INFECTIOUS HEPATITIS COMPLICATING PREGNANCY

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Infectious hepatitis complicating pregnancy is rare. Its incidence varies from 1 in 7000 (Dieckmann) to 1 in 20,000 (Dill). In the Lying-in Hospital, Madras, during a period of 18 months from January 1953 to June 1954, 28 cases of infectious hepatitis complicating pregnancy were treated. In the same period, the number of patients admitted were 10,920, giving an incidence of 1 in 386.

Age and Parity: Seventy-five per cent of our patients were below 25 years of age. There were nine primigravidae and the remaining were multiparous women.

TABLE I

Age Group of Patients.

Age groups	Number of cases	Number of deaths
15 to 20 years ..	10	3
21 to 25 years ..	11	3
26 to 30 years ..	5	1
Over 30 years ..	2	2
Total ..	28	9

Maturity: Most of our patients (75 per cent) were in the last trimester of pregnancy. Two patients were admitted with jaundice in the third week of the puerperium.

TABLE II

Period of Pregnancy of Patients Admitted with Infectious Hepatitis.

Maturity	Number of cases	Number of deaths
20 to 28 weeks ..	5	1
28 to 32 weeks ..	8	4
32 to 36 weeks ..	8	3
36 weeks to full term	5	1
Postnatal ..	2	Nil.
Total ..	28	9

Signs and Symptoms. The pre-icteric phase varied from two days to two weeks and the leading symptoms were anorexia, fever and vomiting. Epigastric pain was complained of by two patients. In one case, the disease set in with delirium and jaundice. In the icteric phase, the degree of jaundice varied and the duration was from three weeks to a month.

TABLE III

Duration of Jaundice Before Admission.

Number of days	Number of cases	Number of deaths
Within 3 days ..	11	7
From 3 to 7 days .	5	2
From 7 to 14 days ..	8	Nil
From 14 to 21 days ..	4	Nil
Total .	28	9

TABLE IV

Icteric Index of Patients on Admission.

Icterus index in units	Number of cases	Number of deaths
Upto 20 units ..	2	—
21 to 40 units ..	11	1
41 to 60 units ..	6	3
61 to 80 units	2	1
81 to 100 units ..	4	3
Not known ..	3	1
Total ..	28	9

Liver was palpable, about half an inch below the costal margin in only one case but in four patients there was tenderness over the right hypochondrium. Oedema of the feet was noticed in about 30 per cent of the cases. Two cases showed moderate rise in blood pressure. Eight of the patients went into hepatic coma, with one recovery. One of the comatose patients had twitchings of the face and hands; and another had convulsions and was mistaken for eclampsia on admission. In all these cases, bile pigments were present in the urine. We were not able to detect leucine and tyrosine crystals in the urine of comatose patients, though few red blood cells and pus cells were present on microscopic examination of centrifugalised specimens of urine.

Biochemical Investigations: The estimation of serum proteins was done in 15 out of 28 cases. In 7 the total serum protein content was less than 6 gm. per cent; but all of them survived. The globulin fraction was raised and was slightly higher than the albumen content in 9 cases (60 per cent), 3 of which ended fatally. The jaundice varied from mild to severe degree as shown in Table IV.

Treatment: The patients were given bed rest and a high carbohydrate, high protein and low fat diet. Protein hydrolysates or calcium caseinate was given orally as supplements. Every patient was given 60 ml. of 25 per cent dextrose, 10 ml. of 10 per cent calcium gluconate, 100 mg. of vitamin C and 2 gm. of methionine intravenously and 10 mg. of vitamin K intramuscularly daily for about a fortnight by which time jaundice was found to subside in most of the cases. About half the number of cases got methyl androstenediol 10 mg. daily by mouth and vitamin B_{12} 100 mcg. intramuscularly every day. Comatose patients were given 2 pints of 20 per cent dextrose intravenously and one pint of intravenous aminoacids in 24 hours. Six of these comatose patients were given aureomycin 250 mg. every six hours through the Ryle's tube. There was only one recovery; others died 24 to 36 hours after starting the treatment.

Results: Of the 26 pregnant patients, 19 delivered during the course of treatment in the hospital. Of these, 14 (53.8 per cent) were premature deliveries. Two of these patients

were comatose at the time of delivery. Postpartum haemorrhage was noticed in 9 (34.6 per cent) patients, of which 4 needed blood transfusions. The oozing of blood was persisting in small amounts for about 6-8 hours after the delivery in spite of prophylactic use of oxytocics in these cases. There was no postpartum haemorrhage in the two patients who went through labour in a comatose state.

Foetus: There were twenty babies, including a case of twins, born to 19 mothers. Three were stillbirths and two neonatal deaths. No jaundice was noticed in any of these babies at birth. The stillborn babies were not autopsied.

Maternal Deaths: Out of the 28 patients, 9 (32.1 per cent) died. Except for one, all the rest of the fatal cases were in the last trimester. Two died undelivered. Five patients died within 24 hours after delivery and of these 3 were comatose for some hours before death. In 2, coma set in 24 and 48 hours respectively after the delivery and the patients died 30 hours and 72 hours later. (In one case, coma set in 8 days after the delivery and she was comatose for the following four days before she finally recovered.) Partial autopsy was done in 5 of these cases.

Pathology: Macroscopic appearance: In 4 out of the 5 cases, the liver was smaller than normal and showed wrinkling of the capsule. In one case there was no appreciable diminution in the size. The surface was finely granular and showed red and yellow mottling revealing subcapsular haemorrhages in areas. In no case was there any coarse nodularity seen. The cut section was intensely bile-stained and displayed similar mottling as on the surface.

