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EDITED BY

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(679)

Dr. U. RAMA RAU

Supplement to this issue.

ಮದ್ರಾಸು ನ್ಯಾಯವಿಧಾಯಕ ಸಭೆಗೆ ಹೊಸಮೆಂಬರುಗಳ ಚುನಾವಣೆ.

ಇದೇ 1923 ನೇ ವರ್ಷದ ನವಂಬರ್ 2 ನೆಯ ತಾರೀಖು.

ದಕ್ಷಿಣ ಕನ್ನಡ ಜಿಲ್ಲೆಯ ವೋಟುದಾರರಿಗೆ

ಡಾಕ್ಟರ್ ಯು. ರಾಮರಾಯನ ವಿನಂತಿ.

ಮಹನೀಯರೆ,

ನಾನು ದಕ್ಷಿಣ ಕನ್ನಡ ಜಿಲ್ಲೆಯ ಪರವಾಗಿ ಮದ್ರಾಸು ನ್ಯಾಯವಿಧಾಯಕ ಸಭೆಗೆ ಉಮೇದುವಾರನಾಗಿ ನಿಂತಿರುವೆನೆಂಬುದು ಈ ವೊದಲೇ ನಿಮಗೆ ಗೊತ್ತಾಗಿರಬಹುದು.

ದಕ್ಷಿಣ ಕನ್ನಡ ಜಿಲ್ಲೆಯ ಪರವಾಗಿ ಇಬ್ಬರುಪ್ರತಿನಿಧಿಗಳು ನ್ಯಾಯವಿಧಾಯಕ ಸಭೆಗೆ ಚುನಾಯಿಸ್ಪಡುವರು; ನಿಮ್ಮಲ್ಲಿ ಪ್ರತಿಯೊಬ್ಬರಿಗೂ ಎರಡು ವೋಟು ಕೊಡುವ ಹಕ್ಕಿರುವುದು. ಈ ಪೈಕಿ ಒಂದನ್ನು, ನೀವೂ. ನಿಮ್ಮಸ್ನೇಹಿತರೂ ನನಗೆ ಕೊಡಬೇಕಾಗಿ ಪ್ರಾರ್ಥಿಸುವೆನು. ಕಳೆದ ಮೂವತ್ತುವರ್ಷಗಳಿಂದಲೂ ನಾನು, ಪ್ರಜಾಸೇವೆಯಲ್ಲಿ ನಿರತನಾಗಿ, ಮದ್ರಾಸಿನಲ್ಲಿ ವೈದ್ಯ ವೃತ್ತಿ, ಮದ್ರಾಸ್ ಕಾರ್ಪೋರೇಷನ್ ಮೆಂಬರಾಗಿದ್ದುದು, ಆರೋಗ್ಯ ಮಾರ್ಗಗಳ ಚಳವಳಿಗಳು, 'ಅಂಬ್ಯುಲೆನ್ಸ್' ಕಾರ್ಯಕ್ರಮಗಳು, 'ಹೆಲ್ತ್' ಮತ್ತು 'ಆಂಟಿಸೆಪ್ಟಿಕ್' ಎಂಬೆರಡು ಪತ್ರಿಕೆಗಳ ಪ್ರಚಾರ, ಮದ್ರಾಸು ಮೆಡಿಕಲ್ ಕೌನ್ಸಿಲ್ ಮೆಂಬರಾಗಿರುವುದು, ಮದ್ರಾಸು ಪಟ್ಟಣದ ಪರವಾಗಿ ನ್ಯಾಯವಿಧಾಯಕ ಸಭೆಯ ಮೆಂಬರಾಗಿದ್ದುದು, ಈ ಮೂಲಕವಾಗಿ ನಾನು ಮಾಡಿರುವ ಕೆಲಸಗಳೇ ನಾನು ನಿಮ್ಮ ಪರವಾದ ಪ್ರತಿನಿಧಿಯಾಗಲು ನನ್ನ ಅರ್ಹತೆಯನ್ನು ನಿಮಗೆ ತಿಳಿಸುವುವು.

