The BULLETIN
OF THE
VANCOUVER MEDICAL ASSOCIATION

Vol. XIII JUNE, 1937 No. 9

JUN 4 -

In This Issue:

PELVIC CONDITIONS

REPORT FROM GYNÆCOLOGICAL DIVISION, VANCOUVER GENERAL HOSPITAL

NEWS *and* NOTES

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THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

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Protection Against Typhoid

Typhoid and Typhoid-Paratyphoid Vaccines

Although not epidemic in Canada, typhoid and paratyphoid infections remain a serious menace—particularly in rural and unorganized areas. This is borne out by the fact that during the years 1931-1935 there were reported, in the Dominion, 12,073 cases and 1,616 deaths due to these infections.

The preventive values of typhoid vaccine and typhoid-paratyphoid vaccine have been well established by military and civil experience. In order to ensure that these values be maximum, it is essential that the vaccines be prepared in accordance with the findings of recent laboratory studies concerning strains, cultural conditions and dosage. This essential is observed in production of the vaccines which are available from the Connaught Laboratories.

Residents of areas where danger of typhoid exists and any one planning vacations or travel should have their attention directed to the protection afforded by vaccination.

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Information and prices relating to Typhoid Vaccine and to Typhoid-Paratyphoid Vaccine will be supplied gladly upon request.

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VANCOUVER HEALTH DEPARTMENT

STATISTICS—APRIL, 1937

Total Population—estimated	253,363
Japanese Population—estimated	8,522
Chinese Population—estimated	7,765
Hindu Population—estimated	352

	Number	Rate per 1,000 Population
Total deaths	253	12.1
Japanese deaths	11	15.7
Chinese deaths	12	18.8
Deaths—residents only	217	10.4

BIRTH REGISTRATIONS—

Male, 157; Female, 158	315	15.1

INFANTILE MORTALITY—	April, 1937	April, 1936
Deaths under one year of age	7	14
Death rate—per 1,000 births	22.2	43.6
Stillbirths (not included in above)	6	7

CASES OF COMMUNICABLE DISEASES REPORTED IN THE CITY

	March, 1937		April, 1937		May 1st to 15th, 1937	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	0	0	0	0	0	0
Scarlet Fever	23	0	26	1	19	0
Diphtheria	0	0	1	0	0	0
Chicken Pox	36	0	59	0	45	0
Measles	108	1	47	0	2	0
Rubella	0	0	2	0	2	0
Mumps	93	0	126	0	46	0
Whooping Cough	10	0	23	0	2	0
Typhoid Fever	1	0	0	0	0	0
Undulant Fever	1	0	1	0	0	0
Poliomyelitis	0	0	0	0	0	0
Tuberculosis	31	18	40	21	10	--
Meningitis (Epidemic)	0	0	0	0	0	0
Erysipelas	9	0	7	1	2	0

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EDITOR'S PAGE

By the time this number of the BULLETIN appears, the Provincial election will be over, and we shall have had our fates settled for us for the next few years. All we can do, beyond casting our individual vote, is hope that all the candidates we want to see elected will have been successful.

The plebiscite on Health Insurance will also have been endorsed or rejected. It may be perhaps captious to say that it reminds one rather of the Delphic oracles of old, which might be interpreted in any way the hearer saw fit, or according to his wishes. It is one of those not infrequent questions that are rather difficult to answer with a categorical "yes" or "no": and does not, we feel, bind anyone to anything. Perhaps this is as well—we confess to a profound dislike and distrust of all plebiscites and referendums. They are, in our very humble opinion, an evasion of the responsibility that the elected member of Parliament should assume with his return to office. As we understand it, the fundamental idea underlying our method of popular government is that the delegates elected are given time and opportunity to study dispassionately and in the light of the fullest access to facts, any question that affects the public welfare, and are then competent to judge what is best to be done, without prejudice. The voter has no such time or opportunity, and has not access to enough of the facts to enable him to form a considered opinion. Hence he can only vote according to his emotions or prejudices or individual desires, and he is generally carried along on the wave of popular feeling engendered by the various factors of the situation. One has seen this so often in other plebiscites, and it would seem to some extent to be opportunism rather than statesmanship that dictates the resort to this expedient.

Nobody questions the need for a Health Insurance measure, nobody denies that the times are out of joint, medically speaking, and that some Hamlet is needed to put them right—and it is only a question of how much we as a community are prepared to pay. There are other factors to which we have made reference before, but they all, more or less, are resolvable into terms of cost. It is so with all kinds of insurance after all: you buy so much according to your purse and requirements; no magic exists that will alter this principle.

* * * *

We are glad to publish in this number a symposium of papers read before the Vancouver Medical Association by members of the Gynæcological and Obstetrical Staff of the Vancouver General Hospital. This is what staffs are for, amongst other things, and we particularly applaud the analysis by one of the speakers of the work done in the Hospital. The Staff at the Hospital is doing excellent work all the time, not only in this, but in other divisions, and they can greatly enhance the value and permanency of their work by just such reports as these. The rest of the profession can share, as we are sure the Staff would want them to share, in the lessons learned from the huge amount of valuable clinical material with which the Staff works. By all means let us have more of this.

NEWS AND NOTES

The Vancouver Medical Association will be well represented at the meeting of the Canadian Medical Association in Ottawa in June. Dr. H. H. Milburn, who is on the Council, will of course attend. Dr. H. A. Spohn will give a paper at the Pædiatric Section on "The Physiology of the Central Nervous System in regard to Pædiatrics." Dr. D. H. Cleveland will speak on "Roentgen and Ultra Violet Radiation in Dermatology," and Dr. A. W. Bagnall will give

a paper on "Why Not a Status in Canada for Gold Therapy in Arthritis?"

Other members of the British Columbia contingent will be Drs. G. H. Clement, Wallace Wilson and G. F. Strong.

* * * *

Dr. R. A. Seymour, a native son of Vancouver, has taken over the position of first assistant to the Superintendent of the Vancouver General Hospital. Dr. Seymour, who was formerly in New Toronto Hospital for the Ontario Medical Society, is replacing Dr. H. S. Stalker, who left recently to take up duties at Tranquille Sanatorium. Dr. Seymour was with the Vancouver General Hospital from 1921 until 1931. He was born in this city and attended High School here. He graduated from the University of Toronto.

* * * *

Word has just been received from London, England, that Dr. Reginald Wilson of this city has passed his examination for membership in the Royal College of Physicians. Dr. Wilson is a son of a pioneer family of Vancouver. He is at present a house physician in Great Ormond Street Hospital, London, for sick children.

* * * *

Dr. S. A. Bell of Vacouver was married on May 5th to Miss Mary Thompson, a graduate of the Royal Jubilee Hospital in Victoria. Dr. Bell is in practice in Vancouver.

* * * *

Dr. and Mrs. John G. MacArthur of Prince George are the recipients of congratulatory messages from many friends on the birth of a son (John Ferrier) on May 8th. We wish to offer the congratulations and best wishes of the whole provincial profession to this popular couple.

* * * *

Dr. V. B. Goresky has entered practice at Castlegar in the offices of Dr. L. N. Beckwith, who has now opened offices in Trail.

* * * *

Dr. L. C. Steindel has been assisting Dr. F. D. Sinclair of Cloverdale during the past month.

* * * *

Dr. H. A. Whillans has left for the North and will be associated with Dr. Leonard B. Wrinch in the practice at Hazelton. We regret to report the serious illness of Dr. Gordon E. Stanley, assistant to Dr. Wrinch. He is confined to hospital at Hazelton. We wish him a speedy return to health.

* * * *

Dr. B. H. Cragg has taken up practice in New Westminster, and will be associated with Dr. A. W. Bowles, the eye, ear, nose and throat specialist.

* * * *

Dr. G. B. Henderson of Creston, B. C., called to visit us returning from Arizona, where he has been recuperating. He has improved and is now home in Creston, where Dr. J. V. Murray, his partner, with the assistance of Dr. G. R. F. Elliot, has been carrying on.

* * * *

Dr. C. T. Hilton of Port Alberni, President of the Upper Island Medical Association, called at the offices to discuss medical services as applied to the needs of the logging industry.

* * * *

Dr. R. S. Woodsworth has been doing *locum tenens* for Dr. Herbert McGregor of Penticton during the latter's absence on post-graduate study.

* * * *

Dr. W. R. S. Groves of West Vancouver and Miss Hazel Dick, R.N., a graduate from the Vancouver General Hospital, were married on May 1st. On their return from a month's visit at Lake Louise they will reside in West Vancouver. They have the best wishes of the whole profession.

* * * *

We extend congratulations to Dr. and Mrs. S. E. Turvey on the birth of a daughter.

Results of the University examinations shew the following doctors graduated from among the students from British Columbia:

From Queen's University:—Doctors: C. J. Austin, Fernie; W. J. Elliot, Parksville; R. R. Laird, Oliver; W. M. S. Lauder, Vancouver.

University of Toronto:—Doctors: Arthur Bagnall, Vancouver; W. J. Elliot, New Westminster; A. B. Jung, Vancouver; A. B. Sinclair, Victoria.

McGill University:—Doctors: Charles E. Battle, Vancouver; Hugo Emanuele, Vancouver; Bruce Bryson, New Westminster; M. Fong Law, New Westminster; Gordon S. Rothwell, New Westminster; James W. Wilson, New Westminster; Jack S. McCannel, Victoria; Herbert B. McGregor, Penticton.

Dr. James W. Wilson is the son of Dr. George T. Wilson of New Westminster; Dr. Arthur W. Bagnall is the son of Dr. A. W. Bagnall of Vancouver; Dr. Herbert B. McGregor is the son of Dr. Herbert McGregor of Penticton, and the name Rothwell in New Westminster has been associated in medicine through the late Dr. Rothwell for many years.

We wish to share the satisfaction that must come to our doctor friends in this their sons' achievements.

DR. W. CHIPMAN

OBIIT MARCH 29, 1937

IT is with deep regret that we note the passing of a man who, while perhaps not very well known to many of his confreres, yet enjoyed the esteem and affection of many of us who knew him rather better.

The chronological history of Dr. Chipman's life has been recorded elsewhere, and we need not recapitulate it. He had a very full and active life, and was one of the best-equipped surgeons. He had had a long postgraduate training in Europe, and was extremely competent, as the operating-room authorities of St. Paul's Hospital, where he did most of his work, will testify.