Microscopic appearance: The nature of the lesion was diffuse in 4 out of the 5 cases. (In one case where there was no shrinkage of the liver, there was focal necrosis). The necrosis was mostly massive and diffuse with complete disorganisation of the labour pattern of the liver (Fig. 1). The liver lobules in few areas

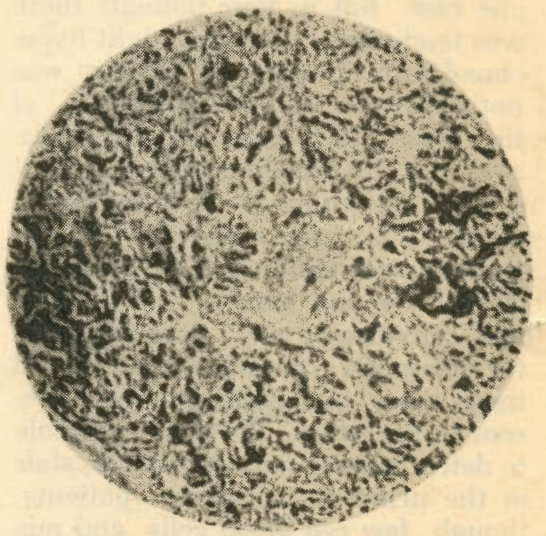

Fig. 1
Liver showing complete disorganisation of the lobular pattern (X 70).

showed surviving liver cells in the periphery showing thereby that the necrosis was mainly central and midzonal. There was no evidence of fatty degeneration in these surviving cells. The councilman-like lesions were present in all cases. The cellular exudate consisted mostly of round cells, few polymorphs, plasma cells and eosinophils. In one case, the appearance simulated section of a lymph node (Fig. 2). The central

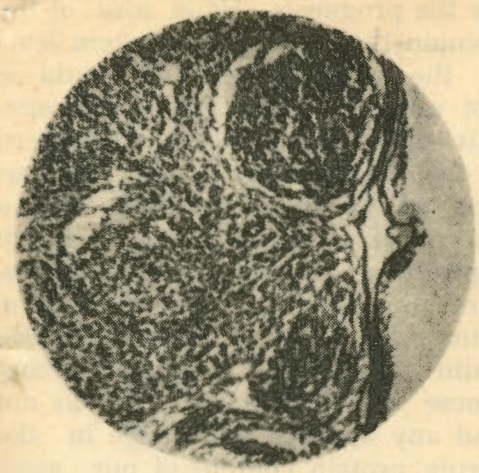

Fig. 2
Section of a liver simulating a lymph node (X 70).

vein showed endophlebitis with lumen filled with inflammatory cells and necrosed liver cells. The sinusoids were congested. The reticular framework was intact in most of the sections; but in one, the collapse of the liver lobule gave rise to reticular condensation closely resembling fibrosis (Fig. 3). The portal tracts were widened in all cases due to infiltration with cellular exudate. In one case evidence of early regenerative activity of the liver in the form of pseudotubules and mitotic figures was seen (Fig. 4). Bile

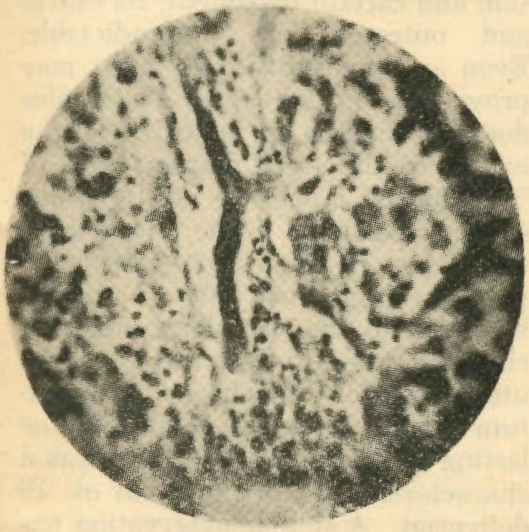

Fig. 3
Reticular condensation closely resembling fibrosis (X 70).

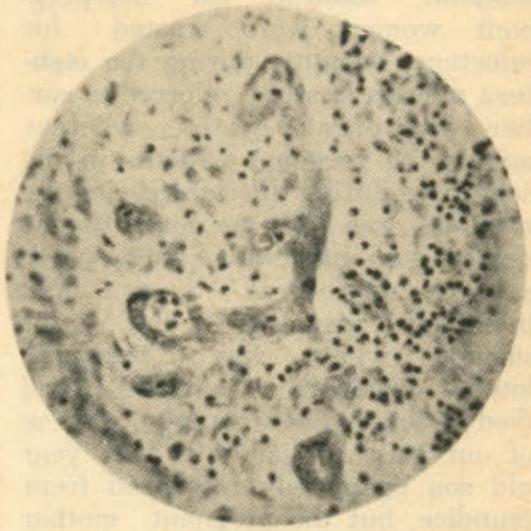

Fig. 4
Areas of regeneration containing pseudo-tubules (X 70)

thrombi were seen in all the sections.