ನಾನು ಈಗಿನ ಕೌನ್ಸಿಲಿನಲ್ಲಿಯೂ ಈ ಕೆಳಗೆ ಕಂಡ ತಿದ್ದುಪಾಡುಗಳಿಗಾಗಿ ಮುಂದೆ ಬಿದ್ದು ಕೆಲಸಮಾಡಿರುವೆನು.

(1) ಮೇಲುಮೇಲಿನ ದೊಡ್ಡ ಅಧಿಕಾರಸ್ಥಾನಗಳ ಸಂಖ್ಯೆಯನ್ನು ತಗ್ಗಿಸುವುದು. (2) ಸರಿಯಾದ ಯೋಗ್ಯತೆಗೆ ಯಾವ ಕುಂದೂ ಬಾರದಂತೆ ಅನಾವಶ್ಯವಾದ ಖರ್ಚನ್ನು ಕಡಿಮೆಮಾಡುವುದು. (3) ಅಧಿಕಾರ ಸ್ಥಾನಗಳೆಲ್ಲವೂ ಜಾತಿಭೇದವೆನ್ನು ನೋಡದೆ ಭಾರತೀಯರಿಂದಲೇ ಆಕ್ರಮಿಸಲ್ಪಡುವಂತೆ ಮಾಡುವುದು. (4) ಹಿಂದೂ ಧರ್ಮಿಕ ಸಂಸ್ಥೆಯ ಉಂಬಳಿ ಕಾಯಿದೆಯನ್ನು ವಿರೋಧಿಸುವುದು. (5) ಸಾಧಾರಣವಾಗಿ ದೇಶಾಭಿವೃದ್ಧಿಗೆ ಅನುಕೂಲವಾದ ಇನ್ನೂ ಅನೇಕ ವಿಷಯಗಳು.

ನಾನು ದಕ್ಷಿಣ ಕನ್ನಡ ಜಿಲ್ಲೆಯವನಾಗಿಯೂ, ಅಲ್ಲಿ ವಿಶೇಷ ಜಮಾನುಗಳುಳ್ಳವನಾಗಿಯೂ, ಮತ್ತೆ ಜಿಲ್ಲೆಯ ಇತರ ಅನೇಕವಿಚಾರಗಳಲ್ಲಿ ಮನಸ್ಸಿಟ್ಟವನಾಗಿಯೂ ಇರುವುದರಿಂದ ನಾನು ನಿಮ್ಮ ಪ್ರತಿನಿಧಿಯಾಗಲು ಉಮೇದುವಾರನಾಗಿ ಮುಂದುವರಿದಿರುವೆನು.

ನೀವು ದಯೆಯಿಟ್ಟು ವೋಟುಕೊಟ್ಟು ಚುನಾಯಿಸಿದರೆ, ಜನಸಾಮಾನ್ಯದ ಎಲ್ಲ ವಿಧವಾದ ಹಕ್ಕು ಮತ್ತು ಸ್ವಾತಂತ್ರ್ಯಗಳಿಗೆ ಲೋಪವಿಲ್ಲದೆ, ಅನೇಕ ಜಾತಿಯವರು ತಮ್ಮ ಆಂತರಿಕ ಭೇದಗಳನ್ನು ಬಿಟ್ಟು ಭ್ರಾತೃಭಾವದಿಂದ ಸಮಾಜವನ್ನುದ್ಧರಿಸುವುದಕ್ಕಾಗಿ ಮುಂದುವರಿಯುವಂತೆಯೂ, ಸಾಧ್ಯವಿದ್ದಷ್ಟು ಶೀಘ್ರದಲ್ಲಿ 'ಸ್ವರಾಜ್ಯ'ವು ದೊರೆಯುವಂತೆಯೂ. ಎಲ್ಲ ವಿಧವಾದ ನ್ಯಾಯವಾದ ಕಟ್ಟುಪಾಡಿನಿಂದ ಕೆಲಸಮಾಡಲು ದೀಕ್ಷೆಯನ್ನು ಕೈಕೊಳ್ಳುವೆನು.

