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BULLETIN

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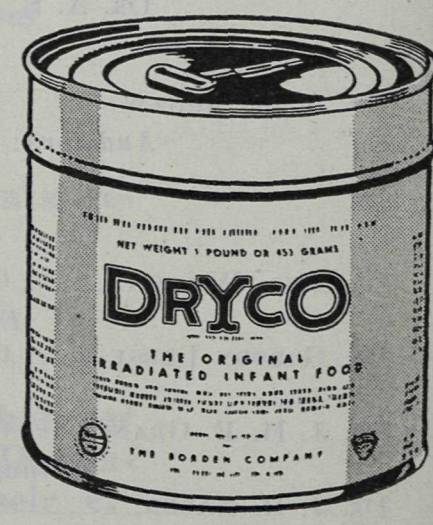

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VANCOUVER HEALTH DEPARTMENT

CASES OF COMMUNICABLE DISEASE REPORTED IN THE CITY

STATISTICS—FEBRUARY, 1948

Total Population—Estimated	354,045
Chinese Population—Estimated	7,979
Hindu Population—Estimated	275

	Number	*Rate Per 1,000 Population*
Total deaths	406	14.5
Chinese deaths	23	36.4
Deaths, residents only	372	13.3
BIRTH REGISTRATIONS:		
Male	335	
Female	344	
	679	24.2

INFANT MORTALITY:	February, 1948	February, 1947
Deaths under 1 year of age	15	21
Death rate per 1000 live births	29.1	27.8
Stillbirths (not included above)	11	10

CASES OF COMMUNICABLE DISEASE REPORTED IN THE CITY

	Number Rate Per 1,000 Population			
	February, 1948		March, 1948	
	Cases	Deaths	Cases	Deaths
Scarlet Fever	12	0	12	0
Diphtheria	7	1	0	0
Diphtheria Carrier	15	0	3	0
Chicken Pox	125	0	68	0
Measles	351	0	255	0
Rubella	10	0	8	0
Mumps	14	0	7	0
Whooping Cough	2	0	1	0
Typhoid Fever	0	0	0	0
Undulant Fever	1	0	2	0
Poliomyelitis	0	0	0	0
Tuberculosis	40	14	0	11
Erysipelas	1	0	2	0
Meningococcus (Meningitis)	1	0	0	0
Infectious Jaundice	0	0	0	0
Salmonellosis	1	0	0	0
Salmonellosis (Carrier)	0	0	0	0
Dysentery	0	0	0	0
Dysentery (Carriers)	0	0	0	0
Tetanus	0	0	0	0
Syphilis (not available)	79	2	0	7
Gonorrhœa (not available)	197	0	0	0
Cancer (Reportable):				
Resident	69	0	104	0
Non-Resident	13	0	23	0

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The Editor's Page

From time to time, the medical profession is reproached or blamed for its tendency to inarticulateness. We are told that we should advertise more—let the public know what we are doing, and so on.

There is an element of truth in this from some points of view—no doubt there are things on which we could safely and profitably enlighten the public—and we have always felt, and still believe, that there should be a clearer understanding on the part of the public of our position in a great many matters. But there is also a great deal of danger of actual harm, where publicity in medical matters is premature and merely sensational.

An example of this occurred in our daily press during the past month. A report got into the papers, of work that has been in progress in St. Joseph's Hospital, along the lines of the treatment of cancer. This work is in the nature of research, is still in an early stage, is entirely experimental and unproven—and yet it was widely hailed as a definite step in the cure of cancer—statements were made (by the press) that were quite unfounded. Names were mentioned. Everything was set for another Braund episode—and only the prompt action taken, chiefly by the Victoria Medical Society, to warn the public against an entirely unwarranted optimism, averted a regular stampede of cancer patients to Victoria. The statement made by the Victoria Medical Society was admirably worded, and was temperate and at the same time perfectly clear. The B. C. Medical Association had also prepared a statement, which was given to one newspaper. This paper, which happened to be the first to publish the original article, did not print the statement—but, since the Victoria Medical Society had already covered the ground so admirably it was felt unnecessary and perhaps unwise to go on flogging a horse which, if not dead, was very near its end.

We accept, of course, the statement of St. Joseph's management, that this publicity was premature, and that they had not intended to claim anything more than progress along a certain line. But this episode just shows the truth of what we started out by saying, that medical publicity is a most delicate and dangerous thing to handle. No matter how guardedly and how carefully we phrase it, the public, and especially the public press, invariably get it all twisted and take a meaning out of it that was not intended. The press, naturally, wants news, and wants it as vivid and spectacular as it can be made. The public tends always to jump to a conclusion unwarranted by facts—to take as a cure what is merely an item in a process of treatment. This is all very natural—but it has its dangers. And that is why the articles published in various digests and magazines and so on dealing with medical discoveries and medical processes still under trial, are so misleading and dangerous. To us it is obvious that no matter how valuable a new remedy or treatment may appear to be, it is still *sub judice*, and requires long testing and constant checking and rechecking by hundreds of patient workers, before it can be definitely accepted. But the written word has a curious and entirely spurious value for the average man—and once he (or she, for the matter of that) reads in the X Digest that thiouracil has replaced surgery in the treatment of thyrotoxicosis, or that teropterin has replaced morphia in the treatment of cancer, or that the amazing properties of folic acid will cure pernicious anæmia, it is very difficult to disabuse his mind of these errors, and point out the facts.

The B. C. Medical Association, at a recent meeting of its Executive, has taken steps towards the promotion of better public relations between the medical profession, the press, and the public at large. This is to be commended. It will need time and much care, to work this out satisfactorily, but meantime these steps are important ones, and will, we hope, lead to better understanding on both sides of problems that are always difficult, but should be, too, always capable of solution.

British Columbia Medical Association

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Immediate Past President	Dr. Ethlyn Trapp

BOARD OF DIRECTORS' MEETING — MAY 3rd, 1948

A regular meeting of the Board was held on Monday, May 3rd, with the following members present:

Doctors L. H. Leeson, F. M. Auld, F. M. Bryant, G. F. Amyot, T. M. Jones, S. G. Kenning, E. D. Emery, F. W. Green, Wm. Leonard, H. Campbell-Brown, H. L. Mooney, G. S. Purvis, W. A. Clarke, H. Carson Graham, H. H. Milburn, G. D. Saxton, D. F. Busteed, G. O. Matthews, J. H. MacDermot, A. H. Spohn, D. H. Williams, A. M. Menzies, G. F. Strong, G. F. Kincade, W. W. Simpson, H. A. DesBrisay, Ethlyn Trapp, J. C. Thomas and F. L. Whitehead.

The Royal College of Physicians and Surgeons—Oral Examinations

At the Annual Meeting last year a resolution regarding the holding of oral examinations for certification in the various specialties was unanimously passed and was subsequently forwarded to the Royal College and to each of the Provincial Divisions. Dr. J. E. Plunkett, Honorary Secretary of The Royal College, has replied in the following words:

"Consideration has been given by the College on several occasions to the possibility of holding oral and clinical examinations in more than one centre in Canada. Some years ago, examinations were actually held in Winnipeg as well as in a central point but the difficulties of conducting oral and clinical examinations at more than one point are many and no acceptable solution has as yet been devised to meet them.

Your letter containing the viewpoint of The British Columbia Medical Association will undoubtedly lead to further consideration and discussion of these problems."

All the provinces have acknowledged receipt of our resolution and three have sent letters to The Royal College endorsing the idea presented by this Division.

Arthritis

The Greater Vancouver Health League has a division devoted to Arthritis and Rheumatism and has been referring a considerable number of inquiries from the public to the Executive Secretary, asking specifically for the names of doctors who are skilled in, and specially interested in, the treatment of rheumatism and allied disorders.

The B. C. Society of Internists, the Orthopædic Section, the Pædiatric Section, and The Vancouver Medical Association have been consulted in the matter and their advice requested. Nothing concrete is yet available.