Dr. Chipman had practised in the Yukon for many years before coming to Vancouver, and his clientele included many of the people from that land of the far north. His reputation there lived on long after he left, and any Yukoner in need of medical or surgical care usually made for Dr. Chipman's office. He had in his makeup the characteristics of bluntness and downrightness which appeal to the type of man who finds the rugged conditions of the northern countries to his taste: and they liked and trusted him.

When his end came, he met it in full awareness of its coming, with courage and a return to the faith of his childhood: and made a good ending.

LIBRARY NOTES

WILLIAM SYDNEY THAYER, By Edith Reid.

Those of our profession who wish to envisage medicine under an ideal leader should take a couple of hours to peruse the biography of the late Professor William Sydney Thayer as given to us by Edith Gittings Reid.

The author, steeped in the Osler Tradition by her short biography of that great physician and stimulated by the urge of the late Dr. William H. Welch, has produced a book about Dr. Thayer, his beginnings, his teaching, his scholarship and the rigid honesty of the man's intellect which leaves the reader with a vivid memory of a real leader in our profession.

Many years ago, when I was in Baltimore for a number of months, I enjoyed following Dr. Thayer at the bedside and was greatly impressed with his gifts as a clinician and teacher. He was, as his biographer states, always

immaculately dressed, but he was no less particular in the thoroughness of his clinical investigation and the use of the finest English to impress his points.

This brief biography gives us a delightful and intimate glimpse into the life and character of one of the outstanding medical teachers of his day.

—W. D. K.

IMPORTANT NOTICE

APPOINTMENTS and CONTRACTS

Members of the College of Physicians and Surgeons of British Columbia ARE REQUESTED NOT TO APPLY for any APPOINTMENT or enter into negotiation with reference to any CONTRACT without having first communicated with either or both:—

DR. A. J. MACLACHLAN,
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or/and

DR. M. W. THOMAS
Executive Secretary
COLLEGE OF PHYSICIANS & SURGEONS OF B. C.

NORTH VANCOUVER MEDICAL ASSOCIATION MUNICIPAL RELIEF MEDICAL SERVICES

The North Vancouver Medical Association, which is composed of all doctors practising in North and West Vancouver, held its regular monthly meeting in the North Vancouver General Hospital on May 11th. The President, Dr. J. W. Lang of West Vancouver, acted as chairman.

Much business was dealt with, the principal being that of Relief Medical Services in both West and North Vancouver. Dr. Thomas attended the meeting at the request of the Executive Committee and placed much data before the members. Committees dealing with this phase of practice are now negotiating to secure the $600.00 for each of the 11 doctors which should be the pro rata share obtainable from this minimum fund which may be made available on action of the Corporations on the North Shore. The Governmental grant of 33 cents per case per month is contingent upon the contributions of a like or larger amount by the Corporations. Many Corporations have made their share larger in consideration of the services which are rendered to the poor of the community by their doctors. It was explained that the Relief Administrator recognizes as "cases" "heads of families" (municipal and transient and provincial) and "single individuals" (men and women). The whole relief population is thus covered, and while these partial payments are not deemed adequate they represent recognition and partly cover the service and transportation costs.

Attention

SPECIAL NOTICE RE SUMMER SCHOOL LECTURES

It has been necessary to rearrange the order of the lectures to be delivered by Dr. Donald Trueblood at Summer School and the title of one lecture has been altered. Dr. Trueblood's lectures will, therefore, be as follows:

Tuesday, June 22, 10 a.m.—Conditions of the breast, other than cancer.
Wednesday, June 23, 11 a.m.—Intraoral tumours.
Thursday, June 24, 9 a.m.—Tumours of the Uterus.
Friday, May 25, 2:30 p.m.—*Clinic*—Skin Lesions.
Friday, May 25, 8 p.m.—Surgical treatment of carcinoma of the breast.

SUMMER SCHOOL NOTES

The Summer School Committee is delighted to announce that Dr. William Boyd of Winnipeg has consented to give the address at the luncheon to be held in the Spanish Grill of the Hotel Vancouver on Tuesday, June 22nd.

Dr. Norman Kemp will have charge of the Golf Tournament to be held on Thursday, June 24th. The tournament will be held at the Jericho Golf and Country Club and it is hoped that there will be a good list of competitors. Registration for this may be made at the desk outside the Oval Room at any time when the Summer School is in session. Dr. Kemp states that he can secure clubs for anyone who may not have brought their own.

SOME GYNÆCOLOGICAL SEQUELAE OF UNCOMPLICATED DELIVERY

WITH THE ASSOCIATED ENDOCRINE DYSFUNCTION AND THERAPY

By Dr. W. L. Boulter, *Vancouver.*

Read before Vancouver Medical Association, April, 1937.

Mr. Chairman, ladies and gentlemen:

It is always difficult to know just what subject to choose in presenting a short paper insofar as gynæcology is concerned. While there are enough problems, and some of them pretty sticky too, tonight I shall attempt to keep clear of the more contentious, serious and common gynæcological conditions. One's selection here is limited, for the most part, to a review of work done in centres where better facilities are present for research and investigation of new problems. However, it is to be hoped that you will be interested to some extent in the subject chosen.

In reviewing any series of natural deliveries without complications, where records are kept, we find that many mothers suffer from a number of minor gynæcological complaints which restrict their activities and, from an economic point, may prove very embarrassing to the family budget. Several of the more common will here be reviewed.

Before discussing some of these problems, it will probably be better if

we take a short time to refresh ourselves insofar as the endocrine situation is concerned with these problems. As you recall, Dr. Schiller, in his recent lectures here, showed us that the pituitary, ovary and uterus function in a definite way insofar as the activities of these three organs are concerned; that is, that the ovary acts as the intermediate organ and must be present for the endocrines of the anterior pituitary to produce their effects insofar as the normal functioning of the uterus is concerned.

We find that from the anterior pituitary body we get hormones which were given the names, at first, of Prolan "A" and Prolan "B". To avoid any misunderstanding, for the purpose of this paper, we shall refer to them as "Pituitary "A" and Pituitary "B". The "A" stimulates ovulation with the production of follicular hormone, while "B" stimulates luteinization. A third hormone produced by the anterior pituitary has been called Prolactin. This causes the onset and continuation of milk secretion after the breast has first been developed by oestrin.

Antuitrin (Antuitrin-S, the "S" standing for sex) is the sum of Pituitary "A" and "B".

Pituitary "A" starts follicular reopening and incites granulosa cells to produce oestrin, which in turn induces the growth phase of the endometrium. After full development of the follicle, ovulation occurs and a corpus luteum is developed from the ruptured Graafian follicle. The action of Pituitary "B" luteinizes the granulosa cells and incites them to produce the corpus luteum hormone which, in conjunction with oestrin, causes the premenstrual or secretory phase of the endometrium.

The amount of follicular hormone increases rather steadily through the cycle, reaching its highest peak just before menstruation. Oestrin inhibits the production of the gonadotropic hormone of the anterior pituitary. Consequently, as the level of oestrin rises in the blood, there is a corresponding decrease in secretion of Pituitary "A" and "B". When this decrease becomes so marked that it is insufficient to maintain the corpus luteum, the latter undergoes retrogression. This results in a cessation of oestrin production. The sudden withdrawal of oestrin causes a breaking down of the built up endometrium, resulting in a flow of blood and debris (menstruation). The absence of oestrin in the blood now removes the inhibition of the anterior pituitary, allowing the basophilic cells to produce the gonadotropic hormone again. This stimulates a new follicle to develop, initiating a new cycle.

When pregnancy occurs, the hypophyseal suppression persists, and the cycle activity is held in abeyance throughout gestation period. The corpus luteum continues to enlarge and its hormone, together with oestrin, prepares the endometrium for reception and embedding of the fertilized ovum.

THE PHYSIOLOGIC ACTIONS OF THE FOLLICULAR HORMONE (OESTRIN, THEELIN, PROGYNON or PROGYNON "B", EMMENIN, AMNIOTIN, ETC.)

1. Promotes development of secondary sex characteristics.
2. Promotes growth and vascularization of the uterus *and controls the growth phase of the endometrium.*
3. Produces oestrus in normal or castrated, mature or immature, mice.
4. Inhibits the production of the gonadotropic hormone of the anterior lobe of the pituitary gland, by causing agranulation of the basophilic cells.
5. *Withdrawal of the follicular hormone is thought to be the factor causing the onset of menstruation.*
6. *Contractions of the uterine and tubal musculatures are stimulated by oestrin. It also sensitizes the uterine muscle to the action of pituitrin.*
7. *It inhibits the action of progestin on uterine and tubal muscle.*
8. *Corner and Allen produced uterine bleeding in castrated monkeys. The endometrium*

showed no premenstrual changes. They later used theelin injections followed by progestin and produced menstrual-like bleeding with progestational changes in the endometrium.

9. In monkeys and in human beings, excessive doses of theelin have haused hyperplasia of the endometrium.
10. It causes a marked elongation of the milk ducts of the mammary gland and an increase in the number of primary buds in the alveoli. The epithelium covering the nipple is also thickened.
11. It inhibits lactation by its inhibitory influences on the lactating hormone of the anterior lobe of the pituitary, and also by its local action on the breast. Both actions are present during pregnancy, where there is marked breast development and preparation for lactation but no lactation until withdrawal of theelin after the delivery of the placenta. Oestrin may be a factor in the etiology of breast carcinoma.
12. Prolonged administration combined with chronic trauma causes atypical growth of the cervical epithelium in monkeys. Oestrin may be a factor in the etiology of cervical carcinoma.
13. Oestrin passes through the placenta into the fœtal circulation and affects the genital organs of the fœtus. The occasional finding of secreting breasts and uterine bleeding in the newborn is attributed to the sudden withdrawal of the maternal oestrin at birth. A test for prediction of sex is based on the placental permeability to the male and female hormones.
14. Werner, and later Kaufmann, caused uterine bleeding in human castrates by huge injection of oestrin, but curettage showed no premenstrual changes. Kaufmann gave from three to ten million international units over a period of months to five patients with primary amenorrhœa, some with uteri smaller than a hazelnut. In these women he succeeded in causing the uteri to increase to normal size. Some of the patients had short periods of bleeding. Warner used theelin. Kaufmann used a dihydro compound (progynon B).
15. Kaufmann succeeded in causing a typical "swiss-cheese" hyperplasia in a human castrate by using huge unit doses. Oestrin may be a factor in the etiology of adenocarcinoma of the fundus.
16. Kaufmann caused the formation of a premenstrual-like endometrium, in a human castrate, by using oestrin and proluton (progestin). This is discussed under the corpus luteum hormone.
17. Werner attempted to cause lactation in human castrates by giving theelin, corporin and prolactin in the proper sequence. He was unable to obtain lactation, although some of the women had marked enlargement of the breasts and felt as though they were about to lactate.
18. Oestrin is responsible for the series of changes in the organism which tend to facilitate coitus and fecundation and to create a special state of libido, varying in degree according to the species.
19. Birch reported good results in hæmophilia, but the work of Chew et al., and also that of Brem and Leopold, raise serious doubts of its efficacy.