Discussion: Infectious hepatitis when it complicates pregnancy makes the patient more susceptible to acute necrosis of the liver, often resulting in death. Cockayne was the first to point out this fact. Ballot, as early as 1859, had recorded an epidemic in St. Pierre in the Island of Martinique in which 8 pregnant women suffered from infectious hepatitis; 7 of them delivered within a fortnight after the onset of jaundice and all died 3-38 hours after the delivery. Other workers too have observed the high motrality in pregnant women suffering from infectious hepatitis. In a

series of 29 cases described by Zondek, 17.2 per cent died. In India, Wahi mentions an epidemic where 37 women were attacked with 16 deaths, out of which 13 were pregnant. In the Stanley Hospital, Madras, 38 non-pregnant women were treated for infectious hepatitis during the eighteen months of study referred to earlier, with only 2 deaths, whereas among the pregnant patients in the same area during the same period the mortality was 32.1 per cent. Hardie describes an interesting case in which a boy recovered from mild infectious hepatitis but his sister, who was pregnant, later developed jaundice and died of acute yellow atrophy. In one of our series, a patient's four year old son completely recovered from jaundice, but the pregnant mother developed jaundice a month later and died of massive necrosis of the liver.

Acute liver necrosis is no longer considered as a toxaemia of pregnancy but as a severe form of infectious hepatitis affecting pregnant women. The cause of this massive liver necrosis and the associated high mortality has been discussed fully by Himsworth and Glynn, who think that it is due to nutritional deficiency. This condition may be brought about by the diversion of the essential protective nutrients from the mother to the foetus. Besides, there may be a deficient intake or absorption of these substances due to anorexia or vomiting during pregnancy. Nixon emphasises that the higher the nutritional level the better the prognosis. He is also of the opinion that the serum protein level or the albumen globulin ratio is not altered during infectious hepatitis unless the disease has advanced to the chronic stage leading to scarring of the liver. He adds, that in icterus of pregnancy, as in severe types of pre-eclampsia or eclampsia, there is lowering of the serum proteins with reversal of albumin-globulin ratio, the prognosis being worse in such cases. We do not find any appreciable change in the serum protein content of our cases because a slight fall of the total proteins and of albumen with a small rise of globulin contents of the serum proteins (without any reversal of the albumin-globulin ratio) is considered normal during pregnancy (Menon).

Infectious hepatitis when it complicates pregnancy, particularly the last trimester, requires great attention and careful treatment. Its course and outcome are unpredictable. Even an apparently mild case may prove fatal as the degree of jaundice does not give us an indication of the extent of the liver damage. Out of 9 deaths in Lock's as well as our series, 7 belonged to the last trimester. Most of them (53.8 per cent) got into premature labour, probably due to the stimulant effect of cholic acid and its derivatives on the uterine muscle (Kehrer). Postpartum haemorrhage of the delayed type lasting for about 6 to 8 hours was a characteristic feature in 9 out of 19 deliveries. A similar observation has also been made by Mickal in two of his fatal cases. This can be explain-

ed by the hypo-prothrombinaemia as a result of the liver disease.

Regarding treatment, the patient is given complete rest till the liver function tests show the restoration of the liver to normal. She is given a high protein and high carbohydrate diet. Fats need not be cut off but lipotrophic factors like methionine or choline, stenediol and vitamin B_{12} should be used. The value of antibiotics in infectious hepatitis is still very limited and our experience with aureomycin is not satisfactory. The obstetric treatment is purely conservative. Zondek and Mickal strongly advocate a line of non-interference. They believe that operative trauma and anaesthesia in critically ill patients may prove disastrous. Nixon, though he advocates a conservative attitude, advises interference in early cases of icterus of pregnancy where there is obvious malnutrition. We have not terminated pregnancy in any of our cases. Instead, every case of infectious hepatitis, particularly that complicating the last trimester, we have been treating conservatively on the lines indicated earlier.

None of the 20 babies showed any evidence of jaundice at birth. Two babies born to comatose patients were apparently healthy. Zondek and Bromberg consider that the foetus does not get infected as the virus is not transmissible across the placental barrier. Probably, to affect the foetus, it must be found in sufficient concentrations in the early formative stage of the embryo. Still, cases of necrosis of the liver, with lesions similar to infectious hepatitis, have been recorded in the new-born foetus by Dible and Wahi.

Summary

The incidence of infective hepatitis complicating pregnancy in the Lying-in Hospital is 1 in 386. For a period of 18 months from January 1953 to June 1954 out of 28 cases of infective hepatitis complicating pregnancy which were admitted into the hospital for treatment, 9 patients died. Partial autopsy was done in 5 of these patients and the findings are recorded.

The mortality due to infective hepatitis is much greater in pregnant women than in the non-pregnant. When it complicates the last trimester of pregnancy it often leads to acute hepatic necrosis with fatal results. Hence, a pregnant patient with infective hepatitis requires very careful management. There is no indication for termination of pregnancy. The delivery is mostly premature and the incidence of postpartum haemorrhage is fairly high in these patients.

Acknowledgement

We must thank Dr. P. Madhavan, B.A., M.D., Professor of Midwifery, and Dr. G. D. Valiath, M.D., Professor of Pathology, Stanley Medical College, Madras, for their help in preparing this paper.