The problem was discussed and it was felt that no specific action could be taken by the Board at present. It is understood that the Canadian Arthritic and Rheumatic Association recently formed is becoming more active and will probably have provincial divisions in the near future.

Shaughnessy Post-graduate Course

The post-graduate course for general practitioners held at Shaughnessy Hospital in March of this year was most successful. Forty-seven doctors registered and of this

number 31 were from outside Vancouver. The general opinion was that the course was worth doing and should be repeated.

The D.V.A. authorities at Shaughnessy have indicated that their staff is willing to put on a similar course next year. The Board of Directors unanimously approved of the idea of a second course, along similar lines, to be held in March, 1949, and has assured Dr. W. R. Lyn Gunn and his staff of all possible co-operation.

Hospital Insurance Act—Possible Implications re Radiologists, Anæsthetists and Pathologists:

These three specialty groups submitted a jointly prepared brief which was read and thoroughly discussed. The main point in the brief is that the services of these doctors are medical services and should be excluded from the benefits provided under the hospitalization scheme. A number of conflicting points of view were expressed and, as the details of what is to be provided will be decided by regulation and have not yet been clarified, it was felt that no specific action could be taken by the Board at this meeting.

The same brief was considered by Council and by the Committee on Medical Economics.

Public Relations

There is increasing concern about the profession's inarticulateness re the developments in Hospitalization and many other spheres in which doctors are or may be vitally interested.

The matter of public relations and publicity in general was discussed and a small committee was set up to study the matter and report. Acting in this capacity are Doctors J. H. MacDermot, G. F. Kincade, D. H. Williams, R. C. Gilchrist and F. L. Whitehead.

The Practice of Clinical Pathology By Other Than Qualified Doctors

This matter was raised by the Pathologists' Society and concerns our Association as a whole chiefly because of the possible implications arising when doctors refer cases to laboratories which are not under the direction of fully qualified doctors. This question is an involved one and will require considerable study from the ethical and legal points of view and has been passed to Council.

Building of an "Academy of Medicine"

Dr. H. H. Milburn, Chairman of the Building Committee, made a statement regarding the present status of the project of the building of an "Academy of Medicine." The general feeling of the members present at the meeting was one of approval of the idea. It is understood that the project is being actively explored now by the Building Committee.

Progress re the Establishment of Sections

The Committee on Constitution and By-laws had prepared a draft of amendments to the Constitution to allow for the setting up of sections officially within the framework of The British Columbia Medical Association. Briefly these proposed amendments, if finally authorized, provide for the recognition of sections by the Board of Directors when the sections concerned make application for official recognition. The drawing up of the aims and objects, election of officers, and rules and regulations of each section will be a matter for them to decide to suit their own particular requirements. If the general set-up is satisfactory to the Board of Directors it is assumed that they would then be recognized as the body representing that specialty.

The necessary amendments will be prepared and distributed to all doctors prior to the Annual Meeting, at which time the matter will come up for final decision.

PRINCE RUPERT MEDICAL ASSOCIATION

Meeting held on May 18th and 19th at Prince Rupert

The visiting team comprises: Dr. W. A. McElmoyle of Victoria and Doctors L. H. Leeson, J. E. Walker, D. W. Johnstone, F. L. Whitehead of Vancouver.

Clinical Programme:

"Hypertension"—Medical Aspects by Dr. Walker
Surgical Aspects by Dr. McElmoyle
"Differential Diagnosis of Discharges from the Nipple" by Dr. McElmoyle
"Duodenal Ulcer"—Surgical Aspects by Dr. McElmoyle
Medical Aspects by Dr. Walker
"Cardiovascular Syphillis" by Dr. Walker
"Chronic Otitis Media, with special reference to children" and
"Chronic Frontal Sinusitis" by Dr. Leeson

Cases of Jaundice, Heart Disease, Hypertension, Hernia and Ozena were presented by the local doctors in a clinical meeting in the Prince Rupert General Hospital on Wednesday morning and discussed by the visiting team.

On Wednesday the local and visiting doctors were the guests of the Gyro Club of Prince Rupert at a luncheon. Dr. Whitehead was guest speaker and gave an address on "Current Trends in Medical Practice."

The social arrangements comprised a reception at Dr. W. S. Kergin's residence on Tuesday evening, a buffet supper at Dr. C. H. Hankinson's home on Wednesday evening and an informal dinner at the Prince Rupert Civic Centre just before departure for Prince George.

Dr. J. D. Galbraith, President of the Prince Rupert Medical Association was in charge of the local arrangements and the meeting was voted by all concerned an outstanding success. The participation of the local doctors in the clinical programme appears to be a move in the right direction.

THE CENTRAL INTERIOR MEDICAL ASSOCIATION

Annual Meeting, May 20th to 22nd, 1948, at Prince George

The arrangements were in charge of the President Dr. J. G. MacArthur and the Secretary Dr. Larry T. Maxwell.

The same clinical programme was presented as in Prince Rupert.

On Friday at noon the local and visiting doctors were guests of the Prince George Rotary Club at a luncheon, at which Dr. L. H. Leeson was the guest speaker, and, in the evening, at a delightful mixed banquet at which the Mayor of Prince George and Mr. John McInnis, M.L.A., were the principal guest speakers.

The doctors were entertained at the homes of Mr. and Mrs. J. G. MacArthur, Dr. and Mrs. L. T. Maxwell and Dr. and Mrs. E. J. Lyon.

On Saturday morning after a surgical round at Prince George and District Hospital a "Round Table" on medical economics and current problems in the practice of medicine was participated in by all concerned, under the chairmanship of Dr. Whitehead. This feature appeared to fill a definite gap and perhaps would be worth repeating at each district meeting in the future, at least during the time when the profession is faced with rapidly changing conditions.

An impression gained at Prince George was that in future the clinical programme would be more instructive if it were built up around actual cases in the hospital, the local doctor working up a case and presenting it with the visiting team taking part in

the discussion. It is hoped that this policy can be put into practice for the district meetings next year.

The officers elected for the Central Interior Association for the ensuing year are:

President.....Dr. L. T. Maxwell
Secretary-Treasurer.....Dr. J. G. MacArthur

Representative to:

The British Columbia Medical Assn.....Dr. L. T. Maxwell
Committee on Medical Economics.....Dr. L. M. Greene

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ECLAMPTIC TOXAEMIA

By DR. D. N. HENDERSON, University of Toronto

(Read before V.M.A. Summer School, June, 1947.)

Eclamptic toxæmia terminating in convulsions, is one of the gravest complications of pregnancy and a leading cause of maternal deaths. Yet of all causes of maternal mortality none can be considered more preventable. During the years 1935 to 1945 deaths from toxaemia in Ontario made up from 18% to 25% of the yearly maternal death rate, a total of 706 deaths during the 11 year period. Adequate medical supervision and treatment throughout pregnancy would have prevented the majority of these tragedies. For example, as a result of prenatal supervision, in slightly over 10,000 pregnant patients attending the prenatal clinics at the Toronto General Hospital, there has been only one maternal death resulting from eclampsia. This remarkable result has been accomplished by several factors, the chief of which are:

1. Frequent observation during the later months of pregnancy.
2. Prompt admission to hospital of all patients showing even mild degree of albuminuria, hypertension, and oedema.
3. Prompt induction of labour in cases that fail to improve with hospital treatment.

It is true, however, that occasionally toxaemia will develop so rapidly that convulsions may occur and death result almost without warning. This type of case is fortunately rare; and, as a rule, there is ample warning of the approaching crisis so that time is available to institute therapeutic measures to avert the onset of convulsions.