THE PHYSIOLOGIC ACTIONS OF THE CORPUS LUTEUM HORMONE (PROGESTIN, CORPORIN, RELAXIN, PROLUTEIN, ETC.)

1. Together with oestrin it controls the secretory or premenstrual phase of the endometrium and prepares it for the reception and embedding of the fertilized ovum.
2. It is essential for the conservation of early pregnancy before the placental progestin is present. The anabolic phase of the corpus luteum lasts during the first three or four months of pregnancy, after which time the placenta supplies the progestin.
3. It has been shown independently by Loeb, Papanicolau, and Macht that it inhibits ovulation. It is thought by some that this action is an indirect one accomplished through inhibition of the anterior pituitary gland. Moore states that the direct evidence of the action on the pituitary gland is lacking.
4. *It inhibits the contraction of the uterine muscle and maintains it in the state of comparative quiescence during pregnancy. It also inhibits tubal contractions, being antagonistic in its action to oestrin and pituitrin in both tubal and uterine effects.*
5. Corner and Allen have produced a premenstrual-like endometrium in castrated monkeys by using oestrin and progestin in the proper sequence.
6. It stimulates the development of the mammary gland beyond the degree secured by oestrin.
7. According to C. V. S. Smith it helps maintain oestrin balance by promoting oestrin secretion by the kidney.

8. *Seitz claims that corpus luteum extract shortens the coagulation time of the blood.*
9. Demonstration of the effect of the corpus luteum hormone on the human endometrium in the castrate resisted all efforts until Kaufmann's work in 1932. He succeeded in producing a premenstrual-like endometrium in a human castrate by using in their proper sequence oestrin and the corpus luteum hormone. In forty cases of secondary amenorrhœa he produced menstrual-like bleeding by the same means.
10. Inhibiting effect in menstruation. Removal at operation in the premenstrual phase causes precipitate menstruation. Persistent corpora lutea in cows prevent ovulation and cause sterility. Oestrus and ovulation can be prevented experimentally by injection of corpus luteum extract. Therefore, while antagonistic, when used in the proper time relation they are synergistic in promoting normal ovulation and menstruation. Two types of cyclic uterine bleeding, one in which ovulation takes place and a corpus luteum is formed, and one in which ovulation does not occur. With the latter type there are no premenstrual changes in the endometrium.

The evolution of the corpus luteum depends on whether pregnancy occurs or not, and is divided into two stages. Stage 1 is the anabolic stage. Duration in woman lasts for twelve days in the corpus luteum of involution, and three to four months in the corpus luteum of pregnancy. Stage 2 is the catabolic stage—the stage of regression which, in pregnancy, lasts until delivery. Where pregnancy occurs, this hormone, progestin, causes certain changes which affect the normal rhythm and function of the normal menstrual rhythm. Menstruation stops and the endometrium is changed so that the fertilized ovum is received in a richly vascularized and quiet endometrium.

Progestin has been extracted from the human placenta. Whether it is secreted or only stored is not known.

Summary.

Folliculin (oestrin hormone). It is produced by the ovary (*inter alia*) in the follicle growth. It controls oestrus and stimulates proliferation and ovulation, and prepares the uterus for menstruation.

Progestin, produced by the ovary (the corpus luteum). It influences the myometrium, causing paralysis and allowing embedding of the ovum at rest, in the endometrium, which also has become thickened and more vascular. The corpus luteum does not prepare for menstruation, *but for pregnancy.*

Pituitrin (post pituitary lobe secretion). Stimulates the myometrium, causing contractions; opposed by lutein or progestin.

Antuitrin-S. This is the anterior pituitary-like substance and is found in large quantities in the urine of pregnant women (and prepared commercially very often from the urine of the pregnant mare). It contains both Prolan "A" and "B" and, since this is the case, it can often be tried in place of Progestin, since it is much cheaper, and will often produce enough Prolan "B" stimulation of the corpus luteum to give the required results.

1.—CONTINUOUS HÆMORRHAGE.

Where the placenta and membranes have come away intact and there has been no evidence of sepsis, one is not alarmed at a moderate amount of uterine bleeding, when the patient gets up for the first time, which usually stops within a few days. One of the more important forms of continuous hæmorrhage usually starts about two weeks after delivery and may persist for many weeks, and while the total amount of blood lost may not be particularly severe, yet it is discouraging to the mother, weakening her both physically and psychologically as well as being a contributory factor in the development of puerperal anæmia.

While the etiology of this form of continuous uterine bleeding is not

completely cleared up, we do know that there is no relation to uterine infection or to misplacement. Clinically this type of case is most frequently seen where lactation is discontinued for some reason or excuse, and particularly when lactation is deficient.

Again it also seems to be definitely established that after prolonged labours resulting from uterine inertia, patients show a well marked tendency to suffer from this type of continuous uterine bleeding. These cases should be regarded as being caused by defective involution of the decidua and endometrium of the uterus. At other times the bleeding is due to a condition exactly comparable to metropathia hæmorrhagica, and shows all the characteristic appearance of this disease. Uterine bleeding of this same type is not uncommon after miscarriage, and the same two pathological forms can be recognized, although with abortion cases it is common to find relics of chorionic villi attached to the thrombi which are dislodged from the uterus.

Treatment: Method of Controlling the Bleeding

This is probably the most important consideration both from the doctor's and the patient's point of view.

First of all it is true that the bleeding will stop spontaneously in due course. Just when, however, it is impossible to say, and this waiting is usually very tiresome to all concerned. The patient is advised to lie down as much as possible and she is given ergot and iron medication. This treatment is not very satisfactory and bleeding very often persists in spite of it.

Secondly: Theoretically the administration of either mammary extract or the corpus luteum hormone "Progestin" would be advisable. The results from mammary extract are disputed, while Progestin gives very good results. The only fly in the ointment is the expense associated with this latter, which makes its use prohibitive in many instances.

Third: *Curettage.* Results are excellent and almost always the hæmorrhage stops immediately. Objections are separation of mother and baby, and secondly, the risk of infection. It is true that this risk is almost negligible after normal delivery, but in case of abortion more trouble may be experienced.

II.—POLYMENORRHŒA

A very common gynæcological complaint; about 15% of hospital gynæcological patients suffer from this condition in many clinics. This condition usually follows childbirth. The etiology is probably related to an endocrinal disturbance. While it is often regarded as being caused by a persistence of the increased function of the anterior lobe of the pituitary gland, so that ovulation occurs more frequently than normal, still there seems to be no direct evidence to support this hypothesis. Symptomatology is usually more frequent periods than before, persisting for a longer time and with an increase in the blood lost. While this condition rarely leads to a severe secondary anæmia, yet it does put a strain on the blood reproducing system, and also there is the inconvenience of frequent and profuse menstruation. This condition of affairs may persist for several years following childbirth but eventually the normal rhythm for each person is re-established. There is no evidence that post-partum polymenorrhœa is influenced by lactation. The administration of ergot and iron seems to have little, if any, effect on the frequency of the periods. The amount of blood lost is reduced if the patient stays in bed and takes ergot by mouth.

Curettage rarely does any good nor is there any reason on theoretical

grounds why it should, as this seems to be caused by an endocrinal disturbance.

"Progestin" given in large doses gives, in some cases, good results. The condition is quite liable to recur when the treatment is discontinued.

Small doses of x-ray or radium are of very questionable value—both as to results and also because of the risk that a child born of a subsequent pregnancy will be malformed. Again, even if the patient becomes pregnant again, the condition almost always recurs during the next puerperium.

Mammary gland extracts are advised by some authorities. Others maintain that when the symptoms develop in association with a retroflexed uterus, the polymenorrhœa resolves after the uterus has been replaced, if necessary by suspension. If polymenorrhœa and retroflexion are found associated, however, the two conditions are coincident.

The condition tends to clear up if the patient's general health is improved. Fatigue must be avoided and, where possible, the patient should be encouraged to lie up during one or two periods. Attention should be paid to nutrition and large doses of iron taken daily for at least a month. No alcoholic drinks.

Antuitrin-S therapy. In those cases where the use of Progestin is indicated, it is sometimes possible (where expense cannot be tolerated or for other reasons) to substitute Antuitrin-S. The suggested dosage of Antuitrin-S is 50 to 200 units daily for about two weeks. If it is desired to continue the treatment, one hundred units three times a week may be given, with rest periods between series of injections. Recently Novak and Hurd reported their results from the use of Antuitrin-S in 51 cases of functional uterine bleeding. Many of these were of the recurrent type and some had had previous curettments. Bleeding was checked in 44 of the 51 cases of the series, often with astonishing rapidity. The authors state that of 29 cases in which they used strongly luteinizing preparations they were able to check the hæmorrhage in 27. In 14 of the cases the bleeding stopped after a single injection, and in 12 after two injections. In cases in which the preparations used were not so strongly luteinizing, results, although not so spectacular, were nevertheless satisfactory. They believe there is ample clinical evidence to justify thir belief that the use of Antuitrin-S in such cases will, in most instances, entirely supplant the other measures; e.g., curettage, etc. After cases of functional uterine bleeding have been brought under control, it is advisable to continue injections of Antuitrin-S for several months, the injections to be given during the week or ten days immediately preceding each expected menstruation. Dosage for this purpose is at least 300 R.U., divided into 2 or 3 injections.

Progestin (B.D.H.), $9.75 for two, 2 c.c. rabbit units (6 two units $16.90).

Prolutein (European rabbit unit), $4.65 for five 1 c.c. ampoules.

Leucorrhœa and Vaginal Discharge

The normal vaginal secretion and histological characteristics of the vaginal m.m. vary at different ages and are controlled by the activities of the endocrine system.