ಇತಿ ನಿಮ್ಮ ಸೇವಾತುರ

ಯು. ರಾ ಮು ರಾ ವ್.

A. P. Press, Madras.

The Madras Legislative Council Forthcoming Election.

On the 2nd November 1923.

Dr. U. Rama Rau's Candidature.

To

The Electors of South Kanara District.

Sir,

You must have known by this time that I am standing for the Madras Legislative Council as a candidate for South Kanara.

South Kanara has two seats in the Legislative Council and every one of you has two votes. I crave your, as well as, your friends, support for one of them. As for my capacity to represent you, you all know very well, what public service I have rendered these 30 years and more in various capacities and spheres in the city of Madras as a Medical Practitioner, Member of the Madras Corporation, Health Propogandist, Ambulance Organiser Editor of the "HEALTH" and the "ANTISEPTIC", Member, Madras Medical Council and as a representative of Madras City in the Madras Legislative Council My work in the Legislative Council, for the last 3 years will speak for itself.

The following is a brief summary of the work I have done in the Council :—

1. Retrenchment in the higher ranks of services.
2. Curtailment of unnecessary expenditure without impairing efficiency.
3. Indianization of services.
4. Opposition to the Hindu Religious Endowments Bill.
5. The upholding of all measures of a progressive character, generally.

My claim to represent you is in my being a native of South Kanara and owning large landed properties and other interests in the District.

I shall pledge myself, if I am elected, to stand for popular rights and liberties, to do what all is conducive to the uplift and amelioration of the masses and to work for the attainment of 'Swarajya' at the earliest possible opportunity, by all constitutional and legitimate means.

I beg to remain, Sir,

Your most obedient servant,

U. Rama Rau

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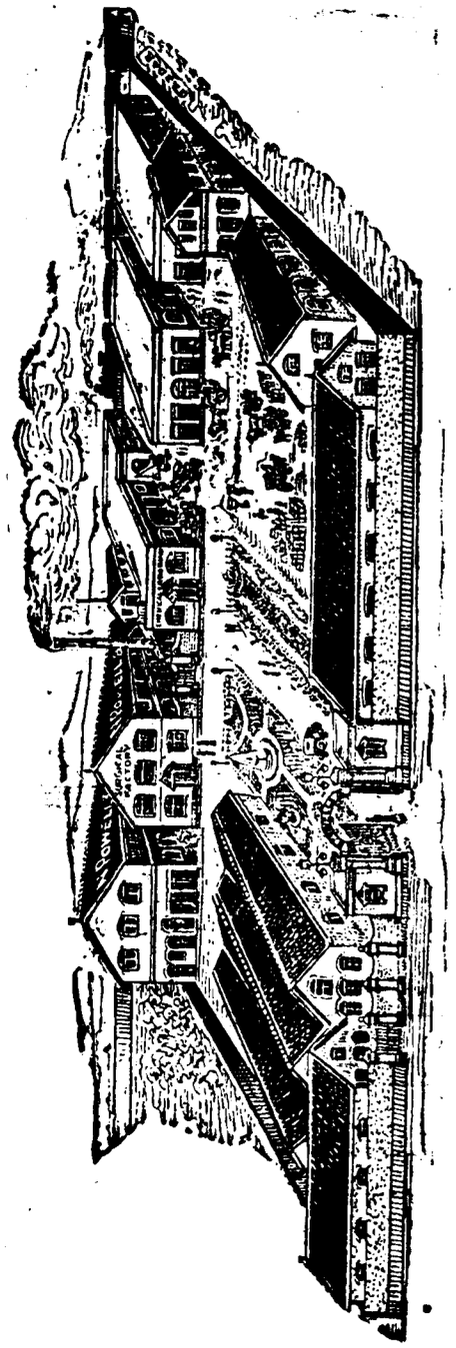