The term "toxaemia of pregnancy" is an all-inclusive one, used to designate a variety of metabolic disturbances of unknown etiology and presenting a varied clinical picture. During early pregnancy the clinical manifestations of toxaemia are usually related to the gastro-intestinal tract with nausea and vomiting being the common symptoms. During late pregnancy albuminuria, hypertension and œdema are the most constant signs of toxaemia but are usually associated with a variety of renal, gastro-intestinal, and nervous symptoms, the most important of the latter being convulsion and coma.

The pathology of the disturbance is as varied as the clinical manifestations and no single lesion can be considered typical or pathognomonic of eclampsia. The lesions encountered in liver, brain, kidneys and gastro-intestinal tract are secondary manifestations of the disease and not the cause.

As a result of the failure to discover an etiological toxic agent, treatment is symptomatic rather than specific, and the ultimate relief from the toxaemia can only be obtained by termination of the pregnancy.

For the practical clinical purpose of management and treatment, the diagnosis of pre-eclampsia is made on the occurrence of albuminuria, oedema, and hypertension after the 24th week of gestation. Pregnancy, without toxaemia, however, may be the factor that aggravates a latent hypertension or low grade chronic nephritis and brings them into clinical prominence. Most of these cases are considered pre-eclamptic if signs develop late in pregnancy, and in the absence of a definite history, their true nature can be determined only by physical examination and kidney function tests months after delivery. On the other hand, the development of albuminuria or hypertension before the 24th week of pregnancy is highly suggestive of renal or vascular disease.

This easy confusion of true pre-eclampsia with hypertensive disease and renal disease is not of major importance as far as the immediate management of a given pregnancy is concerned, but is of considerable importance in regard to the prognosis of future pregnancies. For this reason, patients in whom the diagnosis is in doubt during pregnancy should be followed-up post-partum. and available kidney function tests such as the two-hour, water and urea clearance should be employed to estimate the degree of kidney damage, so that advice given in regard to future pregnancies may be based on all available information.

The occurrence of pregnancy in a patient already suffering from hypertension presents a serious hazard, and in the majority of instances is accompanied by a gradual increase in the degree of hypertension which will remain after the pregnancy has ended. Vascular accidents and abruptio placentae are potential dangers, and further increase the hazards of pregnancy. Such patients require frequent observation throughout the prenatal period. Extra rest, avoidance of nervous and physical strain, and the prevention of excessive weight gain are general therapeutic measures of value. Blood pressure readings and urinalysis at least every two weeks are necessary even during the early months, as sudden increase in the hypertension may occur and the appearance of albuminuria is of serious import and warrants admission to hospital.

It is frequently difficult to make a decision for or against termination of pregnancy in the hypertensive patient. The disease is a progressive one, and in subsequent pregnancies it will in all likelihood be more severe. Termination of pregnancy cannot be entertained in the hope that a future pregnancy will be tolerated more successfully. Pregnancy may be allowed to proceed to term if the hypertension is mild, if it does not rapidly progress, if retinal vascular changes are minimal and if the urine is albumin-free.

Once the period of viability is reached and the baby is of reasonably good size, termination of pregnancy is usually indicated both in the interest of mother and child.

Pregnancy occurring in a patient suffering from chronic nephritis is of even greater seriousness than in the hypertension case. Abortion, death of foetus in utero, and accidental haemorrhage are all risks to the pregnancy, while increased albuminuria, hypertension, retinal haemorrhage and nitrogen retention place the mother in great danger. Therapeutic abortion and sterilization are clearly indicated in the majority of cases of chronic nephritis when seen early in pregnancy. When first recognized during the later months, expectant treatment may occasionally succeed in carrying the patient to the period of viability, but is nearly always accompanied by further aggravation of the kidney damage.

As previously stated, eclamptic toxæmia is characterized by albuminuria, œdema and hypertension occurring after the 24th week of pregnancy. The disease is considered as peculiar to pregnancy in contrast to the hypertension and renal states just described, which though aggravated by pregnancy are co-incidental to it. The American Committee of Maternal Welfare recognize this distinction, and their classification of Toxaemias of Pregnancy, which is widely accepted, is as follows:

Group A: Diseases not peculiar to pregnancy:
1. Hypertensive Disease
2. Renal Disease

Group B: Diseases peculiar to pregnancy:
1. Pre-eclampsia
   - Mild
   - Severe
2. Eclampsia
   - Convulsion
   - Non-convulsion

Pre-eclamptic-mild is reserved for those patients showing hypertension not over 160 systolic or 100 diastolic; slight oedema, and albuminuria of not more than 0.6 gms per 100 cc. of urine or about two plus acetic acid test. The eye grounds are normal and show no vascular changes.

In severe pre-eclampsia, the blood pressure systolic is over 160 and diastolic over 100. Oedema is usually marked, the urine contains more than two plus albumin and vascular changes are usually evident in the retinal arteries.

This division of the pre-eclampic state into mild and severe is purely an arbitrary one and of very doubtful value. In the first place, the term "mild" suggests that the condition is not serious and therefore may be treated, perhaps, with justified indifference. Nothing could be further from the truth. It cannot be too strongly emphasized that a

patient with mild pre-eclampsia may develop convulsions without progressing to the state of severe pre-eclampsia. Cosgrave of the Margaret Hague Hospital states that 2/3 of all eclampsia occurring in that institution occurs in cases classified as mild pre-eclampsia. An even more striking example of the danger of mild pre-eclampsia is the same author's statement that one out of every twenty-nine mild pre-eclamptic patients developed eclampsia without passing through the phase of severe pre-eclampsia. It is therefore of predominant importance that all patients suffering from mild pre-eclampsia should be considered as potentially dangerously ill and adequate treatment promptly instituted.

It is doubtful if prenatal management can do anything to lessen the incidence of pre-eclampsia. There is some suggestive evidence that an adequate well balanced diet and salt restriction during the last trimester and adequate rest may reduce the incidence, but this is by no means conclusive. The important role of prenatal care in regard to toxaemia is one of early recognition so that treatment may be promptly instituted and convulsion prevented. The mortality from pre-eclampsia is practically zero, from eclampsia nearly 20%.

Early recognition to some extent depends on the co-operation of the patient, who should be advised to report promptly the occurence of swelling or persistent headache. Rapid gain in weight in excess of normal should excite the suspicion of occult oedema and the beginning of toxaemia. Most patients have bath-room scales and should be instructed to weigh themselves weekly and report any gain exceeding two pounds in a week. In the presence of rapid or excessive weight gain, specific instructions should be given in regard to food, salt and fluid intake. This is best accomplished by written instructions, outlining a diet of about 1,600 calories made up of salt-poor foods. No salt should be used in cooking or at the table and fluids should be restricted to not more than eight glasses per day. With such a regime, fluid output will usually exceed intake, weight will be lost and an early toxaemia may be arrested. Urine for albumin test should be sent every two weeks during the last month. While pre-eclampsia is characterised by albuminuria, oedema and hypertension, all three major signs do not appear together. Frequently oedema or slight rise in blood pressure are the first warnings and the other signs make their appearance later.

Treatment of pre-eclampsia, as previously mentioned, is largely symptomatic and has one primary aim: The prevention of eclampsia. Secondary aims of treatment are two-fold: 1) The prevention of permanent damage to the maternal cardio-vascular and renal systems and 2) The attainment of a low foetal mortality. The treatment consists of:

(1) Rest
(2) Diet
(3) Elimination
(4) Termination of pregnancy.