(1) At birth, there is a creamy white secretion, often plentiful in amount and acid in reaction, present in the vagina. Sterile at birth but within a week usually invaded with Döderlein's bacillus. From the seventh month of intrauterine life the m.m. is thick and composed of many layered stratified squamous epithelium, in the cells of which much glycogen can be demonstrated. Also during the latter months of pregnancy oestrin is pro-

duced in the mother by the Graafian follicle and by the placenta and is present in considerable amount in her blood, amniotic fluid, colostrum and urine. The fœtus is therefore richly supplied with oestrin which at birth is cut off and oestrin is gradually excreted. Two of the disturbances of the neo-natal period, namely engorgement of the breasts and the occurrence of a blood-stained vaginal discharge, are explained respectively by the stimulation by and sudden withdrawal of the oestrin in the infant's blood. *Pari passu* with the marked diminution of oestrin from the infant's blood, the vaginal epith. and discharge gradually change to that seen in the second phase of life.

(2) During infancy and up to puberty the vaginal discharge is scanty in amount, contains epithelial debris and W.C.B., and is much less acid in reaction. With this rise in pH, the flora of the vagina consists of a number of micro-organisms, including in some cases Döderlein's bacillus. During this period of life the vaginal mucous membrane usually is thin, atrophic, and its cells do not contain glycogen.

(3) At puberty and preceding the onset of menstruation a change again occurs in the pH of the secretion, in the flora of the vagina, and in the amount of glycogen present in its epithelial cells. During the period of reproductive life the amount of oestrin in the blood increases, the discharge becomes abundant, with a whitish appearance like curdled milk and strongly acid in reaction. Discharge contains Döderlein's bacillus plus plus or even in pure culture (a high acidity is inimical to all organisms except those of the bacillus vag. group). This type of discharge does not change until the menopause unless intercourse or operative interference occurs, in which case the flora is likely to become a mixed one. If definite infection is presnt, Döderlein's bacillus tend to disappear and the pH becomes more alkaline. In this third period (reproductive life) the vaginal mucous membrane is again thick, many-layered, sometimes keratinized, and rich in glycogen. During the early months of pregnancy the vaginal flora may be mixed, containing few Döderlein bacillus. In the later months, associated with the increased concentration of oestrin in the maternal blood, Döderlein's bacillus tend to reappear in preponderating numbers or even in pure culture. The cells of the thick, congested, pregnant vaginal mucous membrane are rich in glycogen and the vaginal discharge becomes highly acid in reaction. (Intercourse, of course, interferes with this picture. Labour and delivery also cause a change in the picture, as we have several factors, such as trauma, bloody discharge, perhaps the introduction of some or many organisms, as well as the diminution in the amount of oestrin in the blood. The trauma may affect the cervix, vaginal walls and/or the introitus. The damage to the cervix, if extensive, will often necessitate some form of corrective treatment to restore the normal anatomical relations; otherwise a discharge may persist for years.)

(4) With the onset of a menopause, vaginal changes again occur. The discharge reverts to the type found in childhood, e.g., scanty in amount, more fluid, less highly acid, and the flora increased in variety.

The establishment of a relationship between the production of oestrin by the ovary and the deposition of glycogen in the cells of the vaginal mucous membrane has opened up a valuable line of treatment in those non-pregnant patients in whom the vaginal flora is at fault or where the amount of discharge is abnormal. The presence of glycogen leads to the production of lactic acid in the vaginal discharge, and lactic acid is inimical to organisms other than Döderlein's bacillus. By increasing the production of glyco-

gen, e.g., by injecting either oestrin or one of the anterior pituitary-like hormones, which stimulate the ovary to produce oestrin, it is hoped that the vaginal flora or mucous membrane or both will be restorred to a normal condition. Acid douches or other medicaments likely to increase the acidity of the vaginal content may also be used.

Endocrine dysfunction with an excess of oestrin in the blood may lead to an increased vaginal discharge, highly acid (pH 4.2 to 4.7), thick, creamy, containing only Döderlein's bacilli, and non-irritating. Here, Prolan (A.P.L.) or Antuitrin-C containing the controlling hormone of the anterior pituitary gland, should be tried.

III.—VAGINAL DISCHARGE

A very common symptom after normal delivery, and sometimes hard to explain to the patient satisfactorily. Discharges as a result of puerperal infection or Neisserian origin are not included in this paper. The two common forms which are after a natural delivery are the ones to be discussed.

(a) Vaginal leucorrhœa caused by a mild vaginitis.
(b) Development of a glandular erosion of the cervix.

(a) Vaginal Leucorrhœic Type

Here we have an irritating, thin, yellowish, muco-purulent discharge, often associated with soreness of the vulva and perhaps with pruritus. The vaginal vaults are reddened and inflamed and the discharge is easily seen in any folds, as well as in the cul de sac, on inserting a speculum. In severe cases, when trichomonas vaginalis can be detected, the discharge is yellowish or even blood-tinged, and much more profuse and irritating. Vaginal leucorrhœa of type A occurring post-partum is extremely common. The worse cases are seen when the vaginal orifice is patulous as a result of a perineal tear and there is some degree of prolapse of the vaginal walls. This las led to claims that it is thus easy for extraneous microbes to attack the vaginal walls and produce a low-grade vaginitis. Occasionally, however, the condition arises following cæsarean section, so that some other factor must be present. *Hormonal influences have been brought forward to explain the leucorrhœa, it being claimed that there is an oestrin deficiency which renders the vaginal epithelium more disposed to transudation and less restraint to infection.*

Treatment.—A simple treatment—vaginal douches of lactic acid (60 minims to a pint of warm water) and run in slowly.

Devegan tablets are useful and should be inserted after the evening douche (more often if necessary).

The patient's general condition should be improved, and the administration of oestrin usually accelerates the improvement; e.g., emmenin, 20 units t.i.d., one hour a.c. ex aqua.

(b) Glandular Erosion of the Cervix—Post-Partum

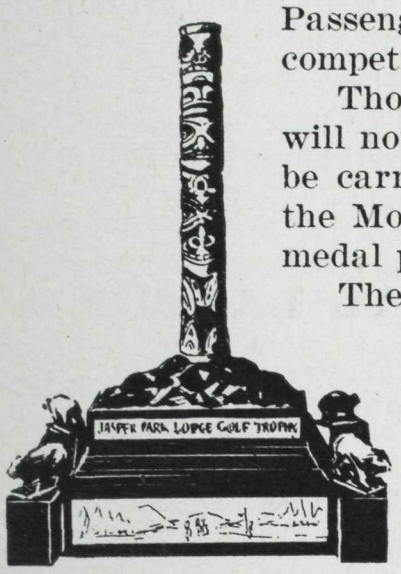
The pathology here is quite different. The discharge comes from a glandular erosion of the cervix and a profuse secretion of clear mucous from the cervical canal can be seen on inspecting the cervix. Here there is no question of infection of the cervical canal. The discharge is not purulent but consists of a clear mucous and the erosion is glandular and papillary in type. Etiology is unknown, but it is believed that an increased circulation of oestrin is the predisposing cause, leading to an undue proliferation of the mucous membrane both of the body of the uterus and the cervical canal.

Treatment.—Those usually used, such as cautery, antiseptics, electrotherapy and diathermy, generally prove very unsatisfactory, and theoretic-

ally there is very little reason to see why any of these should be very successful. The condition always clears up spontaneously in due course, although, again, many months may elapse before the condition of the vaginal portion of the cervix returns to normal. In the meantime, the mucous discharge canbe irrigated away with an alkaline douche. Particular attention should be paid to building up the patient's general health, for this type of discharge seems to develop particularly in patients who are anæmic and asthenic. Promising results have followed from the use of progestin hormone, although, due to the expense, not very many have been so treated.

Totem Pole Golf Tournament Medical-Dental Cup

Appreciating the attendance and support from the medical and dental professions at their Annual Totem Pole Golf Tournament held at Jasper Park, the Canadian National Railways, through W. G. Connolly, City Passenger Agent at Vancouver, have put up a cup for annual competition for our respective members only.



Those who have designs on the famed Totem Pole Trophy will not be barred from competition, as our own event will be carried out concurrently with the qualifying round on the Monday morning. Our competition is to be decided on medal play for eighteen holes on handicap basis.

The dates for the tournament this year have been announced, opening Sunday, September 5th, until September 11th, and the special rate for the week includes train fare, lower berth in each direction, golf, meals and room with bath at the Lodge; everything, in fact, except meals on the train.

All members of our professions, registered members at the Lodge, will participate, and as it has been through Mr. Connolly's efforts that this cup has been put up, he is anxious to have one of the Vancouver entry bring it to Vancouver for the first year, therefore he is expecting a good representation. He would also welcome any suggestions for an appropriate name for the cup.

OSTEO-ARTHRITIS FERVENS

Dr. H. E. L. Langis commenced practice in Vancouver in 1884, his arrival antedating by two years the great fire which razed the infant city in 1886.

Like many of his medical confrères he considered his equipment incomplete without a thermometer, a stethoscope, a Higginson, a whip catheter and—most important of all—a human skeleton. Dr. Langis was lacking skeleton and as its possession was vital he set himself to secure this bony adjunct to his armamentarium. He enlisted the help of the druggist, McCartney, over whose store was located the doctor's surgery, and, having knowledge of the whereabouts on Deadman's Island of the body of a Swede who had "suicided himself" two years before, they proceeded to disinter the remains. The spooky business of exhumation finished, they lifted their osseous burden into a boat and to the back room of the drug store to be cleaned up and prepared for articulation. The skeleton was placed in the cupboard and Dr. Langis tells startling stories of the indiscretions of inquisitive persons who peeked into that curtained corner of his office.

When the fire wiped out the city, Dr. Langis' office was completely destroyed. Those who cleared away the debris were much impressed by the burned skeleton on this piece of ground at the corner of Abbott and Water Streets. This disclosure told its own story. A man confined to his bed had been unable to save himself and had perished. One on-looker suggested that it was quite apparent that he was ill and bed-ridden. "Why, look at him. He could not possibly get off his bed. Look at the condition he was in. He was

in bad shape; his bed must have been burned under him. Why, look at his joints. They surely must have been badly diseased; they're all fastened together with wires."

