4 minim doses respectively. Thirty-one hours after the second dose, about 4.30 a.m., the patient woke up shivering; temperature 105°, followed by sweating. There was no pain over the liver, but some splenic tenderness. Headache severe; tongue clean; face not swollen. On examination of the blood no parasites were seen. A leucocyte count showed 26,000 per c.mm.—polymorphs 81.5 per cent., lymphocytes 10 per cent., transitionals 8.5 per cent. On the question whether the above attack was similar to previous attacks the patient was emphatic that it was quite different; on the question as to whether the vaccine treatment was the cause, the long delay in onset (thirty-one hours) after the last injection was considered by Sir Almroth Wright to be somewhat against this theory, even if the doses had been too close together. About this time Dr. A. L. Punch of Brompton Hospital tested the blood by the complement fixation method for tuberculosis and found it negative.

On May 22nd he developed measles at Cambridge, twenty-eight days after leaving home. Subsequently he was operated on by Mr. Sidney Scott, F.R.C.S., for acute otitis media, and the lateral sinus had to be explored.

On July 8th diplopia developed. Mr. Holmes Spicer, F.R.C.S., reported homonymous hemianopia and convergent strabismus about 20 degrees, mainly left eye. There was no apparent diminution of movements in either eye. There was severe optic neuritis of the right eye and many retinal haemorrhages; the retinal veins were very full and tortuous. In the left eye the disc was highly coloured, the veins were full, and there was one haemorrhage on the nasal side of the optic disc. The right optic neuritis was still present on July 17th, but subsiding.

On October 2nd the right optic disc was still seen with *plus* four lens; the haemorrhages had all gone—a few dots remained outside the optic disc. Dr. Henry Cotton of University College Hospital made a thorough examination of the heart: he found it was slightly enlarged but within normal limits; there was no evidence of any valvular disease, past or present. He considered the prognosis good. Further radiographic examination was made by Dr. W. C. Long of Tunbridge Wells, with special reference to lungs, liver, and face. Nothing abnormal was discovered.

When seen in March, 1925, the patient seemed in perfect health and was engaged in medical study. He had put on a stone in weight, and was keen on athletic exercise. It is now three and a half years since his severe illness commenced, and during the last two and a half years he has been in normal health.

So far as one can see, the patient has overcome the very severe infection by a haemolytic streptococcus, twice isolated in almost pure culture—first from the dental root abscess, then from the mastoid discharge; the presence of streptococci in faeces may also have been connected with the marked hepatic and other symptoms which led to the opinion that there was an inflammation of the upper intestinal tract. Apparently no permanent organic change has taken place, though there is still a slight enlargement of both heart and spleen. It seems reasonable to consider the turning point to have been the extraction of an infected tooth which had given no trouble, and which the dentist had considered healthy a short time previously. Although blood culture during one of the acute attacks was negative, it is probable that streptococci were in the circulation at some period, and the extension to the meninges evidenced by the optic neuritis and strabismus makes the complete recovery of the patient all the more noteworthy, and should be an encouragement to those treating similar cases.

What, then, was the factor or factors which led to the triumph of the body defences? Most will allow that the removal of a septic focus was necessary; but how difficult to find in some cases, and how easy it is to be wise after the event! Drugs probably had very little influence. Secondly, a factor in recovery was the natural vaccine therapy of the body; this was either continuously in operation, or at those crises when rigors and high temperatures occurred—*ten* during four and a half months. Whether the few injections of autogenous vaccine helped or hindered is a question; in the matter of dosage and intervals between doses upon which Sir Almroth Wright has taught and is teaching, one realizes that Nature may be hindered instead of helped. The method of immunotransfusion, in which the blood of a suitable and healthy individual treated by vaccines is then transferred to the circulation of the patient, would seem to be ideal for such acute and anxious cases as this.

Finally, it is possible that clinical observations are correct in suggesting that one disease may oust another. Incompatibilities may exist between diseases; the onset of measles in this case may have been the decisive factor in determining recovery from a streptococcal infection so often fatal. Compare the effect of artificially produced tertian malaria upon the progress of general paralysis of the insane, and the effect of induced abscess formation upon kala-azar in the pre-antimony tartrate injection period.

Note by SIR W. H. WILLCOX, K.C.I.E., M.D.

The case described is of very great interest. The symptoms pointed clearly to a septicaemic infection of focal origin. The recurring attacks of rigors and high temperatures were undoubtedly due to recurring invasions of the blood stream with pathogenic organisms. The jaundice occurring early in the attack was no doubt due to a hepatitis resulting from the septic invasion. It seems clear that in this case the primary focus was an apical dental infection of the second right upper premolar, which was disclosed by x-ray examination of the teeth. A point of great interest is the relative increase in the lymphocyte count (50 per cent.) on February 19th, 1922, associated with a total leucocyte count of 6,000 per c.mm. (a slight leucopenia). I have often observed this phenomenon in cases of chronic septicaemia of dental origin. The organism seems to have been a haemolytic streptococcus associated with the apical dental infection, and the severe reaction after the autogenous vaccine confirms this view. The eradication of the primary focus of sepsis marked an important improvement in the patient's condition and the recurring rigors ceased—in other words, the big septicaemic invasions were stopped.