Pre-eclampsia, even of the mild type, is a sufficiently serious disease to warrant hospital care. This is probably the most important single procedure in management, not only allowing complete rest, but also permitting daily urinalysis, the accurate measurement of fluid intake and output, complete control of diet particularly in regard to salt, and twice daily blood pressure readings should be complete, visitors limited to the husband, and a mild hypnotic administered at night so that sleeplessness is avoided. The diet should be salt-poor, contain adequate protein of about 40 grams, and have a total caloric value of approximately 1,600 calories. When salt is restricted, fluids up to 1,500 cc. per day may be given. Fluid intake and output should be recorded and a negative balance expected, with satisfactory response to treatment. Strong purgation is no longer as widely employed as formerly, a mild cathartic, preferably saline, being sufficient. Daily urinalysis performed on 24 hour specimens for albumin, urobilin and microscopic examination for casts and R.B.C., are the most important contribution of the laboratory. Blood N.P.N. is usually normal. Serum proteins are consistently low. A high or rising blood N.P.N. or uric acid are indicative of severe kidney damage and are rarely found except in severe pre-eclampsia and eclamspia. Failure of improvement to occur in a reasonable time of from seven to ten days of such treatment, or an increase in the

severity of the signs or symptoms at any time, warrants consideration of termination of pregnancy. Experimental evidence in animals shows that chronic poisoning will produce irreversible changes in the afferent arteriole and the glomerulus in about three weeks. This confirms the clinical impression that even in pre-eclampsia—mild the conservative treatment prolonged more than three weeks results in permanent damage. The more severe the toxaemia the shorter this period becomes. It is here that the secondary aims of treatment appear to be in conflict, i.e. the attainment of a low foetal mortality and the prevention of permanent damage to the maternal cardio-vascular and renal systems. All evidence obtained by post-partum follow-up examinations of pre-eclamptic patients points to the duration of the toxaemia rather than its severity as the important factor which results in residual hypertension or kidney damage. It would appear, therefore, that the sooner pregnancy is terminated, the better for the mother. On the other hand, early termination may result in a small, premature infant and high neonatal death rate. The conflict of aims, however, is more apparent than real. The baby is in an unhealthy environment and accidental haemorrhage and death *in utero* are not infrequent. The foetal accidents in toxaemia must be balanced against the risks of prematurity. The general trend seems to be toward the more prompt termination of pregnancy after the 34th week. The hazards of intra-uterine life increase as the danger of prematurity lessens. If eclampsia should occur, the foetal mortality is over 30%.

Occasionally in private practice, but more frequently in ward practice, the patient is not seen until a state of severe pre-eclampsia exists. Such patients may seem very close to the convulsive state and the natural tendency is to induce labour immediately or terminate the pregnancy by surgical means. In most instances this is unwise, as the onset of labour or the trauma of caesarean section may be all that is required to excite the onset of convulsion. The severe pre-eclampsia should receive (1) only milk and glucose drinks, up to 1,000 cc. (2) sedative, preferably nembutal or sodium luminal in dosage sufficient to produce drowsiness; and (3) moderate purgation. With such a regime, oedema usually is decreased, the blood pressure lowered, and the general toxicity lessened. Then induction of labour may be practiced or caesarean section employed, with considerably less risk to the mother.

Termination of pregnancy in the toxic patient may be accomplished by the medical or surgical means of induction of labour or by caesarean section. The severity of toxaemia, the age and parity of the patient, the condition of the cervix and the duration of the pregnancy are all factors that influence the choice of method to be employed in a given case. For the mild pre-eclamptic, in whom urgency is not a factor, medical induction should be employed, using castor oil, small doses of quinine and pitocin. This may be tried two or even three times if further delay is judged not harmful. When greater urgency exists rupture of the membranes combined with medical induction if labor is not promptly initiated is most satisfactory. The use of bag or bougies belongs to a past era, offering too great danger of infection and mal-presentation to warrant their use.

The role of caesarean section in the termination of pregnancy for toxaemia is a limited but nevertheless important one. Certainly in the rapidly progressing toxaemia of the fulminating type in which blood pressure and albuminuria are increasing almost hourly, caesarean section is clearly indicated. These cases are rare, however, and should not be confused with the severe untreated pre-eclamptic in whom 24 hours of treatment almost uniformly is followed by an improvement. The elderly primipara or the primiparous patient close to term in whom the head is unengaged and the cervix not effaced, are suitable for caesarean section. On the other hand, it should be recalled that in the toxic patient labour is usually easily induced and is frequently of short duration. Caesarean section in itself is a maternal hazard, must be repeated in subsequent pregnancies, and is frequently followed by voluntary sterility, because of fear of another operation. The restricted use of caesarean section for the termination of pregnancy in toxaemia cannot be criticized. If its use is limited by definite indications, as outlined, the number of caesarean sections performed for pre-eclamptic toxaemia will be small.

The occurrence of convulsions in the pregnant patient is one of the most serious of all complications of the pregnant state, and results in a high foetal and maternal mortality. Many of the salient features of eclampsia can be best emphasized by citation of statistics, and for this reason I have reviewed the histories of 93 cases of eclampsia which have occurred at the Toronto General Hospital. The following tables summarize these cases:

MORTALITY

Maternal	*Foetal*
15%	38%

No other common complication of pregnancy offers nearly the same risk to mother and child as eclampsia.

BABIES

Alive and well	58
Died *in utero*	27
Died undelivered	2
Neonatal deaths	6

Three sets of twins A & W

There is greater danger of toxaemia in multiple pregnancy.

CAUSES OF MATERNAL MORTALITY
60 Deaths
Toronto General Hospital

Toxaemia	26.6%
Sepsis	26.6%
Haemorrhage	25.0%

This table emphasizes the importance of toxaemia as a major cause of maternal mortality.

MORTALITY AND PARITY

Primiparae 60 cases—6 deaths—10%
Multiparae 32 cases—7 deaths—22%

This disease is nearly twice as frequent in the primiparous patient but the risk is nearly twice as great in the multiparous patient.

EFFECT OF PRENATAL CARE ON MORTALITY

Clinic	*Family Doctor*	*No Care*
15 cases	29 cases	30 cases
1 death	3 deaths	8 deaths
6%	10%	26%

Treatment of pre-eclampsia, if not adequate to prevent convulsions, seems to lessen the severity of the eclampsia if it does occur.

MORTALITY IN RELATIONSHIP TO TIME OF ONSET OF CONVULSION

55 cases ante partum 13% died
21 cases intra partum 18% died
15 cases post partum 13% died
(2 unknown)

This table emphasizes the danger of convulsions regardless of their time of onset.

EFFECT OF ECLAMPSIA ON FUTURE PREGNANCIES
22 Patients had 27 Pregnancies

Normal	15
Toxaemia	10
Convulsions	2

5 patients had convulsions with previous pregnancies.

This table is further evidence to support the present trend of early termination of pregnancy in cases of pre-eclampsia which fail to respond to treatment. Once convulsions occur, the chance of another pregnancy ending in toxaemia is early 50%.

There is little, if any, difference of opinion in regard to the basic principles of treatment of the eclamptic patient. They may be generally outlined as follows.

I Protection of the patient from external stimuli that may excite convulsion.
II Protection of the patient from self-inflicted harm during convulsion.
III Control of convulsion by hypnotic and sedative drugs.
IV Stimulation of diuresis and prevention of acidosis.
V Avoidance of all attempts to terminate the pregnancy during the eclamptic state.

This is accomplished in different clinics by various procedures and various drugs. But in general it may be said that over-treatment is worse than under-treatment. The induction of labour or the forceful efforts to dilate the cervix to terminate pregnancy or the performance of caesarean section, are each in turn a progressively worse form of treatment and will be accompanied by increasing foetal and maternal mortality. The following is a summary of the management of eclampsia at the Toronto General Hospital:

(1) The patient is placed in a quiet, darkened room, with one or two nurses in constant attendance. Mouth gags, equipment for aspiration of mucus and the administration of oxygen are all immediately and readily available.

(2) Drugs used for the control of convulsion are:- Morphine, Sodium amytal, Sodium luminal. The patient is given an initial dose of ¼ grain of morphine, followed by 7½ grains of sodium amytal administered intravenously. Morphine grain ¼ is repeated once, and occasionally twice, but as a rule sodium amytal controls the convulsions satisfactorily with the initial dose of morphine. Intra-muscular sodium luminal is employed later when a milder and more prolonged sedative action is required. These drugs are all toxic to a greater or less degree, and, while control of convulsions is imperative, it should not be accomplished by administering larger doses of these drugs than is actually required for the individual case. This necessitates constant supervision of the patient by the physician himself.