* * * *

A SEAGULL VISITS THE DOCTOR

In the late afternoon of a balmy day the doctor was finishing a cigarette as he cleared his desk for a quick getaway when he heard footsteps on the window ledge behind him. The visitor was a full-grown gull and he appeared to want something. Could it be that he needed medicine? Possibly he sought the services of a specialist. There was evidence of rhinorrhœa. There had been a nose specialist on that floor or just below. The bird seemed strangely friendly and unafraid. The doctor tossed the cigarette stub on to the sill. The gull snipped off the lighted end and swallowed the butt greedily. The doctor wondered if he were really hungry. What could he give him? Searching his medicine cabinet for samples he found some Anusol suppositories. These proved delectable diet for his bird friend. Then Iodobesin was tried out successfully and Hypotensyl seemed satisfying, as were the Luminal tablets. Then succulent Hæmolytic capsules were followed by Yeast. The doctor wondered and feared the consequences, so hastened to pass out Caroid and Bile Salts. The bird stayed long enough to leave a testimonial to the efficacy of the latter treatment and the skill of his physician.

SOME SEQUELAE OF NORMAL LABOUR

By Dr. J. T. Wall, *Vancouver.*

Read before Vancouver Medical Association, April, 1937.

Before considering the effect of normal labour on the supporting structures of the female pelvis it is well to recall some of the anatomy.

The bladder, vagina, uterus and rectum are suspended by the levator ani on each side, with the recto-vesical fascia on its upper and the anal or ischio-rectal fascia on its lower surfaces. Above this muscle and fascia is the looser elastic and connective tissue forming the base of the broad ligaments through which the blood vessels and nerves pass to the uterus from the pelvic wall. This also gives considerable support to the uterus and vagina. The levator muscle on each side takes origin from the fascia lining the wall of the pelvis along the white line, from the pubes anteriorly, and from the sacrum and coccyx posteriorly, and pass downward and inwards to meet in the mid-line to support the vagina, uterus and rectum. Some of the fibres interlace behind the anus, some under the perineal curve of the rectum and some pass into the perineal body. The levator ani muscles pull the perineum upward and forward after the depression induced by parturition, defæcation or urination, and can be voluntarily exercised. Thickened parts of the supplementary fascia above the upper fascial covering serve special functions. The pubo-cervical fascia extends from the back of the pubes to the cervix. It acts as the anterior support of the cervix and also as a shelf for the base of the bladder. The utero-sacral ligaments extend from the cervix to the sacrum, and by keeping the lower part of the cervix well to the back of the pelvis, tends to keep the fundus forward. In this forward position of the uterus, the intra-abdominal pressure presses the anterior against the posterior vagina wall, and by this means the pressure is distributed over the whole pelvic floor instead of pressing the uterus against the vaginal opening. The uterus is not fixed in any one position but is held within certain limits by the pelvic floor, sacro-uterine ligaments, broad ligaments, round ligaments and the normal tone and fullness of the pelvic tissue.

During childbirth practically all primiparae and many multiparae suffer from injuries to the parturient canal. These are generally considered normal.

A dilating cervix stretches and may tear the cervical attachments. During the second stage of labour the vagina practically lines the true pelvis, which

means that the bladder must be displaced anteriorly. Such a displacement may tear or over-stretch its lateral attachments and support. Some relaxation and descensus of the anterior vaginal and urethral wall is the result.

Laceration of the perineal body also occurs in most primiparae. A tear involving the perineum only does not do much damage to the pelvic floor. Usually, however, the tear extends up the vagina, and involves the levator muscles and fascia. Usually the muscle suffers less than the fascia. When the perineum is torn, the transverse perineal muscles of each side, arising from the tuber ischii, cause the vulva to be permanently open. This invites infection, causing vaginal and cervical catarrh.

Variations in the elasticity of the perineum, connective tissue and fascia exist. An inefficient pelvic floor may be destroyed even by an easy labour. Old primiparae are more apt to be permanently damaged. A narrow pubic arch prevents the head from occupying the space under the sub-pelvic ligament, forces the head back towards the coccyx, and thus tears or overstretches the perineum and levator with its fascia. Sometimes the deeper structures are damaged while the skin is intact. At times, a well directed episiotomy may prevent the dragging of the supportive structures from the pubis or serious damage to the vagina, perineum or anal sphincter. The injury to the tissues by the episiotomy is more apparent than the overstretching and tearing, and can be more accurately repaired. This does not mean to imply that the free use of episiotomy can replace natural dilatation of the perineum, but rather it should be practised as less likely to do harm when overstretching and tearing

If the pubo-cervical strands of the fascia are torn off the cervix, the bladder slides down, and overstretching of the vagina and parametrium allows the cervix to come nearer to the vaginal outlet. At other times the utero-sacral ligaments suffer traction injury, the fundus falls backwards and prolapse more readily takes place.

Acquired retroversion is a common result of labour, in fact, it is so common that many doctors look upon it as a normal position. While many patients with retroversion, and especially those with congenital retroversion, do not have symptoms, and there has been some question whether uncomplicated retroversion causes any symptoms, retroversion noted soon after labour should be corrected, when this can readily be done. By doing this, sub-involution and the tendency to prolapse with pelvic discomfort and backache can often be prevented. Retroversion is less frequent where postural exercises have been done after confinements, and where adequate periods of rest have been taken during the puerperium.

Needless to say, all the visible lacerations of the normal labour should be immediately repaired. Unfortunately, some subcutaneous tears of muscles and fascia and some overstretching of these parts cannot be immediately dealt with. On the other hand, a great many ill effects following the normal labour can be prevented if we remember that involution of the uterus takes eight weeks, and of the arteries and supporting connective tissue, twelve weeks.

We occasionally see a patient whose uterus was in anterior position at six weeks have retroversion later. Also, we frequently see patients at the fourth to sixth week examination who have a retroversion and suffer from pain in back and a general tired feeling, who immediately start to improve when the retrodisplacement is corrected, and corrective exercises and tonics given.

Many patients who have not had instrumental or operative delivery later develop bladder symptoms or symptoms of prolapse. Instrumental delivery is not the all important factor in producing birth canal injury. There way be persistent relaxation through sub-involution and lack of tone, even though there has been immediate repair and perfect healing of the laceration. Invalidism following pelvic floor damage may not appear for many years. Relaxation is progressive. If the supports of the uterus and vagina are stretched, the tendency is to retroversion and prolapse of the

uterus, and to anterior and posterior colpocele. Overstretching of the birth canal by repeated, even normal, pregnancies is a common factor.

To lessen the likelihood of post-partum disabilities certain routine precautionary measures should be taken. The bladder should not be allowed to become distended during labour or during early puerperium. Premature bearing down, before the parts are dilated, tends to drag the supporting structures from the side wall of the pelvis. Overloading of the rectum, with its resultant straining, should of course be avoided, especially in the early days post-partum. Involution of the markedly enlarged vagina and pelvic floor as well as of the uterus must be favored as much as possible by avoidance of pelvic congestion. If this involution process is not completed, there remains an atonic relaxed condition. From the second day, sitting posture and at least twice a day lying on the face for up to an hour promote drainage from the uterus and vagina, and help involution. Special leg and abdominal exercises are started on the third or fourth day to improve the local muscular and general tone, and on about the sixth to eighth day the patient starts the knee-chest position for two to ten minutes twice a day. The buttocks should be pulled widely apart to allow the air to balloon the vagina. This position tends to keep the heavy uterus forward and to improve the circulation about it. After the patient gets up, frequent periods of recumbent rest relieves the pressure and strain on the involuting structures, and lessens the relaxation.

If the uterus is found to be retrodisplaced at the post-partum examination it is replaced when it can be readily done. Prolonged attempts at replacement may lead to trauma and even to adhesions. If replacement cannot be done by bimanual manipulation, the patient is put into the knee-chest position and the post-vaginal wall is retracted by the Sims speculum until the cervix is grasped by a tenaculum forceps. The cervix is pulled on while the finger in the rectum presses the fundus out of the posterior position, and the cervix is then pushed backwards into the hollow of the sacrum. It may be held there for about eight weeks with a pessary. Sometimes, though, when replacement to the anterior position cannot be readily accomplished, it is later found to have assumed this position after patient has daily used the knee-chest position, the monkey-walk, the mule kick or other exercises.

By some it is believed that many of the post-partum sequelae are due to lack of quickly resuming routine activities. They think that results might be better if the woman did as do the pregnant Eskimo on the trek, or the pregnant Indian on the trail. However, it seems that less misery results if we follow the authorities who teach that the pelvic support was not built for the upright position, and insist on prolonged rest with postural exercises.

REPORT FROM STAFF (GYNÆCOLOGICAL DIVISION) OF VANCOUVER GENERAL HOSPITAL

By Dr. W. K. Burwell

Read before Vancouver Medical Association, April, 1937

The purpose of this paper is to give you an idea or a survey of the work which is done on the indoor service of the Obstetrical Section at the Vancouver General Hospital. You will persistently say to yourselves, and I trust you will not cause me embarrassment by saying it aloud, "But where are the actual figures? What are the statistics?" And there is just criticism from this angle. The truth of the matter is that I have not had time to prepare such a paper for presentation to you. Statistical papers tend to be a little dry, they are hard to grasp, they need digestion; in addition, they are not always what they are supposed to be, they can be interpreted this way and that way, depending on the bias of the physician, on what one wishes to prove or disprove: and too frequently they are not borne out by fact and cannot be duplicated in other centres.

And so this paper does not aim at such heights, but rather is it a general survey of impressions gained, lessons learned, errors made; it is an attempt to carry hindsight into the realm of foresight, so that we may not make the same mistakes again, so that we may do better obstetrics.

One word further in this preamble. What I may say does in no wise reflect the considered opinion of the entire staff, or even of one member of the staff. Just as often twelve good jurymen cannot see eye to eye, so do obstetricians differ in their opinions. Obstetrically, diagnosis is a comparatively easy thing, but on the other hand there may be a wide diversity of opinion as to how to handle any given problem, and both camps may be right; it is for this reason that I repeat again that the staff of which I am a member may be far from endorsing any impressions or theories which I may present.

Now and again, I wish to interpolate a word or two about the work on the private service, and I may even take the liberty of making a comparison here and there with that of the staff service. At first I had hoped to mention more along this line, but again I found lack of time and difficulty in making just statements, and in addition, I am not sure that it is exactly propitious at this time.

This résumé of the work of indoor staff service is based on the records of the years 1934, 1935, 1936. During this period there were 1,726 admissions to the hospital; incidentally, there were 3,776 patients admitted to the private side. Comparatively speaking, there were many more women admitted in false labour to the staff service, which is rather what one would expect, and would certainly be the case if health insurance came into force. If one does not have to pay for one's hospitalization, there is a strong tendency to run to the hospital whenever pains of any kind make their presence felt, especially during the last month of pregnancy; whereas, if each day spent in the hospital increases the expense account to the patient, there is a greater readiness to remain at home until labour is definitely established. Such is the conclusion that one would form.