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Obituary

RUKHMABAI (1864-1955)

Dr. Rukhmabai was the pioneer woman of India to take to the medical profession. There were two other contemporary medical women preceeding Dr. Rukhmabai but both succumbed to T. B. infection at an early age. Dr. Rukhmabai was born in 1864 and brought up in old orthodox ways. She married at an early age of 12, but at the age of 17 owing to shortcomings of the young man, her family had to resort to legal proceedings for separation which was granted to her after some compromise. Her case caused much sensation in the press and the British resident officials took great interest and befriended her. Dr. Pechey Phipson, the first medical officer of the Cama Hospital, took personal interest in Dr. Rukhmabai and made special arrangement with some friends in England to help her to go abroad for medical studies. Those were the memorable years of Dr. Rukhmabai's life. She was received in high social circles, where she made some personal friends and this friendship she kept up throughout her life. Dr. Rukhmabai returned

to Bombay after qualifying in 1895 and worked as a house-surgeon at the Cama Hospital for eight months. She was soon transferred to Surat in charge of a hospital and dispensary for women and children, which post she held for 22 years. Her next assignment was to Rajkot where she worked for 12 years more. She was the first Indian woman to be admittel to Women's Medical Service from which she retired in 1930. Being the first Indian woman doctor Dr. Rukhmabai had to work against much opposition and prejudices of different communities particularly in the practice of obstetrics, but with patience, perseverance and tact and without antagonizing the population she managed to surmount the difficulties, gradually gaining popularity. At Rajkot she had to attend the zanana of all the Rajahs of Saurashtra. Her dignified manner and self-confidence won admiration from one and all and she could count upon number of Ranis and Rajahs as personal friends. For her selfless service during the plague epidemic of 1897 and that of influenza in 1918, Government awarded her Kaiser-e-Hind Silver Medal and later added a bar to the medal. Dr. Rukhmabai had to carry on her arduous work without any qualified nurses. She took it on her own to have some widows trained by raising a fund, and made it her task to educate these girls herself often starting with teaching them alphabets. She carried on this work of education even after retirement from medical practice thus encouraging the young girls to enter some honourable profession.

Dr. Rukhmabai had varied and wide interests and she kept herself abreast with the times. She had an unsurpassable capacity of making friends in every sphere and amongst all ages. Uptil the last she had a welcome smile for all who visited her at her bed side. A great and noble personality has passed away but the memory of her noble work will remain alive for many years to come.

"May her soul rest in peace".

Obituary

B. R. PATHARKAR (1896-1955)

Dr. B. R. Patharkar was born in a two-room tenement somewhere in Bombay (Girgaum) in 1896. His mother was seriously ill immediately after his birth and his father being too poor could not secure adequate medical aid for her, and she expired on the eleventh day.

He was educated in a school in Poona (Shivajinagar), and then at the Fergusson College. At the time of his entrance to the Grant Medical College his father told him of the tragic death of his mother and with feeling advised him not to practice medicine for the sake of money. This wish was fulfilled by him. While at the Medical College he was extremely fond of dramatics and more than once had the temptation of quitting medicine to enter this profession. The strong character of his father and the stern discipline, however, prevented him from doing so.

His selection of midwifery as a profession was mainly due to precarious

financial circumstances, but once he entered the profession he had those words of his father constantly ringing in his ears, and he put his whole energy to his work. In the beginning he was so sensitive that when a patient was seriously ill, he would come home, put off lights in his room anl just lie down without any food.

When Sir Ness Wadia started the Wadia Hospital in 1923 in commemoration of his father Nowrosjee, Dr. Patharkar joined as a resident medical officer. The then Wadia Hospital had six beds only, in a rented building at Parel. In those days women were most reluctant to go to a hospital for their confinements and Dr. Patharkar together with Dr. Desai and Matron Magee had to go round to induce patients to come to the hospital. Such was their undaunted spirit, pioneering work and devotion to duty that in less than three years it was found necessary to expand the institution, and the present magnificent hospital of 150 beds was built by Sir Ness in 1926. Dr. Desai died after a few years and Dr. Patharkar continued to give service to the poor until his retirement in 1954. The present popularity and prestige of the hospital is in a large measure due to Dr. Patharkar. Scores of resident accoucheurs have learnt their practical obstetrics from him and many of the junior consultants in the city and outside take a legitimate pride in acknowledging him as their 'guru'.

Dr. Patharkar was a very religious man and during the last few years he was a devotee of a religious 'guru' in Malad and obtained his spiritual guidance from him. Although Dr. Patharkar is no more in body yet he will be remembered with reverence and gratitude by his patients and the staff.

ABSTRACTS

William J. Garrett: A Study of the Effects of Dihydroergotamine on the Intact Human Uterus, Part I — "Sympatholytic" Properties: Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 145, 1955.

Excess endogenous adrenaline and over-action of the uterine sympathetic nerves are contributing factors in the aetiology of incoordinate uterine action. In recent years an adrenaline blocking drug has been used as a therapeutic measure. Dihydroergotamine which has powerful adrenaline blocking properties and yet devoid of oxytocic activity was used in this study. The effects of adrenaline and noradrenaline on the intact human uterus before and after the use of "sympatholytic" dose of dihydroergotamine, was studied. The maximum dose was 0.25 mg. by intramuscular injection and 0.1 mg. per ½ hour by slow intravenous infusion.

No difference was noted in the uterine response to adrenaline and noradrenaline before and after the intramuscular injection of dihydroergotamine. By intravenous use the uterine contractions were still inhibited by adrenaline.

Only one woman was studied in the puerperium. When dihydroergotamine had induced uterine contractions in a previously quiescent uterus, it was found that these contractions could be inhibited by adrenaline.

W. F.

Mostyn P. Embrey and William J. Garrett: A Study of the Effects of Dihydroergotamine on the Intact Human Uterus, Part II — "Oxytocic" Properties: Jour. of Obst. and Gyn. B. E.; Vol. LXII, p. 150, 1955.