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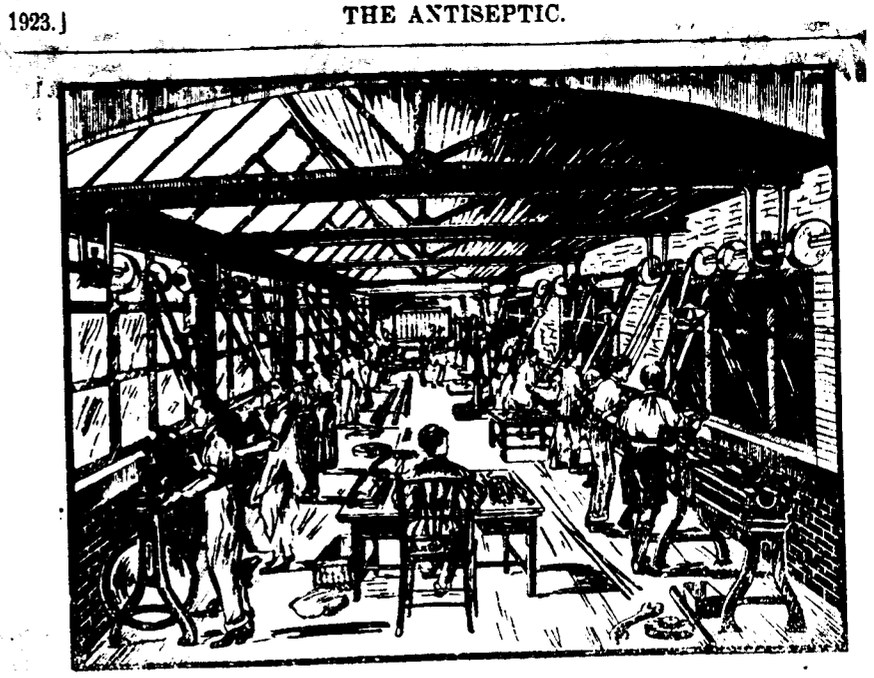

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Supplement to the "Antiseptic", April 1923.

Dr. SAMUEL CHELLIAH PAUL. M.D. (Mad.), F.R.C.S. (Eng.)

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MEN OF THE MOMENT.

[The publication in a serial of short sketches of the lives of eminent medical men had been a longfelt want, and we propose to publish from this year onward short accounts of the lives and doings of prominent medical men with a view to have the same collected and published in book form later, if necessary. Ed.]

Dr. Samuel Chelliah Paul, M. D., (Madras), F.R.C.S. (England).

Is the eldest son of Dr. William Paul, and was born in Jaffna, Ceylon, on the 28th of February 1872. He is the second child in a family of 14 with three brothers and 10 sisters. He was educated at Central College, Jaffna, Wesley College, Colombo and Presidency College, Madras. He studied Medicine at the Madras Medical College where he obtained the Doctorate in 1903—the subject of his thesis being "The Pathology of Diabetes". He proceeded to King's College, London, where he became a Licentiate of the Royal College of Physicians and was elected Fellow of the Royal College of Surgeons (England) by examination in 1901. He was appointed Lecturer on Anatomy at the Ceylon Medical College in 1902 and on Surgery from 1908 till 1918. He is now Senior Visiting Surgeon to the General Hospital, Colombo, and Lecturer of Clinical Surgery at the Ceylon Medical College. He was elected a Fellow of the Royal Society of Medicine in 1908 and was President of the British Medical Association, Ceylon Branch, in 1910. He is a member of the Royal Asiatic Society, Ceylon Branch. His chief hobby is the study of ancient Ceylon history and he read a paper at the above society entitled "The overlordship of Celyon during the 12th, 13th and 14th centuries." His chief contributions to Medicine are.—

1. Treatment of Hernia and Hydrocele.
2. Malignant Tumours of the Testis.
3. Appendicitis in Ceylon.

Vide Journal of the Ceylon Branch of the British Medical Association, Vols. I & II.