The induction of labour makes room for another comparison. It is interesting that such procedures are more successful on the private than on the staff service. Staff work in obstetrics in any hospital is definitely more conservative than that on the private side; one may not hesitate to let the patient return home after one or two unsuccessful inductions of labour where no obstetrical abnormality is present beyond the fact that the patient is at term; whereas, when one is dealing with a private patient in similar circumstances, there is a real urge to make it truly successful, to get it over with. Patients are not much impressed with the idea of going home and coming back, and, as a result, the doctor gets the blame; it is rather poor advertising. In my opinion, induction of labour should be done for very definite reasons, and rarely does a patient need to be "induced" just because she is at term. Those of you who believe in postmaturity will find ample ground to quarrel with me here; indeed, the Chief and I frequently have a friendly difference of opinion in this matter. Not uncommon is it for a woman to suffer two unsuccessful medical inductions, occasionally three. Rupture of the membranes for induction has during this last two or three years become a very popular procedure and is not infrequently done on the service. It is eminently successful,—the closer to term the earlier will labour set in, the duration is lessened, delivery seems no more complicated. It should rarely be done when the head is floating, the breech presenting, or in abnormal presentations, for fear of prolapsus of the cord. It is extremely useful when one is anxious to terminate the pregnancy because of some pre-natal complication. The fear of dry labour seems to have greatly lessened these last years.

The routine for medical induction of labour is as follows: 6 a.m., castor oil oz. iss; 8 a.m., quinine gr. v; 9 a.m., quinine gr. v; 10 a.m., quinine gr. v, infundin M. iii; 11 a.m., infundin M. iii; 11:30 a.m., infundin M. iii; and after this infundin v every half hour for 4 doses. Of course, this medication is discontinued with the onset of labour.

Not often do we rupture the membranes before giving the patient at least one medical induction. Bougies seem to have lost their usefulness, certainly their popularity; the Voorhees bag is indeed a very valuable method and usually a certain one, yet one is always a little nervous during the time it is in position lest when the bag is expelled a prolapsus of the cord or fœtal member may take place. Just as in every obstetrical procedure there is a certain amount of risk, so with the bag.

The Pre-natal Clinic is a great institution. Each year its efficiency and value are increasing, and with this there is a smaller incidence of patients with pre-natal complications admitted to the hospital. Money should be spent lavishly on this Clinic, nothing should be denied it, since not only does it prevent the patient from developing serious complications, but it also saves the hospital much, in that relatively few require to be admitted for pre-natal complications. Rarely does an interne see an eclamptic patient, and in fact, a resident may be with us a year and not witness a single case of eclampsia. That speaks well for any pre-natal clinic. During these three years, we had 16 patients admitted because of hypertension *per se*. Such cases always do well; one often wonders if it would not be advisable to have a bed or two adjoining the clinic where they might rest for three or four hours and then have their blood pressure checked, most of them would be definitely lowered after rest and quiet, certainly not all would require admission. Hypertension alone is rarely a sufficient indication to send the patient to the hospital; I believe a sudden increase in weight is definitely a more serious omen. We have the odd case of essential hypertension, the systolic pressure, despite all efforts, remaining anywhere from 150 to 180; and yet the patient feels well. Provided the diastolic pressure does not remain above 100, drastic measures are not undertaken. Here, as elsewhere, essential hypertension is not well understood.

We had 36 admissions for pre-eclampsia,—a combination of two or more of the following signs and symptoms: (a) Subjectively—headache, dizziness, ringing in the ears, blurring of vision, specks before the eyes, etc.; (b) Objectively—hypertension, rapidly increasing weight, albuminuria, œdema of the face or extremities, etc. None of these patients proceeded to the eclamptic stage. The treatment is simple: bed rest, salt-free low-protein diet, a little mag. sulph. each morning, daily analysis of the urine, daily reading of blood pressure, etc. If they are close to term we induce labour, provided the condition is cleared up, otherwise they return to their homes with definite instructions as to rest, diet, etc. to follow, and report to the clinic thereafter weekly or bi-weekly.

There have been in all 4 cases of eclampsia, 2 ante-partum and 2 post-partum. I believe this is remarkable. It hardly keeps one in practice, and, as I have already said, the internes feel that they are being gypped; they go out into private practice without seeing a single case of eclampsia. These cases all responded well to treatment and made uneventful recoveries. They are studied from every angle—urine (analysis, intake and output), blood chemistry, eye grounds, etc. Too much emphasis cannot be laid on examination of the eye grounds, both in the convulsive and non-convulsive condition; one must certainly be guided as much by the advice of the ophthalmologist as by the laboratory tests. We do not care for these patients by any set rule; they are treated individually by the Strogonoff or modified Strogonoff technique. Their delivery is made as painless and as short as possible, and with the minimum amount of interference. Following their discharge from the hospital, not only do they return to the post-partum clinic, but they are also referred to the medical clinic for regular periodic examination.

Nephritic cases are, of course, in a class by themselves. We had ten of them. Here the obstetrician and internist go hand in hand; of the two, I think the latter has the greater worry and responsibility. As compared to other complications, the outlook for these patients before, and especially after delivery, is extremely serious. They are the playground of the bio-

chemist; to the internist he is the mechanic. It is not possible to more than mention this complication—its symptoms, its diagnosis, its treatment, is ground for many papers. The problem of continuing or interrupting the pregnancy depends on the severity of the renal damage and the stage of the pregnancy; and still later on we are confronted with the advisability or not of sterilizing the patient.

Pernicious vomiting does not give us much worry—eleven cases in all. They responded well to treatment of almost any kind; the adrenal cortex popularized by Dr. Kemp certainly has a place. In these cases there is always a strong psychological factor. The interruption of pregnancy because of this condition is becoming more and more infrequent.

Pyelitis of pregnancy is a not infrequent complication, occurring on 36 occasions; 13 as a prenatal manifestation and 23 after delivery. Regarding their cure, water seems still to be the big factor and probably will always so remain. Posture does not seem to influence them much. Potassium citrate with a little tincture of hyoscyamus continues to be the popular remedy. Pyridium and serenium have a place; the latter is more popular with us. There is little doubt concerning the efficacy of the ketogenic diet; however, there is more than a little trouble in persuading the patient to take it; they prefer the disease. The therapeutic value of mandelic acid is beyond doubt; it has everything in its favour except the cost factor. Now and again the ureters will have to be catheterized and the pelvis drained.

A word or two on venereal disease as a complication of pregnancy. Our experience both on the outdoor and indoor service is that it is not nearly so frequent as a certain morning journal would lead us to believe. Scabies, in a way, gives us much more trouble; indeed, a senior member of the staff suggested that it form the subject of a daily editorial, but perhaps not with a breakfast number. The patients certainly complain more about their scabies than they do about any venereal complication. We do not treat lues or gonorrhœa in the ante-partum clinic. This is left entirely to the Government. Those with gonorrhœa are delivered in the emergency case room and then returned to Ward "W", whereas the luetic ones, although delivered in a similar case room, are returned to the maternity floor, where they may or may not be isolated, depending on the lesion. These cases all return to the Government clinic for further observation or treatment.

May I rapidly run over rarer interesting complications. We are not bothered much with mastitis. Bandl's Ring occurred in two cases; I regret that in one of them the uterus was ruptured during delivery, following which a hysterectomy was performed and the patient made an uneventful recovery. A very rare thing to see is a prolapsus of the rectum following delivery. Third degree lacerations are not so serious as formerly considered; if properly repaired they heal well and with excellent functional results. We had one case of ischiorectal abscess. Post-partum hæmorrhage occurred four times, one with a fatal termination. I shall mention this case later. Retained placenta occurred in six patients; we did not have a single case of placenta accreta. There were no cases of embolism.

Normal delivery took place in 1253 out of 1519 confinements; the remaining 266 were delivered as follows: low forceps 129, mid forceps 27, version 20, cæsarean section 45 and breech 45. Most of the low forceps were done for the benefit of the interne on the service. They are always done under supervision of the resident or a member of the staff. My own feeling is that more patients might be delivered by prophylactic low forceps; it wouldn't hurt the patient and it would be a great help to the interne who is soon to embark in private practice. In this day and age, it is regrettable that the young physician should attempt his first forceps delivery on a private patient without having previous experience in their application or without one of experience standing by. Personally, I prefer to deliver the primipara with prophylactic low forceps and median episiotomy. In this way the woman avoids the severest pains, labour is a little shortened, and the perineum is left in better shape. Most

patients delivered with mid-forceps fell into the group of persistent occiput posterior, where the head was manually rotated and forceps applied. There were no cases of high forceps on the service over the last three years. It is of interest to note that instrumental deliveries are far more common on the private than on the staff side.

Cæserean sections were done 45 times. There were no deaths in this group. The low flap and classical operations were done about an equal number of times. I personally prefer the former operation provided the patient has been in labour a few hours; I would not choose it as an elective operation unless the patient was allowed two or three hours of labour, because in such cases the lower uterine segment is not thinned out. It is indeed the operation of choice where the patient has been in labour some hours with or without membranes ruptured and where one or more vaginal examinations have taken place. The Latzko operation has untold advantages in probable infected cases; it is a pity that it is beset with such technical difficulties.

Cæsarean section is a very simple operation, it is a glamorous procedure, but the operation itself is no criterion of one's obstetrical ability. The better the obstetrician the fewer the cæsareans; there is hardly an exception to this rule.

And what were these sections done for? They fall loosely into four groups:

1. Hæmorrhage—(a) Placenta Previa, of which we had 10 cases. Nearly all Previa cases, whether central or marginal, are now delivered by this procedure. Time I think will change this view with regard to many of the marginal ones; here is one of the places where the nicety of obstetrical judgment and ability will enter.

   (b) Concealed hæmorrhage must be cared for in this way. Cases of partial separation of the placenta may or may not be attended to in a like manner.
2. Previous Cæsarean Section—The dictum "once a cæsarean always a cæsarean" is not said with such force as in former years. However, we follow this rule in our clinic.
3. Sterilization.—There are many cases which for one reason or another we wish to sterilize; for example, tuberculosis, cardiac disease, mental deficiency, or multiplicity of pregnancy, when we combine the operation. In this way the patient has but one anæsthetic and her stay in the hospital is materially diminished. Please be assured that this procedure is far from being a universal rule. My own opinion is that where possible it is better to deliver the patient by the vaginal route and do the sterilization a few days later.
4. In this last group fall such cases as justominor and deformed pelvis, tumours obstructing the passage of the child, the decompensated heart, etc. It is surprising how infrequent are such cases.

