from February 15th to 29th. Infected mosquitos were fed on February 20th, and thus 60 grains were given before the infection and 90 grains after. No pyrexia followed, but the blood showed scanty parasites from March 14th for a few days, thereafter becoming negative. On April 23rd parasites again found. From April 23rd to 25th quinine sulphate, 30 grains daily, was given. On May 24th an intramuscular injection of 2 c.cm. of infected blood was given, but no infection followed, the blood remaining negative.

CASE II.

The patient gave a history of malaria previously. On August 23rd, 1924, an intramuscular injection of 2 c.cm. of infected blood was given. No pyrexia followed, but the blood became scantily positive from September 2nd to 6th; thereafter it was negative. On September 16th the patient was again inoculated intramuscularly with 2 c.cm. of infected blood. The blood became positive from September 20th to 27th, but there was no temperature. On December 7th, 9th, 12th, and 15th intramuscular injections of 1 c.cm. of adrenaline were given, and on December 10th 1 c.cm. of milk. The blood continued to be negative until December 15th, when two infected cells were found in the blood film.

CASE III.

The patient was infected with mosquitos on November 23rd, 1923; double tertian infection followed; he was allowed to have twelve rigors. Quinine sulphate, 30 grains daily, was given from December 23rd to 25th. As there had been little mental change an attempt was made to reinfect on July 20th by intramuscular injection; no temperature followed, but the blood was positive from August 1st to 4th; after that it was negative. Even here, however, the parasites appear to have become resistant to the immune body, for there was relapse with parasites in the blood from August 24th to 30th, but no temperature.

SUMMARY.

1. The malaria treatment of general paralysis is justifiable and hopeful, provided the patients are in fair physical health. The earlier the case the better the prognosis. The treatment is contraindicated where the patient is likely to have a fatty heart or where there is poor physical health. It may be added that the administration of strychnine, with digitalin or strophanthin to steady the heart, is advisable and helpful, especially during the later pyrexial attacks.

2. Relapses of malaria do occur, but practically only in mosquito-infected cases.

3. Compared with infection by the inoculation of trophozoites, it would appear that infection by the sporozoites from the mosquito produces a parasite which readily becomes resistant to the immune body, and thus relapses frequently occur.

4. A previous attack of malaria would appear to induce partial immunity; although scanty parasites appear in the peripheral blood, there is no rise of temperature.

I wish to thank Professor Warrington Yorke for providing the infected mosquitos and for his encouraging advice; Dr. G. A. Watson, pathologist to Rainhill Mental Hospital, for assistance with the biochemical tests; and Dr. F. M. Rodgers, medical superintendent of Winwick Mental Hospital, for permission to publish these notes, and for his kindly supervision and guidance.

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CONGENITAL NYSTAGMUS.

BY

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THE occurrence of congenital nystagmus is sufficiently uncommon to justify the record of a series of cases in a single family in which the condition appears to be hereditary.

A woman, aged 55 years, recently consulted me about her eyesight. She had marked nystagmus of the lateral movement type, without rotary movements of the eyeballs or spasm of the eyelids. Her optic discs were pale, but beyond a moderate degree of presbyopia there was no visual defect. The woman volunteered the information that her father and grandmother (both of whom she remembered well) had always suffered from a similar condition. The patient had six children—five daughters and one son. Of these children, the son suffered from marked nystagmus, but with the exception of one of the daughters (who suffered from slight nystagmus) the female children showed no trace of the condition. The son married recently, and his young

daughter has nystagmus. Hence it can be seen that in five generations of this family nystagmus makes its appearance, and is transmitted through both male and female members of the family. I cannot recall any instance of an abnormal condition transmitted so definitely both by male and female. In haemophilia, and in the muscular dystrophies, transmission of these diseases is through the female to the male, the female very rarely suffering from the condition.

Some points of general practical interest also arise in this connexion. Some time ago a coal-miner suffering from nystagmus endeavoured to establish a claim for compensation on the ground that his nystagmus was due to his occupation. It was subsequently discovered, however, that at an early age the patient had been seen by the surgeon who was now examining him for compensation. The surgeon's notes showed that the patient had suffered from nystagmus, which had manifested itself at an early age, before he entered a coal-mine. Hence the claim for compensation failed.

During the recruiting days of 1916 one of the male members of the family whose history I have outlined was called up by the army authorities for examination as to his fitness for service. The examiner noticed that the man had nystagmus, so in view of the man's statement that he was a coal-miner he told him that he was unfit for service. A careful examination, however, would easily have excluded miner's nystagmus, for apart from the movements of the eyeballs and slight nodding spasm there were no other signs to justify this diagnosis.

Memoranda :

MEDICAL, SURGICAL, OBSTETRICAL.

GREEN TEETH FOLLOWING PROLONGED
JAUNDICE IN INFANCY.

THE occurrence of green teeth following jaundice in infancy is so rare that the following case is worth recording.

History.

Caroline F. is now 2 years and 4 months old. She was born at full term after a normal labour. The mother, now 39 years old, enjoyed good health during the pregnancy and had no illnesses or fevers of any kind; she has had no miscarriages. The father is 44 years old, and is well. There are three brothers (aged 24, 18, and 14), and three sisters (aged 20, 8, and 4), alive and well; none of these children showed jaundice at any time. One sister (the third child) died when a week old; it suffered from imperforate anus, which apparently could not be relieved; it was not jaundiced. There is nothing else noteworthy in the family history.

C. F. was born jaundiced—"as yellow as a duck's foot" the mother said; the skin of the whole body and limbs was coloured yellow, and so were the sclerotics. The jaundice continued to be intense and quite constant for three months, then it became gradually less, but it had not entirely disappeared until the child was 7 months old. All this time the child was "fairly well in itself." The motions (two or three a day) were green, loose, and slimy for six months. The child for six months was given a grey powder each day. All that the mother can tell about the urine is that it stained the clothes a deep yellow for several months. The umbilical area was "septic" for three weeks after separation of the cord. At birth the child weighed 5½ lb., and it regularly increased in weight, so that at 8 weeks it weighed 8½ lb., at 24 weeks 13 lb., and at 1 year 21 lb. It was never at the breast, but was fed on cow's milk (diluted suitably) until it was 9 months old, and thereafter there were the usual additions to its dietary.

With the exception of the prolonged jaundice and "a slight bronchitis every time she cut a tooth," the child has had no illnesses of any kind. The first tooth, a lower incisor, was cut at 9 months, and teeth appeared regularly after that in this order: lower central incisors, lower lateral incisors, upper central incisors, upper lateral incisors, first molars, then, at 2 years, the lower canines, and lastly the upper canines (not yet fully erupted). The first tooth "came in green," and all the others have done the same.

Condition on Examination.

The child is well developed and well nourished, and weighs 28 lb. There is some rickety thickening of the bones about the wrists and ankles; otherwise the chest and limbs are well formed. Nothing abnormal was found on examination of lungs, heart, nervous system, or abdomen. The spleen is not palpable. The liver edge can just be felt at the costal margin. The urine and stools are normal. No jaundice is now present. Mentally the child is normal. The Wassermann reaction is negative.

I am indebted to Dr. Crombie, dental surgeon to the hospital, for the following report on the teeth: "The temporary teeth are stained green, to the extent of the whole of the crown of the central incisors, about three-quarters