In cases of this type the removal of the primary focus of infection, if it is of long standing as in this case, is not necessarily followed by complete cure, because secondary smaller foci have probably become established in the bowel or elsewhere. In this case it is probable that this secondary infection was the result of the otitis media following the attack of measles. The inoculations probably played only a small part in the recovery of the patient, his immunity being no doubt mainly the result of the streptococcal invasions after the primary focus of sepsis had been removed. Had the primary focus remained it is very unlikely that immunity would have been established.

The case is similar to other acute cases which have been under my observation, and illustrates the supreme importance of the most careful search for foci of sepsis—in the teeth, tonsils, antra, bowel, kidney, bladder, etc.—in cases of obscure septicaemia. It also illustrates the great importance of the removal, if possible, of the primary focus of sepsis, without which continued improvement is impossible.

A FATAL INJURY OF THE VAGINA.

BY

R. BLAIR, M.B., CH.B.,

RECENTLY R.M.O. IN DUNDEE ROYAL INFIRMARY.

IN 1899 F. Neugebauer, under the title "*Venus cruenta violans interdum occidens*,"¹ reported on over 150 cases of coital injury gathered from publications; but individual cases still have interest, which, in the case here reported, is heightened by the unusual sequel. Of Neugebauer's list twelve cases were younger than 16 years and six older than 40—namely, 45, 47, 48, 50, 58, 59. (R. C. B.)

A woman, aged 55, was admitted under Dr. R. C. Buist's care on January 1st. She had had three pregnancies—twice twins. The menopause occurred at 40. She had become a widow, but remarried four months previously, and a week before admission felt pain during coitus. Bleeding followed, and continued a few days, being aggravated by vaginal examination or by douching. Three days before admission shivering attacks began and had continued; she became very ill, and was admitted to hospital. She was thin, ill, and deeply jaundiced, and complained of headache. The temperature was 99°, the pulse 98, and the respiration 24; the skin was dry, the tongue dry and furred. No abnormal signs were found in the chest or abdomen. Pelvic examination showed: senile vagina, uterus small and anterior, os closed; appendages normal. Inspection with speculum showed a tear 3 in. long running down the right side from the fornix, tapering off toward the vaginal entrance and sealed with clot. The leucocyte count gave 10,000, with 77 per cent. polymorphs. The very dark urine contained bile pigment; Fouchet's test was definitely positive. Glucose-saline solution was given by rectum, at first continuously and then every four hours, and submammary saline injections were given also. Fixation abscess was sought to be obtained on two occasions, but only induration resulted. Nuclein was given hypodermically and then by mouth. Blood culture was negative on two occasions.

On January 4th jaundice had deepened; the left parotid was swollen, but it subsided without suppuration. On January 5th the

¹ *Monats. f. Geburtsh. u. Gynaek.*, 1899, ix, 221, 389.

leucocyte count was 13,000; blood urea-nitrogen 43 mg. in 100 c.cm. Each day one or more rigors occurred and mental confusion developed. The temperature ranged from 97° to 103°, and apart from a short rally on January 8th exhaustion increased till death on January 12th, nineteen days after the injury.

Necropsy.

A necropsy, conducted by Dr. F. M. Milne, showed a closed tear along the right wall of the vagina, with softening, but no pus in the paravaginal tissue; a dark thrombosed vein crossed the back of the uterus to the left side, where it passed upwards to the brim of the pelvis; the left ilio-psoas muscle was purple-red in colour, in marked contrast to that on the right, and on section showed an appearance suggestive of gas formation to a slight degree. The liver was congested, but there was no abscess, no obstruction to flow of bile, and no gall stones; the spleen was enlarged; the lungs showed hypostatic congestion; kidneys were congested. The organs were otherwise normal.

Professor W. J. Tulloch examined the spleen and left psoas muscle bacteriologically, and reported in the muscle *B. welchii* and streptococci, both of which developed well in anaerobic culture; in the spleen were streptococci and Gram-negative bacilli; the latter were believed to be contaminants, but the former were "undoubtedly evidence of ante-mortem infection." With regard to the finding of *B. welchii* in the psoas muscle, it was thought that this might have been merely a post-mortem contamination, but "having regard to the condition of that area of muscle, it is quite possible that infection with that organism played a part in the pathology of the case."

My thanks are due to Dr. R. C. Buist for advice and for permission to publish the case, and to Dr. F. M. Milne and Professor W. J. Tulloch for their assistance.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

BULLET EMBEDDED IN TONGUE.

THE following case, which we believe to be unique, seems worthy of record. We shall be glad to learn from readers whether similar cases have been recorded before.