Concerning Version.—In going hurriedly over our list of 20 such cases, the following facts became very evident:

1. Version and Extraction is a major performance.
2. Much of its success depends on the excellency and depth of the anæsthetic. Not often does a relaxed uterus rupture.
3. It is an extremely dangerous procedure for the child when rotation and forceps have been attempted and failed.
4. The incidence of stillbirth is very high.
5. Maturity, and post-maturity if there be such a condition, need give one less worry as to the outcome for the child than prematurity. Premature children stand version badly.

Yet versions must occasionally be done, face presentations will make their appearance, prolapsed cords do occur, shoulder presentations will pop up now and again, and occasionally the persistent occiput posterior may need to be dealt with in this manner. Here I might say that it probably requires more skill to rotate and deliver a P.O.P. than do a version.

Breech presentation and delivery occurred 45 times. A word concerning

forceps on the after-coming head. Pfeiffer forceps are undoubtedly the best, yet the others will serve well. If the head cannot be delivered easily it is far safer to apply forceps. In the primipara at least, an episiotomy ought to be done. Cephalohæmatoma is not an uncommon sequela; fortunately it is of no particular importance.

There were six maternal deaths on the service during these three years. Before mentioning their cause I would point out that during this same period there were 44 stillborn children and 24 infant deaths. I regret that I cannot elaborate on these cases; it takes much time for a careful analysis of each one; they are food for much thought; in spots, just criticism.

The cause of the maternal mortality as determined by post-mortem examination was as follows:

1. Uterine inertia, the patient dying three hours after normal delivery from post-partum hæmorrhage.
2. Hæmorrhage and shock from rupture of the uterus in a case where previous section had been done.
3. Cardiac disease—the patient delivered herself of a 7 months' fœtus.
4. Lobar pneumonia.
5. Peritonitis and bilateral pleurisy. Although this patient had a peri-appendiceal abscess which had been drained, there was no evidence at autopsy of any acute inffammatory process in the appendix.
6. Brain tumour—this was a glioblastoma situated in the right occipital lobe with secondary hæmorrhage. Symptoms developed suddenly on the ninth post-partum day with death occurring about 18 hours later.

And so with this brief enumeration of the maternal mortality my story is ended. It reminds me of a yard engine shunting the cars back and forth but carrying none of them to their ultimate destination. The paper is by no means a finished product, it was not intended to be so; but rather to let you know simply what we are doing, together with the odd impression gained. I am indeed grateful to Dr. Turnbull and his staff for letting me present it to you; you have been patient during its presentation; it is always helpful to us if you give your opinion tonight and from time to time as the work proceeds.

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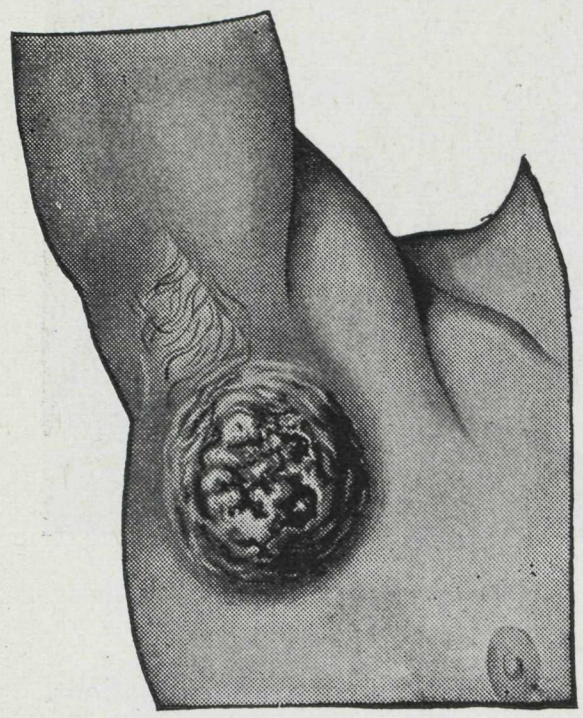

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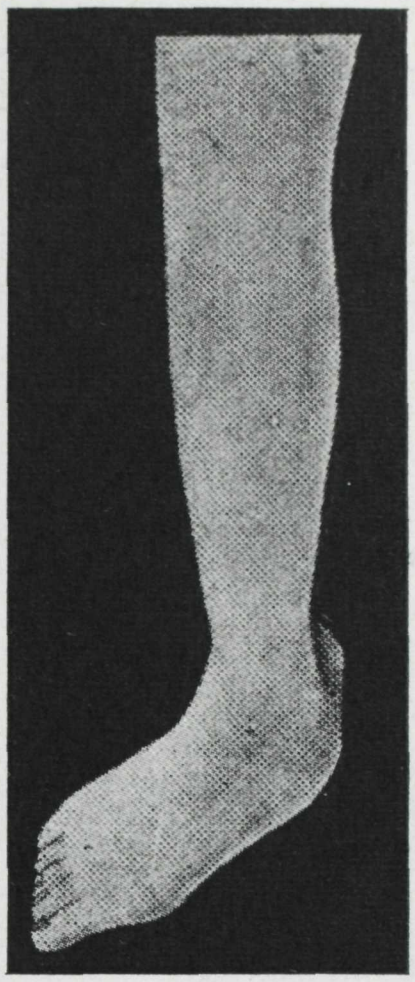

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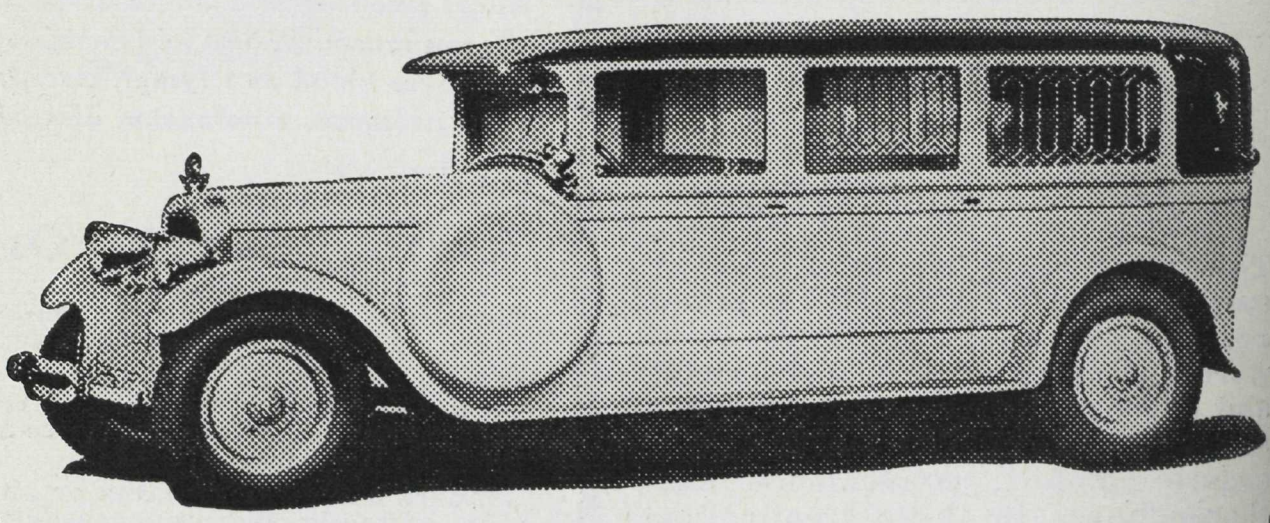

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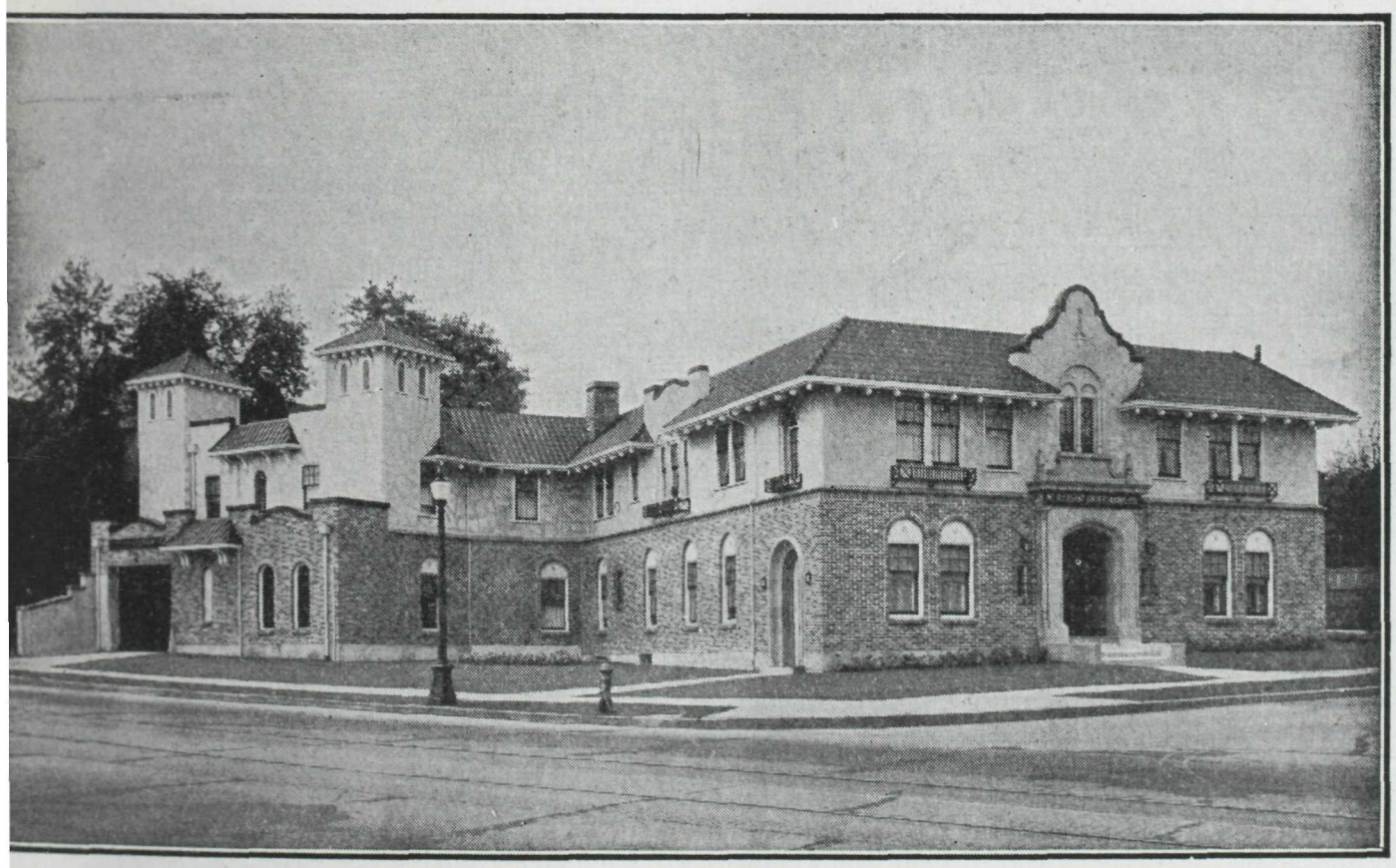