(3) Diuresis is stimulated and acidosis prevented by the intravenous administration of 50 cc. of 50% glucose every four hours for as long as it is considered necessary.

(4) As soon as practicable, the patient is given continuous oxygen, either by mask or by the use of a tent.

(5) Venesection is occasionally performed for cases of right heart failure with pulmonary oedema.

(6) No attempts to induce labour are made during the stage of convulsion and coma.

If the patient is in labour, the second stage may be shortened by the use of low forceps, but the majority of the patients are allowed to deliver spontaneously. Labour is induced usually by rupturing the membrances from twelve to twenty-four hours after convulsions have been controlled. The immediate induction of labour after the control of convulsions only adds another disturbing factor to an exhausted and shocked patient who, having weathered a storm of convulsions, is now faced with the ordeal and trauma of labour. Cæsarean section has been performed on only three occasions during the past twenty years. One patient died and two recovered. One of these latter died as a result of pulmonary embolism following a second caesarean two years later. All available statistical evidence substantiates the statement that caesarean section should not be employed in the delivery of the patient with eclampsia.

Not infrequently the eclampsia patient immediately after delivery enters into a state of shock characterized by rising pulse rate and falling blood pressure. It is probably unwise to administer intravenous fluids in a great quantity to these patients, but 500 cc. of plasma or a similar amount of whole blood in the absence of pulmonary oedema or signs of right heart failure may be given with safety and may prevent a fatality.

In conclusion it may be said that the maternal death rate from toxaemia will further be reduced by

(1) The recognition of essential hypertension and chronic nephritis during the first trimester of pregnancy.

(2) The early recognition of beginning toxaemia during the third trimester.

(3) The full appreciation by the profession of the seriousness of mild pre-eclampsia and the value of hospital care for such cases.

(4) The prompt interruption of pregnancy in cases that fail to improve with adequate treatment.

(5) The avoidance, in cases of eclampsia, of induction of labour, manual dilatation of cervix or the employment of caesarean section.

DIFFICULT AND DELAYED LABOUR

By DR. D. N. HENDERSON, University of Toronto

Difficult and delayed labour presents the obstetrician with problems that test his diagnostic acumen to the utmost and require the exercise of patient, skill and manual dexterity which in many cases exceeds that required in any other branch of surgery. Two lives are at stake and often the safest course for the mother is the most dangerous for the child. Delay and procrastination may end in disaster as great as that caused by early and hasty efforts at delivery. Even the wisest and most experienced may err, but care in prenatal examination, careful observation and examination during the early part of the first stage of labour, will in many cases warn of approaching difficulties. These may be circumvented if recognized early, but will only end in tragedy if recognized too late. Failure of labour to proceed in an orderly, progressive and normal manner warrants careful examination and diagnosis of the cause of the departure from normal. The cause should be sought for in the three major factors involved in parturition: the passage, the passenger and the powers. The state of the passage should be determined during the prenatal period. External pelvic measurements are only the roughest sort of guide to the size of the bony pelvis and may give a completely false sense of security. Nevertheless they may warn also of an unusually small pelvis. A careful vaginal examination made during the 7th month of pregnancy to determine the diagonal conjugate by palpation of the sacral promontory will give a good estimate of the adequacy of the pelvic brim. The capacity of the mid-pelvis is difficult to estimate by digital examination but such is not true for the outlet, and if outlet and inlet are adequate, serious contraction of the mid-pelvis is unlikely. Examination of the outlet should include an estimation of the depth of the symphysis pubis and the width of the pubic arch, the distance between the ischial tuberosities, and an estimation of the posterior sagittal diameter, none of which is difficult to do and with care and practice can be done with considerable accuracy. If departures from the average normal are encountered, then further information may be obtained by X-ray pelvimetry. There are several excellent techniques for X-ray pelvis mensuration, the "Thoms," "Snow," and "Caldwell and Moloy." The accuracy of all depends on the skill of the X-ray technician and his attention to details of technique. X-ray pelvimetry will establish with reasonable accuracy pelvic size and also pelvic shape. Armed with such information, the obstetrician can face breech delivery with confidence and adopt an attitude of watchful expectancy in a slowly engaging occipito-posterior position. Lateral films taken during labour will reveal the level of engagement of the presenting part. In cases in which the presenting part is not engaged, X-ray estimation of the foetal head size is by no means accurate, and the radiologist's opinion in regard to cephalo-pelvic disproportion in the absence of contracted pelvis should be accepted with considerable reservation.

Abnormalities of the passenger may be noted by palpation of the abdomen during the prenatal period. Hydrocephalus may be suspected and unusual presentation, position or lie may be recognized. Toward the end of pregnancy or during labour, uncertainty in regard to any of these may be relived by X-ray examination and an accurate diagnosis made.

X-ray examination is an important adjunct to clinical examination in obstetrical diagnosis. The problems of difficult labour, however, have not been reduced, as yet, to simple mathematical formulae obtainable by X-ray mensuration of the pelvis, but still require mature judgment based on experience and knowledge of the factors involved in the physiology of labour.

The salient features in the management of delayed and difficult labour due to the following causes will be discussed in order:

(1) Cephalo-pelvic disproportion
(2) Primary uterine inertia
(3) Occipito-posterior position and breech presentation.

CEPHALO-PELVIC DISPROPORTION

In the primiparous patient, failure of the presenting vertex to engage early during the first stage of labour suggests mal-presentation or cephalo-pelvic disproportion. Frequently the two are combined and present together the most common cause of dystocia. The study of such cases should by systematic, each step in examination being directed to the establishment of impressions or facts of pelvic size and shape, foetal size, position and attitude so that no clues may be missed that will aid in arriving at a full appreciation of the case and an accurate diagnosis of the cause of lack of engagement.

Despite the marshalling of all the facts, it is frequently impossible to assess accurately whether foetal position or true disproportion is responsible for the delay of engagement. Such cases constitute the border-line group upon which judgment cannot be passed until a reasonable test of labour has been allowed. The duration of the test and the management of the patient during the test determines whether or not caesarean section can be safely employed for delivery. Should the test fail, the duration of it depends on the frequency and intensity of the labour pains, the stage at which the membranes rupture, and the general condition of the patient. A rising pulse rate, beginning distension of the large bowel, dehydration, and fever are the warning signs of maternal exhaustion, whether they occur at the end of 12 or 24 hours of labour.

During the test of labour, the patient should be protected against dehydration, emotional and physical exhaustion, and infection. This requires adequate intake of fluids and glucose given by mouth early in labour, but later intravenously because of the slow absorption of fluids from the gastro-intestinal tract during labour. The judicious use of sedatives in dosage sufficient to give both physical and emotional rest is of major importance. These aspects of the management of delayed labour will be mentioned in detail, when uterine inertia is discussed. To prevent infection during the test, the patient should be isolated from friends and relatives, and all those in contact with the patient should wear masks. During the period of observation, careful abdominal examination to note fixation or descent of the head will make repeated rectal examinations unnecessary, which in themselves are not without danger of causing infection. Repeated vaginal examinations must be avoided but a single vaginal examination made in the labour room with the patient prepared as though for delivery, is often justified, before a final decision is made in regard to vaginal or abdominal delivery. Early rupture of the membranes prejudices the prospects for caesarean section and after 24 hours of ruptured membranes the incidence of maternal morbidity and mortality rises sharply if a caesarean is performed. Strong, regular and frequent labour pains enhance the value of the test and allow decision on the method of delivery to be made earlier than when the contractions are irregular or weak. The presence of show is encouraging, and indicates dilatation of the cervix and probable descent of the vertex.