He is a member of the Councils of the Royal Asiatic Society, the University College, Colombo, and the Ceylon Medical College. While at the Madras Medical College he won the Johnstone Gold Medal and the prize for Pathology. He obtained the following Certificates of Honour.

(1) Chemistry, (2) Physics, (3) Organic Chemistry, (4) Anatomy (Appointed Prosector), (5) Physiology, (6) Pathology, (7) Hygiene, (8) Medicine and (9) Ophthalmology.

He married Dora Eleanor, daughter of Dr. [illegible] de M[illegible] Perappa in 1899 and has six sons and three daughters, one the elder [illegible] now in England, one studying Medicine at King's College and the other Agricultural Sciences at Cambridge. His eldest daughter is married to Dr. Gunaratnam Cooke, M.D., B.S, (Lond). His present address is Ward Place, Colombo, Ceylon. *Club*: Orient Club, Colombo.

THE LATE WILHELM KONRAD RONTGEN.

It has been announced that Professor Wilhelm Konrad Rontgen died last week. Information concerning the exact place and date of his death is wanting. Wilhelm Konrad Rontgen was born in Lennep, Rhenish Prussia, on March 27, 1845. He studied physics under Kundt at the University of Zurich and took his degree in the year 1869. He remained ar Zurich as assistant to Kundt for a year and then went to work at the University of Wurzburg, where he stayed for two years. In 1872 he entered the Strassburg University and in 1874 he secured the title of "Privat-dozent," the first landmark in an academic career, For a short time he became Acting Professor of Mathematics and Physics at the Agricultural Academy at Hohenheim. Returning to Strassburg he was appointed "extraordinary" Professor (titular Professor) in 1874. In 1879 he was appointed to the Chair of Physics at the University of Giessen. Nine years later he was called to the University of Wurzburg to occupy the analogous position. From an early stage he conducted much research work of considerable originality and importance. The majority of his studies were published in the *Annalen der Physik and Chemie*. Among his more important publications, the following may be mentioned: the exact determination of the conditions of the specific heat of air; the changes in the volume and in the refraction of di-electric bodies by electrolysis; the electro-dynamic action of di-electric bodies moving in homogeneous electric fields; the compressibility of fluids; the influence of pressure on certain physical qualities. Toward the end of 1895 Rontgen observed that when an eletrical current was passed through a Crookes's tube, a strip of paper treated with bariumplatino-cyanide held in proximity to the tube became fluorescent. This phenomenon was noted even if the Crookes's tube was covered with black paper. He recognised that the electric discharge in the Crookes's tube was producing an unknown form of rays which differed from cathodal rays. Later he found that the rays, to which he gave the name "X-rays," were able to pass through a variety of solid substances, such as wood and even thin sheets of metal. These rays had properties in common with light and ultra-violet rays of producing fluorescence and of inducing photo-chemical action. Soon after the discovery the question of the identity or otherwise of cathodal rays and X-rays occupied the attention of physicists in almost every country. Rontgen showed that X rays were not deflected by the magnet, while cathodal rays were so deflected. The latter had very weak power of penetration of objects opaque to light rays, while X-rays possessed a high degree of penetrabilily. But he emphasized the fact that the two classes of rays were found side by side. Rontgen was able to demonstrate X-rays under favourable conditions from currents passing through Geisler tubes. In the next place, many attempts were made to determine the wave length of X-rays. At first it was suggested that the vibrations in ether were longitudinal, like sound waves, in air, and not transverse, like light rays in ether. In order to determine this point, attempts were made to polarize X-rays. The early experiments of Rontgen were suggestive, but not definite. Similarly, the results of his observations on the wave lengths of X-rays were important only in clearing the way for more exact and more elaborate methods.