This study was undertaken to confirm or dispose of the clinical suspicion that dihydroergotamine may be directly oxytocic in action. Tocographic evidence from 26 healthy puerperal patients showed that dihydroegotamine in varying amounts up to 1 mg., by both intravenous and intramuscular routes, is very active in stimulating uterine contractions.

Due to its strong oxytocic properties DHE is a dangerous drug to use in inco-ordinate uterine action.

The authors review the history of dihydroergotamine. Hitherto it has been regarded as an adrenaline — blocking agent rather than a direct oxytocic drug.

W. F.

A. C. Turnbull: Radium Menopause or Hysterectomy Part I — The Effects of the Radiation Menopause — A Controlled Study: Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 176, 1955.

This paper deals with the question of how the symptoms which develop after radiation menopause compare with those after natural menopause, and includes a study of 101 cases where menopause was induced by radiation, and 56 cases where it occurred naturally. Radium dosage was 2,400 mg. hours. With X-ray a total of 600 r. was given in 3 treatments.

The incidence of post-menopausal flushing, especially of the more severe grades, was about the same in both groups, varying largely with the degree of the pre-

menopausal disturbances, on the age and parity of the patient.

There was a higher incidence of emotional instability before the menopause in the women who required radiation, than there was in the control cases.

Approximately 70% of the women had a moderate or strong sex urge before the menopause, only 30 per cent had the same urge after it. The reduction in the sex urge was not related to the type of menopause.

The incidence of dyspareunia after the menopause was closely related to the premenopausal incidence. It is doubtful if structural changes in the vagina resulting from the menopause, natural or artificial, are of much importance.

Vaginal discharge is more likely to be cured where the menopause is induced than when it occurs naturally. On the other hand, vaginal discharge is more likely to develop for the first time when the menopause is induced by radium although this is not common nor is it serious. The results presented here, support the view that one should not be deterred from inducing menopause by radiation for fear the menopausal symptoms would be worse than if the woman had a natural menopause.

W. F.

Wallace Barr and Alexander A. Charteris: The Treatment of 850 Cases of Simple Uterine Haemorrhage by Intra-Uterine Application of Radium: Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 187, 1955.

The authors analysed 850 cases treated by intra-uterine radium application. A dose of 50 mg. for 30 hours was used. 15% were under the age of 40 yrs, but as a result of the present investigation the authors believe that 42 is the lowest age at which artificial menopause should be induced.

All patients had bleeding of some type. Other symptoms included vaginal discharge and pain.

82% of the series had either no detectable abnormality or only slight enlargement of the uterus on bimanual examination. 10% had fibroids, the maximum enlargement corresponding to 3 months' pregnancy. One-fifth of all cases had prolapse of the uterus. One-fifth had some degree of chronic cervicitis with or without erosion.

Curettings of more than half the cases showed no abnormality of those with recognizable pathology. 27.1% showed some degree of cystic glandular hyperplasia, 2 cases had tuberculous endometritis.

A satisfactory result from the primary treatment was obtained in 774 cases, while 56 required further treatment and were given a second application of radium. 10 patients had amenorrhoea followed by re-establishment of menstruation. All these patients were under 36 years of age. Four patients developed some form of neoplasm at a later date, but in only 2 of these did this affect the uterus.

The incidence of menopausal symptoms was not more severe or greatly different from what might be expected naturally.

There were no deaths and post-operative complications were few.

W. F.

Sir Arthur A. Gemmell: Phaeochromocytoma and the Obstetrician: Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 195, 1955.

The author reports a case of phaeochromocytoma, and reviews two others,

together with 212 cases studied by him. A phaeochromocytoma is a localised growth of the adrenal medulla which is functionally active in that it produces adrenaline and nor-adrenaline. Such tumours are sometimes bilateral and occasionally malignant.

Age Incidence — Twenty-two patients were under 19 years. One aged 5 months, 13 between 10-14 years and 8 between 17-19 years. This suggests an underlying genetic factor in the condition that tends to be wakened into activity at times of endocrine development.

From the age of 20 upwards there were 174 cases but the symptoms only developed after the age of 50 in 27 cases. This suggests that if the cause is genetic, the tendency may remain latent for many years. There may be a familial tendency. Of the total 85 women known to be parous 17 had toxaemia of pregnancy before the symptoms referable to the phaeochromocytoma developed. (20%). This is considerably higher than the 13% which has been found to be the ovarall risk of a woman developing toxaemia at some time in her child-bearing period.

Severe headache is the most common symptom. Hypertension typically labile but may be sustained in some patients. Most patients have one or more hypertensive crises. The picture is one of headache, vomiting or nausea, a raised blood pressure and hypertensive attacks which are taken to be fits, so the differential diagnosis from eclampsia is difficult. Albumin is not common and should help to distinguish between the two. Oedema is very rare and there are no changes in the kidneys in fatal cases similar to those seen in eclampsia.

Remission in symptoms may occur after pregnancy, but symptoms are again aggravated in the next pregnancy. Diagnosis is difficult, but aids to it are:

(1) The production of hypertensive attack by intramuscular injection of histamine.

(2) The production of an immediate fall of at least 40 mm. Hg in the systolic blood pressure by injection of Piperoxane, Dibenamine or Regitine. This test must be done when the pressure is at its peak rise.

(3) Outlining the tumour by perirenal pneumography.

(4) If a patient has a tumour large enough to be palpable, massage of the tumour precipitates a hypertensive attack. Treatment is surgical removal of the growth. As soon as the tumour is exposed its blood vessels should be sought and tied, before the tumour itself is touched.