A soldier came into the hospital one day complaining of a lump in his tongue, which on examination proved to be firm and hard. The tumour was oblong in shape, with its longitudinal diameter in line with the right lingual artery. A little nearer the tip of the dorsum there was a small fistula from which pus oozed when the tumour was palpated. He gave a history of having been wounded in the recent fighting between the Chili and Fengtien forces, and a scar mark on his right upper lip bore testimony to our suspicion that the tumour may have been caused by a foreign body, which had become embedded and caused the sinus formation. He was operated upon, when a bullet was extracted. Had the latter penetrated a little further the lingual artery would have been injured.

P. K. LIANG,
C. H. LEI,
P. T. LIANG.

London Mission Hospital, Tientsin.

CYSTIC HYGROMA OF CHEST.

THE following case of cystic hygroma is reported on account of the unusual situation of the tumour and of its general interest.

A female baby, aged 6 weeks, was brought to the out-patient department of the Ingham Infirmary, South Shields, on March 23rd, with a large lump on the right side of the chest. The mother stated that it was present at birth, being then about as large as a hen's egg, and that it had got gradually bigger up to 5 weeks, and then commenced to increase rapidly in size. The tumour, the size of a Tangerine orange, was situated above and to the right of the right nipple. It was rounded, and not lobulated, and felt like a large cyst. There was no fluid thrill. It could be freely moved in the direction of the muscle fibres, but only slightly across them; it appeared, however, to be quite free in the subcutaneous tissue. The overlying skin was not adherent and was almost normal; there was no dimpling and only a suggestion of glazing. On the postero-lateral aspect of the right arm just above the elbow was a diffuse lobulated lipoma-like swelling, which the mother stated was also present at birth, but had not increased in size.

When I saw the child again, a few days later, the tumour had increased to the size of an ordinary orange. The overlying skin was now definitely glazed, and bluish in colour, but the tumour retained its former characteristics. It was thought to be some

type of degeneration cyst into which there had been haemorrhage, and removal was advised.

The child was admitted to the infirmary, and on March 27th Dr. Hamilton operated. The overlying skin was removed with the tumour, which was dissected out entire with some difficulty, as it was adherent to both the fascia and to the pectoralis major muscle, a small portion of which had to be removed. A small drain was introduced and the wound closed. Serum continued to escape for a day or two. The mass on the arm was not removed. The tumour consisted of a large central cyst with thick walls, and several small surrounding cysts. It was sent complete to the Clinical Research Association for examination. The following is the report:

"The section shows an extensive cystic hygroma, with evidence of continuous addition and haemorrhage. The walls are of granulation tissue, and the small cysts contain serum and lymph. Probably there was some abnormality of the blood vessels as well as of the lymphatic channels. There is no evidence of new growth."

The child was discharged on April 8th quite healed and in good condition.

I am indebted to Dr. Hamilton for permission to publish this case.

H. VERNON INGRAM, M.B., B.S. Durh.,
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POST-MORTEM CAESAREAN SECTION: A LIVING CHILD.

On February 21st Mrs. S., a Khasi patient, was admitted at about 11 a.m. in an unconscious state. She was immediately placed upon an out-patient examining couch and I was summoned without delay. I found her in her first and final eclamptic fit. There was marked oedema of the legs, for which she had not sought any treatment as, according to her husband, a similar swelling had not caused her any trouble either prior to, or at the time of, her three previous confinements. Before any treatment could be undertaken she collapsed quite suddenly and died about three minutes after admission. Examination showed that she was at about term, and that the child was still alive. Death was so rapid and unexpected that two minutes or more were spent in making quite certain that it was actual and not apparent. It must have been about seven minutes after death before a very hasty Caesarean section was performed. An apparently lifeless full-time male child was delivered. Artificial respiration was undertaken with great energy and efficiency by the two European sisters attached to the hospital, and they were well assisted by the Indian nurses under training. Before the operation wound had been hastily approximated the child was crying. He had a number of slight fits during the first twenty-four hours, but has since done very well, and as I write—sixteen days later—is making excellent progress.

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TREATMENT OF SYPHILIS THROUGHOUT PREGNANCY.

MANY syphilologists believe that once a woman has been infected with syphilis she should be treated throughout every subsequent pregnancy; but contrary views are held by some medical practitioners, who are supported in their opinion by the publication of cases in which one course of antisyphilitic treatment of an infected mother has been followed by a series of healthy children. The following case seems worth recording as it demonstrates the fact that even extensive past treatment will not necessarily prevent congenital infection.

A woman, aged 18, reported at a clinic in May, 1922, with lip chancre and papular syphilide; the Wassermann test of the blood was positive. She received, in addition to heavy dosage of mercury and iodides by the mouth, thirty-three intravenous injections of "914," totalling 17.5 grams, between May, 1922, and March, 1924. During that period the blood had been alternately negative and positive. It was considered to be a case of arsenic-fast spirochaetosis, likely to have benefited by the administration of bismuth. Menstruation ceased in February, 1924, and she consulted her medical attendant, who advised her to cease treatment during pregnancy. An apparently healthy child was born at term, but a month later snuffles and then anal condylomata appeared. The mother, on examination two months after confinement, was found to have large papular lesions on one labium majus from which *Spirochaeta pallidum* was obtained.

Glasgow.

ROBERT FORGAN.