The knowledge that the pelvis is normal in size warrants a longer test in the hope that engagement will eventually occur. The age of the patient is a factor of importance in the border-line case. A difficult vaginal delivery and possible still-birth is much more readily faced in the young than in the elderly primipara. High or classical caesarean section should never be performed after a test of labour. Low caesarean section should not be performed after manipulations from below, repeated vaginal examinations, or after the membrances have been ruptured over 12 hours in an unfavorable case, or 36 hours in a favorable case. Even with intact membranes labour prolonged beyond 40 hours even under favourable conditions prejudices the election of caesarean section. Foul or pungent vaginal discharge and fever are evidence of birth canal infection, and warn of the grave danger of abdominal delivery. Undoubtedly the sulphonamides and penicillin have added greatly to the safety of caesarean section. Nevertheless, a low mortality from caesarean section may be expected only when the contra-indications to operation are not ignored. If, as occasionally occurs, faulty judgment has carried the test of labour too far for the safe performance of low caesarean, extra-peritoneal section or Porro are the only alternatives to craniotomy. Such dangerous problems should not be met with often, and their occurrence implies that the fundamental decision for section has been too long delayed.

PRIMARY UTERINE INERTIA

In some cases, delayed or prolonged labour occurs where the only factor seems to be a failure of the uterus to contract with normal power and regularity and the cervix to dilate continuously, a condition of primary uterine inertia. Characteristically the pains are of short duration, vary in intensity and frequency, and usually cease when a sedative is given. They resemble the Braxton-Hicks contractions of late pregnancy, more than true labour pains. Unfortunately these ineffectual contractions are often aggravatingly painful. The patient seems to apprehend their ineffectualness and early in labour becomes nervously exhausted. In such cases, labour often begins with the cervix only partially effaced, the lower uterine segment poorly formed, and, as a result, the presenting part is high in the pelvis.

As a rule, if unwise and hasty efforts to stimulate labour are avoided the majority of these patients will eventually develop normal type pains, the cervix will dilate and even spontaneous delivery may occur. During the waiting period however, rest must be provided by suitable sedation, and the patient's strength maintained and acidosis prevented by the administration of fluids and glucose. It is important that the moral courage of the patient be sustained and physical strength conserved by the judicious use of sedatives. It is unwise to attempt prolonged analgesia and amnesia. Labour will be further prolonged needlessly. The sedative used should be adequate to provide 4 to 6 hours complete rest. Heroin in 1/12 grain dose combined with 3 grains of nembutal, usually is sufficient the first night. Later during the more severe phases of a prolonged labour, a better effect will be obtained by morphine in ¼ grain doses combined with nembutal, when these are given during the late evening, the dark depressing hours of night will be slept away and the patient will awaken emotionally and physically refreshed in the morning.

If labour is prolonged over 48 hours or if signs of infection occur at any time, sulphonamides or penicillin should be administered during the remainder of the labour and early puerperium. Attempts to stimulate labour by the administration of quinine and pituitrin before the cervix is effaced are usually ineffectual and may be harmful to mother and baby. Rupture of the membranes, a procedure frequently resorted to, should be avoided. If the membranes are prematurely ruptured, the incidence of infection in prolonged labour is nearly doubled and the baby placed in greater danger.

Occasionally, however, despite the eventual effacement of the cervix and the deep descent of the head into the pelvis, the uterine contractions fail to increase in strength and frequency and the cervix remains only partially dilated. In such cases the administration of pituitrin in 1 min. doses every 30 to 40 minutes for 3 to 5 doses or the artificial rupture of the membranes may result in adequate uterine contractions and

dilatation of the cervix. Pituitrin when administered during labor is a potent, dangerous drug of uncertain action, and its infrequent use should be restricted rigidly to conditions such as have been outlined—labor delayed over 24 hours with inadequate labor pains, effaced cervix and engaged presenting part. The potential dangers in the use of pituitrin are uterine spasm, uterine rupture and fœtal anoxia. These dangers are minimal if doses of not more than one min. are used. Nevertheless, the obstetrician should remain with the patient to observe the effect of the drug and to administer anæsthetic if the uterine response to the pituitrin is exaggerated. Pituitrin even in one min. doses should never be administered to the multiparous patient, para. IV or more. The danger of ruptured uterus is too great.

While spontaneous delivery may occur, the majority of patients are too exhausted after the prolonged first stage of labor to bear down during the second stage and forceps delivery is necessary. Attempts to terminate labor before the cervix is fully dilated are mentioned only to be condemned. Manual dilatation of the cervix results in lacerations and infection of the cervix, tearing of bladder and rectal supports and a high fœtal mortality.

The dangers of prolonged labor are not over with the end of the second stage. Delayed separation of the placenta and post-partum hæmorrhage are frequent complications that face the exhausted patient. Forewarned should be forearmed. Whole blood or plasma should be available at delivery and promptly used if manual removal of the placenta is necessary or blood loss is excessive.

The cause of this type of dystocia remains obscure. It frequently occurs in premature labour and in labour that has been induced by medicinal or surgical means. The induction of labour for the convenience of the patient or the doctor is without justification, and may terminate in a long delayed labour and still-birth. Age does not appear to be a factor, but when such labour occurs in an elderly primipara, cæsarean section is often indicated if vaginal examinations have been avoided and manipulations, such as rupturing the membranes and rimming the cervix, have not been employed.

Occipito-posterior Position

Occipito-posterior position may be associated with delay in either the first or second stage of labour. During the first stage engagement of the presenting part is often slow, owing to incomplete flexion of the head and weak, ineffectual labor pains of the inertia type. Disproportion is therefore frequently suspected. Delay during the second stage is due most commonly to failure of the occiput to rotate anteriorly. In the majority of cases if sufficient time is allowed to elapse and the patient is given relief from the severe second stage labor pains by the interrupted administration of nitrous oxide and oxygen, anterior rotation will occur spontaneously. During this waiting period frequent auscultation of the fœtal heart should be practised and delivery accomplished if irregularities, or marked slowness or rapidity of rate are noted. Delivery is most easily accomplished with minimal harm to baby and maternal soft parts by anterior rotation of the occiput before extraction. The rotation may be done manually or with forceps. The method chosen should be the one with which the operator is most familiar. For the average obstetrician manual rotation is simpler and less likely to harm the baby or the maternal soft tissue, than forceps rotation. Many posterior positions can be delivered with the occiput posterior but the traction exerted will be greater, and damage to the maternal soft tissues more extensive than that which follows anterior rotation and delivery. The essentials for success in difficult forceps delivery are adequate anæsthesia for relaxation, correct diagnosis of position and gentleness in its correction and accuracy in the application of the blades to the fœtal head.

In considering the problems of delayed and difficult labour, the role of the so-called dangerous multipara is frequently forgotten. The multiparous patient with a past history of normal labours is likely to receive less than the usual observation during labour, yet is prone to certain complications of both pregnancy and labour due to a combination of both age and multiparity. The incidence of the late toxæmias of pregnancy, placenta

prævia, unusually large babies, uterine inertia, faulty position, ruptured uterus and post-partum hæmorrhage are all increased in the multiparous patient. To be constantly mindful of these dangers will prevent neglect and lead to watchfulness and early recognition of these complications of labour. As previously mentioned, the multiparous patient with more than three previous labours should never be given pituitrin during labour because the danger of rupture of the uterus is great.

Breech Presentation

Breech presentation is an important cause of difficult labour and still-birth. It creates greatest concern when encountered in the primiparous patient, but it is also accompanied by a relatively high fœtal mortality in the multi-parous patient. The diagnosis of breech presentation should be made during the prenatal period when an opportunity is afforded to convert the breench into a vertex by external version. Objections to the performance of the manoeuver are the possibilities of knotting of the card, partially separating the placenta, or the creation of an even less favorable presentation. Such objections are mostly theoretical, and if reasonable gentleness is employed, traumatic separation of the placenta need not be feared. Unfortunately the type of breech presentation most likely to cause serious dystocia is the frank breech and external version in this variety frequently is impossible to perform. Anæsthetics should never be given for the performance of external version.