The author stresses the point that a pregnant woman who shows hypertension as a dominant physical sign may therefore be suffering from toxaemia, essential hypertension a phaeochromocytoma, so the last named must be considered in this differential diagnosis.

W. F.

John Peel, John Dawson and Gordon Mather: Choriocarcinoma: Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 232, 1955.

The authors report two unusual cases of choriocarcinoma.

Case I. A parous woman aged 34 years had a curettage at the time of a 4 months' miscarriage and again 6 months later for vaginal bleeding. Immediately after she developed a cough with blood-stained mucous, symptoms which later proved to be due to metastases. The uterus, both ovaries and tubes were removed with the hope that the metastases would

regress following removal of the primary tumour. Radiotherapy was started later, but stopped as the patient complained of severe frontal headache. She developed a left hemiplegia and papilloedema and died.

Ascheim Zondek test before operation was positive 1/100 dilution.

Section of curetted fragments from body of the uterus showed no trace of choriocarcinoma. Neither hysterectomy nor radiotherapy had any effect on the course of the disease and no evidence of the primary growth was found despite careful search after death.

Case II. A parous woman aged 31, had curettage for vaginal bleeding of 4 months duration with no history of amenorrhoea. The curettings showed appearances highly suggestive of chorion epithelioma. The uterus was not removed because repeated urinary tests showed absence of gonadotrophins. The A-Z test continued to be negative for the next 15 months inspite of periods of amenorrhoea, and the development of a carneous mole which on section showed similar appearances to the previous section, but would not enable one to make a firm diagnosis of choriocarcinoma.

The A-Z only became positive when metastases had occurred 20 months later. At this time the uterus was asymmetrically enlarged. The uterus tubes and ovaries were removed. Oestrogens were given in very large doses, but did not affect the course of the illness.

Both these cases had prominent pulmonary symptoms. In one the primary growth could not be found and in the other the A-Z test was persistently negative. The authors conclude that the presence of gonadotrophins is not essential for diagnosis of choriocarcinoma if there is good clinical and histological evidence.

W. F.

Gordon M. Parkin: Mono-Amniotic Twin Pregnancy: Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 247, 1955.

Two rare cases of mono-amniotic twin pregnancy are reported. The placenta was single in both cases without evidence of separation into two parts. The two cords were inserted close together with numerous anastomoses between their vessels. No evidence of any remnant of membrane could be found between the insertions. In one case the two cords were entwined about each other, but no true knots were present. In the other case, the two cords were knotted together in two places.

There is no risk to the mother, though locking of twins might occur. Foetal mortality is high due to knotting of the cords.

W. F.

R. H. Martin and D. N. Menzies: Oestrogen Therapy in Missed Abortion and Labour: Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 256, 1955.

Forty-seven inductions were carried out on 45 patients with a control group of 52 cases. The method used was—

(1) Stilbestrol 5 mg. orally 4 hourly for 7 days
(2) Progesterone 5 mg. intramuscularly 4 hourly for 7 days
(3) Sodium citrate 2 gr. orally 4 hourly for 7 days

If labour or abortion had not started at the end of any course of treatment quinine sulphate 5 gr. was given orally 3 times at hourly intervals, followed by intramuscular injections of 2·5 units oxy-

tocin at hourly intervals for 6 doses. The overall success rate was 90%. However the success rate with oestrogen was lower than with the other methods being 73% as compared with 78.5% for progesterone and 91% for sodium citrate. Stilbestrol has no advantage over the other two.

The average duration of labour after stilbestrol induction (20 hrs.) was longer than that after progesterone (17 hrs.) and sodium citrate (16.9 hrs.).

Parity did not affect the overall results. The duration of pregnancy at the time of the intra-uterine death did not influence the results in regard to either the outcome of treatment or the interval between death and delivery.

When foetal death is not followed by abortion or labour within a few days, then no matter whether the case is left untreated or whether induction is attempted the foetal death — abortion interval approximates 21 days. It is unnecessary to offer treatment until a dead foetus is retained for longer than 3-4 weeks.

W. F.

D. F. P. Gordon: Recurrent Vomiting in Pregnancy: Three Cases of Hiatus Hernia: Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 259, 1955.

Three cases of hiatus hernia in pregnancy are reported and the literature on the subject reviewed.

The cause of the defect is obscure, but laxity of the tissues at the oesophageal hiatus seems to be the underlying factor, associated during pregnancy by a raised intra-abdominal pressure. Symptoms are manifold. The main symptoms are heartburn and vomiting, posture influences the discomfort, and all smytoms disappear after delivery. Haematemesis may occur. A case of perforation of a high gastric ulcer into the mediastinum, and another of oesophageal stricture following vomiting of pregnancy are recorded. Treatment is difficult and most relief is obtained by sleeping propped up in bed with correction of the upset electrolytic balance.

W. F.

J. M. Brudeneli: Chronic Endometritis and Plasma Cell Infiltration of the Endometrium: Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 269, 1955.

The endometrium from 608 patients was examined, all pathological cases being excluded. Plasma cells were found in 46 sections, an incidence of 7%. The cases were further sub-divided into those which showed heavy infiltration, moderate infiltration, and those in which only a few plasma cells were found. Five cases showed heavy infiltration but only one was considered to be a true chronic endometritis as it was associated with increased cellularity of the stroma by lymphocytes and macrophages. The remaining 4 cases were normal premenstrual endometria with no other deviation from normal, but 3 of the 4 cases were associated with active chronic salpingitis.