In 1896 he read a paper before a meeting of medical practitioners and physicists at Wurzburg on his discovery. During the next year the interest of the medical profession was awakened in this great discovery. The first skiagrams were of hands and feet. The original apparatus was naturally crude and faulty. Rontgen soon recognized that it would be essential to collect the bundles of rays at one limited point in the tube, if sharp definition were to be obtained on the photographic plate. Within a couple of years he introduced the concave cathode and the small platinum target. Induction coils with or without the interposition of a Tesla transformer were employed and high tension alternating currents were used. In this way many excellent pictures were made before the end of the century. Rontgen himself was able to produce in a series of skiagrams the skeletal picture of the whole of the human body within two years of his first announcement. It is unnecessary at this time to discuss the work that has been carried out in the perfecting of this wonderful achievement in physics. It may be admitted that Wiedemann, before Rontgen, had recognized a peculiar from of rays emanating from electrical discharges *in vacuo*. It may also be admitted that Crookes, Hittorff and Geissler had produced vacuum tubes through which electrical current could be discharged and had shown that the physical phenomena in connexion with these electrical discharges were curious and needed further investigation and determination. Notwithstanding these and other antecedent researches, it remained for Rontgen to discover that the rays emitted from a vacuum tube filled with electrical discharge differed from the known cathodal rays in their power of penetrating substances opaque to ordinary light rays. It was his achievement that led to the discovery of the photo-chemical action on sensitized plates. At first the medical profession looked to this discovery for a revelation in diagnosis. Soon it was shown that the rays were capable of exerting a damaging influence on cellular life. Even as early as 1897 experiments were undertaken to utilize this destructive power on bacteria. It was stated as a result of these early endeavours that X-rays were useless in attacking diphtheria bacilli, but that tubercle bacilli in guinea-pigs were killed by their means. To-day the thereapeutic uses of Rontgen rays are very different from then. In a quarter of a century many earnest workers have sacrificed their lives to science by working incautiously with these wonderful but uncanny waves in ether. The apparatus has been changed beyond recognition and its every part has been perfected and altered. But we are still using X-rays discovered by Rontgen in 1895 for visualizing bones and organs within the living body and for treating pathological conditions. The understanding of the physics, of X, *a,b, r* and, rays has been furthered by others, but it was Rontgen who rendered all this extraordinary advance in physics possible. It was a wonderful piece of scientific research and its author, who has died at the age of seventy-seven, was a wonderful man.—*M. J. of A.*

ORIGINAL ARTICLES.

THE RATIONALE OF THE VASO-STIMULANT OR ANTI-"ANAPHYLACTIC" TREATMENT OF CHOLERA AND ALLIED ANAPHYLACTIC CONDITIONS

By

S. L. Rodrigues, B. A., M. B., B. S.

(continued. from page 119.)