When the presentation is encountered in the primiparous patient, the size of the bony pelvis should be determined as accurately as possible by both clinical and X-ray examination before the onset of labour. With a pelvis and baby of normal size, the labour need not be feared unduly if hasty and unwise interference is avoided. Favourable signs at the onset of labour are strong uterine contractions, intact membranes, and engagement of the presenting part. Frequent vaginal or rectal examinations should be avoided, on account of the danger of accidentally rupturing the membranes and causing prolapse of the cord. For this reason too, the patient should remain in bed during the first part of labor. A slow first stage is to be expected and efforts to hasten the dilatation of the cervix by rupturing the membranes or by bringing down a leg are extremely unwise.

To wait for full dilatation of the cervix and maximum descent of the breech, particularly in the frank variety, before beginning interference, requires great patience but in the end will be rewarded by less difficulty with arms and after-coming head and a lowered fœtal mortality. When delivery of the breech is imminent a deep medio-lateral episiotomy in all primiparæ and most multiparæ will prevent lacerations of the rectal sphincter and bowel and allow room for manipulations for release of the arms and delivery is a welcome surprise. Failure of the breech to engage early in labor, particularly if the baby seems large, is an ominous sign in the primiparous patient and cæsarean section should be seriously considered if the patient is over 30 years of age. If delivery per vaginam is decided upon, extreme conservation is essential. Non-interference should be practised till maximum dilatation of the birth canal by the fœtus has occurred and interference practised only when arrest has occurred after perhaps even several hours in the second stage, or if there are sign of fœtal distress.

Difficult manipulations and forceps delivery require a surgical degree of anæsthesia to provide adequate relaxation. The time has surely passed when the labour room nurse or inexperienced house surgeon is expected to act as anæsthetist for such cases. The obstetrical patient at the end of a long labor is on the verge of physical exhaustion, and even the most experienced anæsthetist may find himself called upon to exercise all the skill of his art to carry the patient through a difficult and shocking operative delivery. The choice of anæsthetic agent depends on the expected duration of anæsthesia, the degree of relaxation required, and the condition of mother and baby. Of the inhalation anæsthetics the three most commonly available are nitrous oxide and oxygen, ether, and cyclopropane. Nitrous oxide and oxygen, owing to the low oxygen content, is the least desirable and most likely to increase fœtal anoxia. Cyclopropane has the advantage

of being combined with a high percentage of oxygen and is excellent for relatively short light third stage anæsthesia. As cyclopropane diffuses rapidly through the placenta, deep and prolonged administration frequently results in a baby that is difficult to resuscitate. Cyclopropane is not a suitable anæsthetic for intra-uterine manipulations because of its stimulation of uterine contractions and tone. Ether is ideal for this purpose. In many cases of prolonged labour, the baby is the chief cause of concern at delivery and is often exhibiting signs of distress before extraction is started. Any form of inhalation anæsthetic affects the baby and will add to the depression and shock of delivery. In such cases if the mother's general condition is satisfactory, low spinal anæsthesia, using a minimal dose of the anæsthetic agent, is ideal. It has no effect on the baby, and provides excellent relaxation of the perineal and levator muscles which markedly facilitates delivery.

Difficult delivery, particularly if preceded by prolonged labour, is frequently followed by hæmorrhage and shock. This should always be anticipated, and necessary steps taken to prevent it if possible and treat it adequately if it occurs. Before delivery is attempted, on intravenous of glucose and distilled water should be started and matched blood available in the operating room for immediate use if necessary. At the first sign of rising pulse or falling blood pressure, or if blood loss is in the least excessive, transfusion of blood is indicated. Plasma is excellent in an emergency but nothing equals the value of whole blood in the treatment of obstetrical shock and hæmorrhage.

If what has been outlined for the management of prolonged and difficult labor sounds like "old stuff" and lacks the attractiveness of new and elaborate procedures of delivery and anæsthesia. It may be stated that such conservative management will result both in a low incidence of cæsarean section and a low maternal and fœtal mortality.

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A CASE OF DERMATOMYOSITIS

DR. REGINALD WILSON, M.D.
Vancouver General Hospital

Presented: May 27, 1947

There is an unusual condition which occurs in children and adults which is called Dermatomyositis. In adults, the symptomatology may vary widely, but in children the disease follows a more characteristic pattern. In fact the clinical picture is so distinctive and striking that, having seen one case, the condition will be forever fixed in one's memory.

This fact has prompted me to demonstrate tonight's case, which illustrates the usual features of this disease in childhood.

CAROL M. Aged 7.

Present Illness

This began six months ago when she complained of tiredness and malaise. Gradually, after this the following symptoms made their appearance.

1. Progressive weakness and tenderness chiefly in the muscles of the thighs, shoulder and trunk.

2. A rash which started in the extremities and gradually involved the trunk and face. At first it was blotchy and red, later scaly. It was aggravated by exposure to ultra-violet light.

3. Continuous mild fever.

Past History

Carol has always been a healthy child except that since the age of four she has been subject to attacks of bronchial asthma each winter. The present disease was not apparently initiated by any infection. There is no history of ingestion of uncooked pork or raw milk.

Family History

There is a strong predisposition to allergy in that her father has been subject to asthma throughout his life.

Functional Enquiry and other aspects of the family and past history were irrelevant.

Physical Examination

This revealed the following positive findings:

1. There was generalized muscular weakness, so marked that the child could not roll over in bed or sustain her head or limbs against gravity.

2. A scaly rash was present over the trunk and extremities.

3. A puffy, non-pitting œdema of the face and eyelids.

4. A peculiar induration of the skin and loss of normal elasticity.

5. Exquisite pain on flexion of the trunk.

6. Depression of most tendon reflexes.

7. A continuous temperature of 100 to 102.

Laboratory Investigations

The following positive findings were discovered:

1. Eosinophilia 20%.

2. Increased Sedimentation Rate—20/80.

3. The amount of creatin in the urine was increased (280 mgs. per cent) whereas the creatinine co-efficient (the number of mgs. of creatinine excreted per Kg. body weight) was reduced. It was 16. The normal is given as 18 to 30.

4. Muscle biopsy shows degenerative changes in the muscle bundles. There are also exudative and proliferative changes in the intertitial tissues. The infiltrate is composed of lymphocytes, histiocytes and plasma cells.

5. Other laboratory tests such as X-rays of the long bones and chest, blood culture, urinalysis, tuberculin test, enteric agglutination and spinal fluid were all essentially negative.

Discussion

While the results of the muscle biopsy and creatin studies are not absolutely specific for this condition, when taken in conjunction with the other clinical findings they establish the diagnosis of dermatomyositis beyond reasonable doubt. Prior to the results of these tests the diagnosis was uncertain and the following conditions were included in the differential:

1. Polyneuritis—from such causes as diphtheria, lead intoxication, or tick paralysis.

2. Trichinosis.

3. Myopathy.

4. Rheumatic Fever.

5. Disseminated lupus erythematosus.

6. Avitaminosis.

7. Nephritis.

The etiology of dermatomyositis is unknown. There are marked clinical and pathologic similarities to peri-arteritis nodosa and disseminated lupus erythematosus. But the cause of these diseases is also unknown. The enthusiasts for the toxi-allergic hypothesis would like to include these diseases with rheumatic fever and nephritis and postulate a common etiology. But the factual data to support a pathogenetic relationship are scanty.

The treatment is symptomatic. The present case appears to have improved with penicillin. There was no improvement with Benadryl.

The prognosis is usually very grave but the chances of recovery in this case appear to be favourable.