In 10 cases with moderate numbers of plasma cells, 5 cases were pre-menstrual plasma cells, and 5 were not. All the latter were associated with active chronic salpingitis.

Of 31 cases, showing small number of plasma cells, 27 had normal premenstrual endometrium and 4 had no premenstrual changes but showed non-secretory endometrium. These 4 cases were associated with chronic cervicitis.

The incidence of chronic endometritis in this series is less than 0.2%.

The author concludes that plasma cell infiltration of a slight or moderate degree is fairly common and is a transitory phenomenon to which no significance should be attached.

W. F.

Derek Llewellyn-Jones: Premature Babies in the Tropics. Jour. of Obst. & Gyn. B. E.; Vol. LXII, p. 275, 1955.

A simple regime for working a premature baby unit is described. The climate of Malaya is favourable to premature babies, the average daily temperature being 89°F and the humidity is always high (70%). Treatment was simple. Babies were seen daily, but the general care of the units was by the staff nurse with the help of two midwives for a 12-bedded unit. A cyanosed infant was nursed in an oxygen tent for 24 to 48 hours, those not cyanosed were not given oxygen. Breast feeding was given to those strong enough to suck, but feeding by pipette or spoon to others. Feeds were given 3 hourly starting 24 hours after birth. Vit. A and B and iron were started after 7 days. Breast milk was used where possible.

66.3% of all admissions whose birth weight was between 2 pounds and 4.5 pounds were discharged alive.

Incidence of prematurity was 9.08% if still-births are included, and 6.72% if they are excluded.

The steep drop in mortality still occurs at 4.5 pounds in the case of South Indians but in the case of Chinese the drop is less steep and extends into the 4 pound 8 ozs. to 5 pound group.

It is suggested that the standard of prematurity should be 4 pounds 7 ounces (1,999 g.) for tropical lands, but that each country should investigate its own people.

W. F.

J. I. Brewer and F. M. Maker: Conservatism in Endometriosis; Am. J. Obst. & Gyn.; Vol. 68, 549, 1954.

As approximately one-third of the patients will subsequently conceive if conservative procedures are employed, and if there are no other causes for sterility, the authors advocate conservatism in those patients with endometrosis who are desirous of having children. If the patient has dysmenorrhoea, this can be relieved by oestrogens orally for 6 days before ovulation. More persistent and severe pelvic pain may be controlled by daily doses of 10 to 100 mg. of diethylstilboestrol, but such therapy should not be continued for more than 2 or 3 months. Good results have been achieved by androgens, in doses not exceeding 200 mg. per month, but oestrogen therapy is just as effective and is less prone to produce aggravating side effects. If the patient has abnormal uterine bleeding, this can also be relieved by large daily doses of oestrogens. In this way it is possible to postpone operative treatment for a considerable length of time in young patients, who may become pregnant. Radiation therapy, with the idea of producing temporary castration, is not advisable, as there is a risk of it producing permanent castration. If conservative surgery has to be employed, attempt must be made not to interfere with future childbearing. Endometrial ovarian cysts can be easily enucleated. Small endometrial implants on the peritoneum may be left alone. Their presence is not an indication for radical operation.

S. A.

J. S. Zelenik, M. D. Altamirano, and H. Prystowsky: I. Studies on Rh. II. The antepartum Prediction of Haemolytic Disease in the Newborn with the aid of Antihuman Globulin Serum: Am. J. Obst. & Gyn.; Vol. 68, 633, 1954.

It has been observed that some mothers with high Rh antibody titres have infants who are not affected at all; while, occasionally, mothers with low antibody titres have been reported to have babies that have been severely damaged. This unsatisfactory correlation between the degree of antibody titre in the mother and the degree of disease in the infant has caused many physicians to disregard any Rh antibody titre studies on the mother. Instead, they rely entirely on a history of previous serious disease in an infant for the purpose of prognostication.

A more helpful aid in the prenatal study of haemolytic disease of the nowborn is th use of antihuman globulin serum. In a series of pregnant women who were Rh negative, the saline, albumin and anti-human globulin titre were determined at regular intervals.

In the first group of 31 mothers, where only albumin titres were done, it was found that, when only albumin titres were present in the maternal circulation, the Coombs' test was negative in every patient. There was no haemolytic disease of the newborn, even though albumin titres ranged as high as 1:128.

In the second group of 34 mothers, with both albumin and globulin titres, it was found that when antihuman globulin antibodies were present in addition to the albumin antibodies the infant's Rh type was positive in every case. The infant's Coombs' test was negative when antihuman globulin titres were less than 1:8. The Coombs' tests were positive when maternal globulin titres were 1:8 or over. Albumin titres were present in every instance where globulin antibodies were detected. In those women of this group where there was a sudden rise in the globulin titre in a period of 1 to 2 weeks, every infant was moderately affected by the haemolytic process.

The few patients who demonstrated saline antibodies were insignificant, and not much information could be obtained from these.

On the basis of this study with the antihuman globulin serum, one can predict an Rh-positive infant and a Coombs' positive infant if the titres are higher than 1:8. In the cases where the antihuman globulin titre was less than 1:8, the Coombs' test was negative in each infant, though the Rh type was positive.