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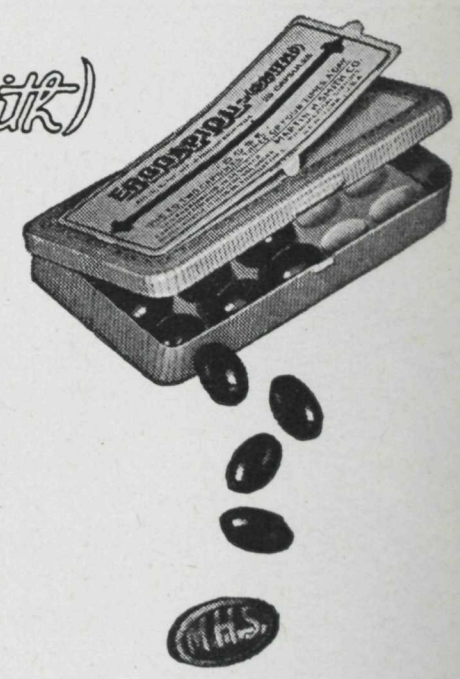

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In diarrhea, "Carbohydrates, in the form of dextri-maltose, well cooked cereals or rice, usually can be handled without trouble."—*B. B. Jones: A discussion of some of the commoner ... infantile diarrhea, and the ... the diets used in ...*

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In cases of diarrhea, "For the first day or so no sugar should be added to the milk. If the bowel movements improve carbohydrates may be added. This should be the one that is most easily assimilated, so dextri-maltose is the carbohydrate of choice."—*W. H. McCaslan: Summer diarrheas in infants and young children, ... Alabama, 1:278-282*

... fermentation ... bowel and have a definite laxative tendency, which may when carried to excess, cause severe intestinal irritation.

"The more complex carbohydrates, of which dextrin is the type, ferment more gradually and do not have this laxative effect."

Regarding the treatment of diarrhea, "In our experience, the most satisfactory carbohydrate for routine use is Mead's dextri-maltose No. 1."—*F. R. Taylor: "Summer Complaints," Southern Med. & Surg., pp. 555-559, Aug.*

"If there is an improvement in ... ments carbohydrate may be added ... ing the teaching of the originator ... the carbohydrate added should be ... most easily assimilated. Dextri-maltose is therefore the carbohydrate of choice."—*Summer diarrheas in the young, International ... 9:111-118 ...*

... the treatment of diarrhea, "The sugar is added gradually as conditions admit, some sugar other than milk sugar or cane sugar being used, preferably dextrin and maltose."—*H. E. Small: Diarrhoea in bottle-fed infants, J. Maine M. A. 12:154-158, Jan. 1922.*

"The condition in which dextri-maltose is partic... in acute attacks of vomiting, diarrhea and fever. It seems that ... covery is more rapid and recurrence less likely to take place if dextri-maltose is substituted for milk sugar or cane sugar when these have been used, and the subsequent gain in weight is more rapid.

"In brief, I think it safe to say that pediatricians are relying less implicitly on milk sugar, but are inclined to split the sugar element giving cane sugar a place of value, and dextri-maltose a decidedly prominent place, particularly in acute and difficult cases."—*W. D. Hoskins: Present tendencies in infant feeding, Indianapolis M. J. July, 1914.*

"It should be ... of lactose may cause diarrhoea. If a ... centage of sugar be required it is better to replace it by dextri-maltose, such as Mead's Nos. 1 and 2, where the maltose is only slightly in excess of the dextrins, thus diminishing the possibility of excessive fermentation."—*W. J. Pearson: Common practices in infant feeding, Post-Graduate Med. J. 6:38, 1930; abst. Brit. J. Child. Dis. 28:152-153, April-June, 1931.*

... gradual transition to a whole milk or evaporated milk formula, which will supply about one and one-half to two ounces of whole milk to every pound of body weight, is reached. This also should finally have the addition of dextri-maltose amounting to five to seven per cent."—*R. A. Strong: Summer diarrheas in infancy and early childhood, Arch. Pediat. ...*

... that group of organisms thrive on) and high in protein. Calcium caseinate milk accomplishes this purpose. In our series of cases, we found it was necessary to use the casein calcium for from 5-8 days; we then stopped it and added dextri-maltose to the formula."—*A. G. DeSanctis and L. V. Paider: The value of calcium caseinate milk in fermentative diarrhea, Arch. Pediat. 38:233-236, April, 1921.*

SERIOUSNESS OF DIARRHEA

There is a widespread opinion that, thanks to improved sanitation, infantile diarrhea is no longer of serious aspect. But Holt and McIntosh declare that diarrhea "is still a problem of the foremost importance, producing a number of deaths each year. . . ." Because dehydration is so often an insidious development even in mild cases, prompt and effective treatment is vital. Little states (Canad. Med. A. J. 13:803, 1923), "There are cases on record where death has taken place within 24 hours of the time of onset of the first symptoms."

Just as DEXTRI-MALTOSE is a carbohydrate modifier of choice, so is CASEC (calcium caseinate) an accepted protein modifier. Casec is of special value for (1) colic and loose green stools in breast-fed infants, (2) fermentative diarrhea in bottle-fed infants, (3) prematures, (4) marasmus, (5) celiac disease. MEAD JOHNSON & CO., EVANSVILLE, IND., U.S.A.

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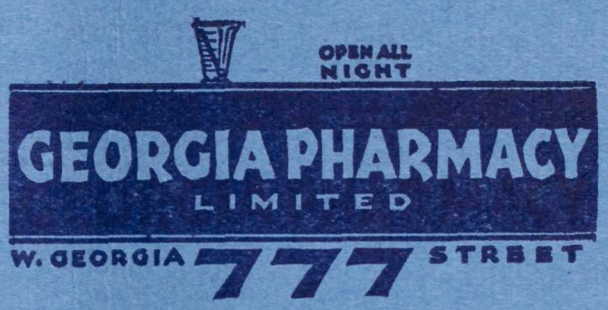

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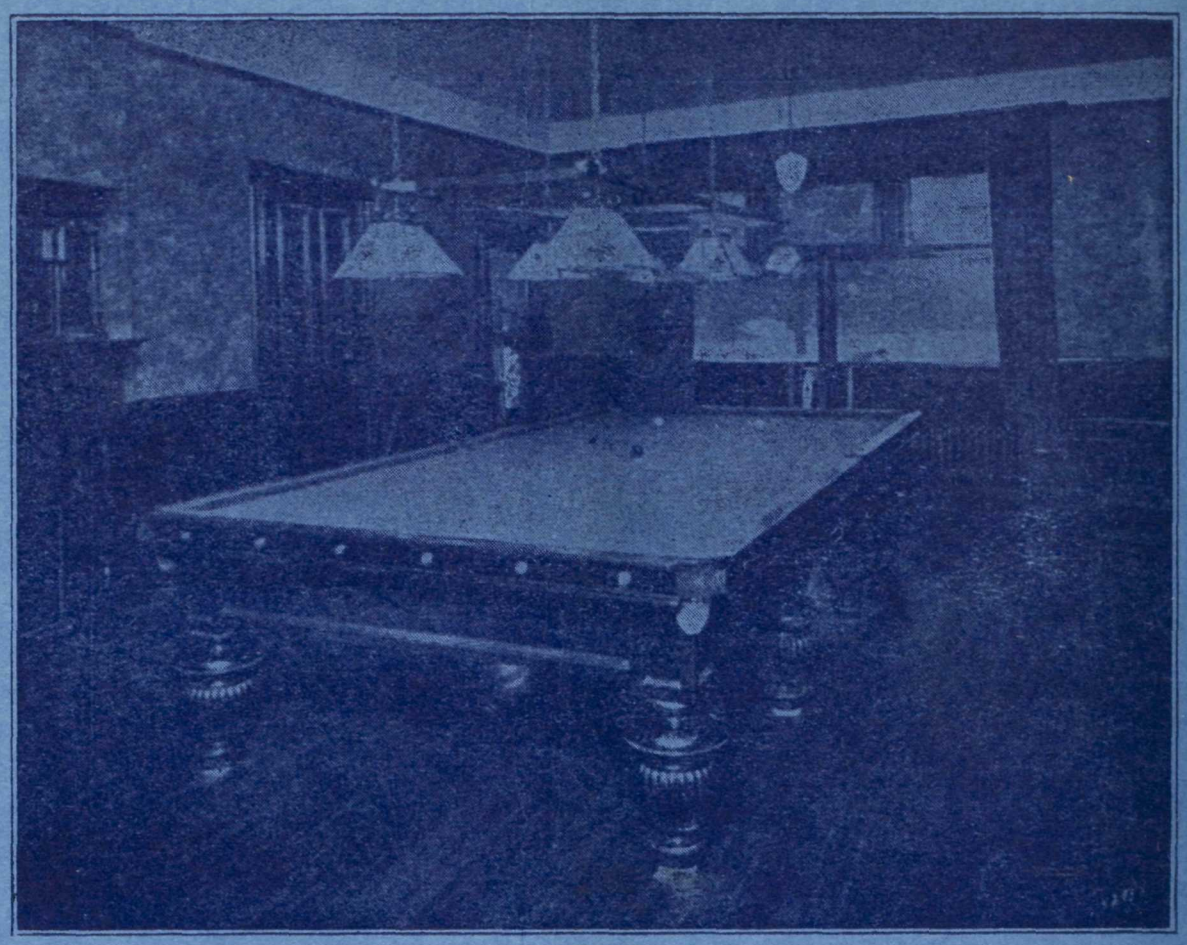

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