News and Notes

We regret to record the death of Dr. T. H. Agnew, well-known Vancouver physician. Dr. Agnew graduated from Trinity College in 1894 and registered in British Columbia in 1913. For the past 33 years he has served the Grandview district of Vancouver and recently retired from active practice. Sincere sympathy is extended to Mrs. Agnew and family.

Dr. J. W. Neville, formerly of Williams Lake, has now taken up practice in Ladysmith.

Dr. F. D. L. Crofton of Victoria has accepted a position on the staff of the Vancouver General Hospital.

Congratulations and best wishes extended to the following doctors on their recent marriages:

Dr. and Mrs. L. C. Kindrea, who plan to live in Squamish.

Dr. and Mrs. M. A. Nicholson, who will make their home in Vancouver.

Dr. and Mrs. J. W. Warne, who will reside in Vancouver.

At the Annual Meeting of the Canadian Public Health Association recently held in Vancouver, Dr. Stewart Murray was elected a Vice-President for the ensuing year.

Dr. F. W. Tysoe of Britannia Beach is doing post-graduate work at the Royal Victoria Hospital in Montreal, Quebec.

Dr. H. R. Ross has left Vancouver to make his home in Cloverdale.

We note the appointment of Dr. Helen Zeman as Medical Health Director of the Okanagan Health Unit at Kelowna. Dr. Zeman will succeed Dr. A. W. Beattie, who has been transferred to Nanaimo.

Deepest sympathy is extended to Dr. J. K. Kelly on the death of his father, and to Dr. George Wilson of Harrison on the death of his mother.

Dr. G. E. Smith has recently taken up practice in Haney in association with Dr. S. R. Arber.

Dr. W. M. Carr of Kelowna has recently moved to Victoria, where he has taken up residence.

Dr. S. McClatchie, who was at Woodfibre for some time, is now practising in New Westminster.

Congratulations to the following parents on the birth of daughters: Dr. and Mrs. J. W. Arbuckle, Dr. and Mrs. A. P. Brown, Dr. and Mrs. E. N. East, Dr. and Mrs. George Elliot, Dr. and Mrs. J. H. Hutchinson-Hamilton, Dr. and Mrs. C. J. F. Phillips-Wolley, Dr. and Mrs. A. N. Reid, Dr. and Mrs. G. W. Robson, Dr. and Mrs. J. F. Tysoe; and on the birth of sons: Dr. and Mrs. W. H. Cockcroft, Dr. and Mrs. G. H. Grant, Dr. and Mrs. J. I. Horsley, Dr. and Mrs. D. R. Johnston, Dr. and Mrs. A. F. McGill, Dr. and Mrs. J. A. McLaren, Evanston, Ill., Dr. and Mrs. L. L. Ptak.

Dr. J. H. Lindsay, who has been on the Interne Staff of St. Paul's Hospital, has now settled in Britannia Beach, and Dr. A. A. Larsen is practising in Nanaimo.

Dr. S. A. Strachan of Vancouver is relieving Dr. E. E. Tomashewsky at Grand Forks.

Dr. Douglas Findlay, formerly of Chemainus, has gone to England, where he will do post-graduate work for the next two years.

We are very glad to publish the following at the request of the Board of Health of B. C.—Ed.

To the Editor:

Dear Sir:

The Provincial Department of Health would greatly appreciate it if you would give publicity to enclosed instructions on chlorination of wells which have been flooded. These instructions will be of particular value when flood waters begin to recede.

Division of Health Education,
Department of Health.

INSTRUCTIONS FOR CHLORINATING WELLS THAT HAVE BEEN FLOODED

When wells have been flooded, they should be chlorinated before the water is again used for domestic purposes. Chloride of lime (chlorinated lime) may be used in the proportion of 30 oz. of chloride of lime per 1000 gals. of water in the well. One standard can of chloride of lime contains 12 oz. It is important that the chloride of lime be fresh and at full strength. If H.T.H. or Perchloron, or similar high test hypochlorites are used, use only 15 oz. per 1000 gals. of water.

In order, therefore, for one to know the amount of chloride of lime that must be used, you must first know the amount of water in the well. The formula for finding the number of gals. of water in a square or rectangular well is as follows:

No. of gals. = Length $\times$ Width $\times$ Depth of Water $\times$ 6.25
(Note: All measurements must be in feet.)

If the well is circular, the formula for finding the number of gals. is as follows:
No. of gals. = 0.785 $\times$ Diameter $\times$ Diameter $\times$ Depth $\times$ 6.25

When the amount of water in the well is known, the proper amount of chloride of lime that it required may be determined by the following formula:

$$\text{Ounces of Chloride of Lime Required} = \frac{30 \times \text{No. of Gals.}}{1000}$$

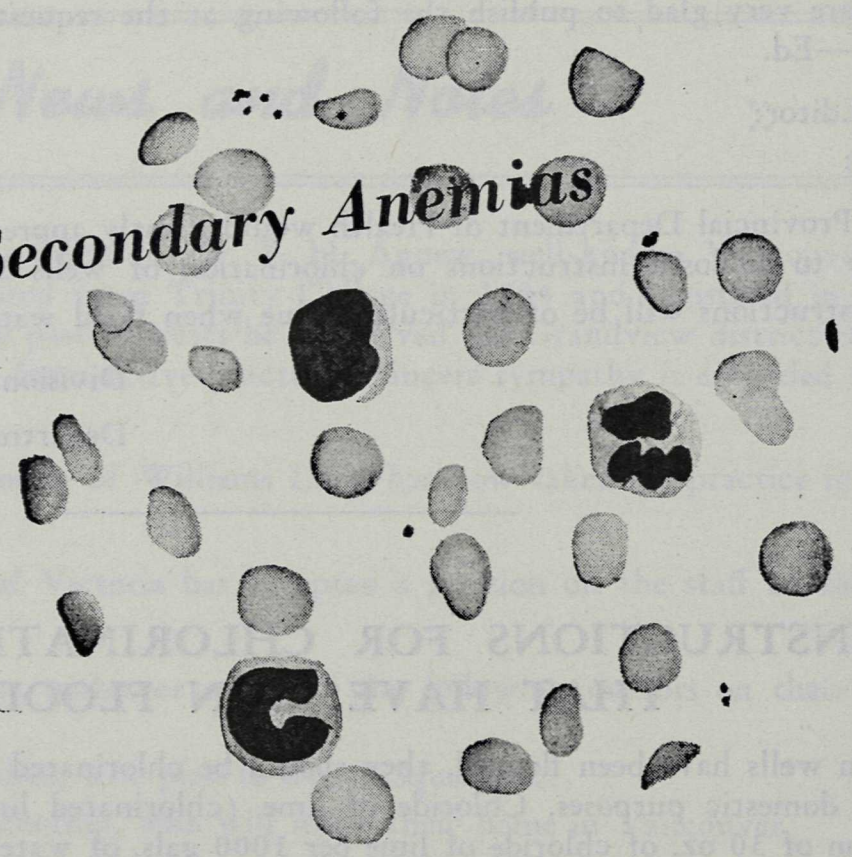
If H.T.H. is used, use half the amount calculated for chloride of lime.

The chloride of lime or H.T.H. powder is placed in the bottom of a bucket or tub and water is added slowly, stirring continually, until a good smooth paste is formed. Water may then be added until the bucket or tub is full. Stir thoroughly. This solution may now be poured into the well. The well should then be left undisturbed for at least 12 hours. The well should then be pumped until no taste of chlorine remains in the water.

It is important to remember that the above will give a much stronger dose of chlorine than is used in ordinary chlorination of water. For this reason the well should be pumped until all taste or odor of chlorine is removed.

If the well to be treated is a sandpoint or drilled well, use one 12 oz. can of chloride of lime, mixed in a bucket of water. The solution should then be poured down the well. This should be left for 12 hours. The well should then be pumped until no taste or odor of chlorine remains.

For Secondary Anemias



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