S. A.

J. W. Reagan and R. L. Sommerville: A Cellular Study of Uterine Aspirations; Am. Jour. Obst. & Gyn.; Vol. 68, 781, 1954.

A total of 513 patients who were to have some operative procedure, were examined by means of aspirations obtained from the uterine cavity using a small blunt tipped laryngeal cannula attached to a syringe. Specimens were also obtained by aspirating the cervical canal and scraping the ectocervix. This group included 20 cases of proved adenocarcinoma and in 18 of these the diagnosis was established by endometrial aspiration, while in only 14 cases did cellular studies of aspirated material from the cervical canal reveal recognizable malignant cells. The large number of

failures to detect uterine adenocarcinoma by the examination of aspirations from the cervical canal or scrapings from the ectocervix may be attributed to (1) the degeneration of exfoliated cells by the time they reach the cervix or posterior vaginal fornix, (2) the sparsity of the cellular elements, (3) associated cervical stenosis in some cases, and (4) a greater difficulty in appreciating changes in smaller cell forms.

S. A.

R. H. Kunstadter and A. Tulsky: Diagnostic Transabdominal Pneumoperitoneum in Children; Am. Jour. Obst. & Gyn.; Vol. 68, 819, 1954.

The authors advocate this method of examination to determine the presence of pelvic anomalies in all children and virgin adults with sex endocrine disturbances where a bimanual examination of the pelvis may be physiologically impossible or impracticable. The procedure is contraindicated in the following cases:— (1) if the patient has an active intraperitoneal inflammatory process, (2) if there is reason to suspect adhesion of bowel to the parietal peritoneum at the site of puncture, (3) if the patient has any cardiac or respiratory embarrassment, or (4) if a systemic infection is present.

Stein's technique is used, which consists of introducing a measured amount of carbon dioxide or oxygen into the peritoneal cavity, after a preliminary administration of a sedative; the outline of the pelvic viscera were then visualized roentgenographically. In this way, the clinical diagnosis can be established without a laparotomy.

Twenty-one cases, which consisted of ovarian agenesis, hypopituitarium, hypoovarianism, cystic ovary, sexual precocity, pseudohermaphroditism and polycystic ovaries, were studied.

S. A.

A. P. Barry, J. K. Feeny and F. J. Geoghegan — Accidental Haemorrhage — B. M. J., July 2, 1955, p. 12.

Authors review over 3000 cases of accidental haemorrhage which were treated in three Dublin Maternity hospitals, during a period of 25 years (1929 to 1953). Three main complications render accidental haemorrhage one of the most serious happenings in present day obstetrics. They are (a) — progressive and intractable haemorrhage resulting from a deficiency in the clotting power of the blood (b) — anuric renal failure (c) — foetal asphyxia. The foetal loss in all cases of accidental haemorrhage has been about 50%. There were 106 maternal deaths, a case mortality of 3.3%. Haemorrhage was responsible for one half the deaths, renal failure for one quarter and other causes including eclampsia, puerperal infections, apoplexy etc. for the remaining quarter. In a noteworthy proportion of the haemorrhage cases it was stated that the blood which had escaped per vaginam failed to clot or that non-clotting blood was found in the wall of the uterus, in the peritoneal cavity or between the layers of broad ligament.

Cases are classified as mild, moderate and severe. Mild cases are those with no symptoms or signs apart from slight vaginal bleeding. In general, they require no special treatment other than bed rest, sedation and attention to toxaemia, if present. Moderate cases are those showing some shock or moderate external loss and some internal bleeding as indicated by hypertonicity of the uterus and abdominal tenderness. Such cases should be

treated by immediate puncture of membranes combined with blood transfusion of 1 litre or over. Labour should be stimulated by pitocin. A catheter must be inserted and constant observation of urinary output maintained. Clotting time should be observed from hour to hour.

Severe cases are those exhibiting shock and tender distended uterus, of board-like consistency together with an absence of foetal heart sounds. Such patients should receive a sedative such as morphine gr. ¼. A rubber catheter must be placed in the bladder and renal secretion recorded. The simple clot observation and Schneider tests should be performed at hourly intervals. Blood transfusion, at least 3 pints, should be administered. The transfusion should be rapid. The membranes must be ruptured as soon as possible so as to reduce intra-amniotic and retroplacental tension. If the clotting defect has not been controlled by brisk transfusion, pure fibrinogen in a dose 4 to 6 g. or plasma solids 72 to 108 g. must be given intravenously. If urinary secretion does not rapidly return to an amount of at least 1oz. an hour, bilateral splanchnic block should be performed. If haemorrhage has been controlled, if patient's general condition is improving and if the kidneys are secreting not less than 1 oz. an hour, vaginal delivery is awaited and its advent may be hastened by administration of pitocin. If bleeding continues or if the kidneys have failed to respond to block, then the uterus should be emptied immediately by lower segment caesarean section.

B. V. A.

T. N. A. Jeffcoate and J. K. Wilson—The effect of Hydergene on Uterine Action. Lancet, June 11, 1955, p. 1187.

Authors investigated the claims of hydrogenated ergot alkaloids marked under the name "Hydergine".

Intravenous Hydergine by drip was used in 5 primigravidae in labour. In 59 primigravidae it was used intramuscularly. The only possible effect of hydergene noted was to quicken the first stage slightly in those cases where it was already proceeding rapidly. There was no significant difference in the length of second and third stage in hydergene treated cases as compared with the controls.

There is nothing to support the idea that hydergine favours relaxation of the cervix and lower segment. Hydergine failed to inhibit contractions induced with oxytocin and in some cases it acted synergistically rather than antagonistically.

The results of this clinical investigation indicate that hydrogenation of ergot alkaloids does not deprive them of their oxytocic action, let alone reverse it. The persistance of this property means that their use involves a risk which is not compensated by any other demonstrable effect on the uterine efficiency.

B. V. A