary from day to day as one would anticipate in a functional disorder. The palatal reflex is normal in these cases.

Could this be a bilharzial manifestation due to infiltration of the bladder with diffuse bilharzial lesions? All the cases so far encountered showed this disease in varying degree; but it must be admitted that, in any event, most Africans suffer from bilharziasis in this part of Africa. It may thus be purely coincidental.

Summary

A peculiar form of retention with overflow incontinence in the African male is described.

It appears in three stages—a short period of progressively increasing difficulty in micturition with some retention, followed by complete retention with overflow for several or more days, and the final or third stage in which the patient passes urine in increasing amounts until the function is restored completely.

No obstructive lesion could be found in these cases.

All cases so far suffered from bilharziasis, which, however, may be an incidental finding.

We would like to express our thanks to Dr. R. M. Morris for his criticisms and for his kind permission to publish this paper.

The addition of a magnetic iron stripe to 16-mm. film will produce a small revolution in education, according to Dr. David S. Ruhe, director of the Medical Audio-visual Institute of the Association of American Medical Colleges. The magnetic stripe is a recent technical development which allows amateur film producers to convert silent film footage into sound films cheaply and easily. Using the same procedure as the tape recorder, the stripe makes possible great flexibility in commentary. Medical teachers will be able to adapt sound stripes to different audiences. For example, a film used for medical students may be "erased" and re-recorded for use with a group of nurses. Cost of the magnetic iron stripe will be somewhat less than the titles of a silent film, and quality of sound on the magnetic film is excellent. The iron stripe is said to outwear the film to which it is applied.