Considering the beneficial action of vaso-stimulant drugs in preventing and curing anaphylactic shock, it will be easily understood that there is a strong natural tendency to spontaneous cure in profound anaphylactic collapse. The nervous system re-acts to conditions of profound collapse or asphyxia by a powerful discharge of impulses from the medullary vaso-motor centres down the spinal cord to the vaso-motor cells of the cord, and from them through the vaso-motor nerves to the adrenal glands, and the heart, and blood-vessels, the effect of which impulses is to cause powerful vaso-stimulation. The proper effection of this natural curative re-action depends on the efficient functioning of the various elements that take part in it. Any interference with the effective functioning of these elements, such as profuse anaphylactic exudates into the active cells and tissues, prolonged and extreme anæmia, etc., will interfere with the development of this re-action. Thus for instance, sufficient trephining of the skull often causes, if done early enough, complete recovery in anaphylactic collapse in cases which would otherwise end fatally. It is easy to follow the sequence of causes and effects in this remarkable phenomenon. On account of anaphylactic exudation in the cranial cavity, intra-cranial pressure is raised. Rise in intra-cranial pressure causes stimulation of the vagal and other vaso-depressant centres in the medulla, stimulation of which causes discharge of vaso-depressant impulses through the vaso-motor system. This effect of rise of intra-cranial pressure on the vaso-motor system interferes with or inhibits the development of the natural vaso stimulant re-action with which the nervous system responds to in uncomplicated conditions of profound circulatory failure. Trephining of the skull relieves the rise in intra-cranial pressure and causes cessation of vaso-depressant stimulation and unhindered development of the natural curative vaso-stimulant re-action. When in these conditions the nervous system is striving its utmost to effect vaso-stimulation, the immediate effect of the commencing restoration of circulation would be to allow these centres and other active elements to function most powerfully and effectively in their natural curative work with the happiest result.

[Note: Rise of intra-cranial pressure probably stimulates not only the vagal vaso-motor centres but also to a certain extent other vaso-depressant centres acting on the blood vessels. Asphyxia, intra-cranial tumour, meningitis, etc., are extraordinary and exceptional events in the life of an animal causing rise in intra-cranial pressure to meet which events the system of the animal is not adapted. In a perfectly normal animal, rise of intra-cranial pressure is normally only the result of rise of blood pressure due to over-action of the vaso-stimulant nervous

centres. Excessive rise of blood pressure in the cerebral arteries is dangerous as it might cause rupture of small arteries like the internal and external striate arteries which spring direct from large arterial trunks. The system of the normal animal seems adapted to meet this normal danger of over-action of the vaso-stimulant centres, the nervous centres responding directly to the consequent rise of intracranial pressure by a protective vaso depressive action which probably involves not only the vagal but also other vaso-depressant centres. So too the vaso motor centres respond to anaemia and tissue acidosis due to a fall of blood pressure normally caused by over-action of vaso-depressive centres by a protective vaso-stimulation. Rise in intracranial pressure due only to excessive arterial blood pressure cannot be attended with any anaemia and acidosis of the medullary centres. Rise in intra-cranial pressure due to the other exceptional events, *i.e.*, inter-cranial tumour, etc., will, if excessive, cause tissue acidosis of the medullary centres secondary to anaemia which then would tend to cause vaso-stimulation. This question seems to the writer to require thorough experimentation. It would be interesting for instance to note the effect of asphyxia on blood pressure when rise of intra-cranial pressure is prevented.]

Let us now consider various conditions allied to anaphylaxsis. Certain substances of a protein nature have the power of producing spontaneously without any previous sensitizing dose symptoms identical with those produced by the anaphylactic dose of antigen, *i.e.*, vaso motor collapse, dyspnoea, vomitting, diarrhoea, cardiac failure, suppression of urine, etc. Unlike the ordinary anaphylactic antigens which require a previous sensitizing dose before the antigen acquires the power of producing the anaphylactic reaction, these substances are capable of producing a reaction identical with the anaphylactic reaction without any previous sensitization. These substances are either proteins, proteoses or other protein derivatives. They may be either of vegetable, animal, or bacterial origin. Abrin and Ricin, two toxalbumens of vegetable origin cause, if injected hypodermically, development of edematous exudate at the site of injection, vaso motor collapse, and other symptoms resembling anaphylaxis. If administered by the gastro-intestinal route there is marked sero-sanguineous vomiting and purging. Some of the toxalbumens found in venoms of snakes, insects, jelly fish, and some other animals have also the property of causing vaso-motor collapse and other anaphylactic like symptoms. Certain articles of diet as strawberries, milk, eggs, certain fish, muscles, etc., which are quite harmless, nay wholesome to the majority of men, produce, when eaten, in some individuals who have a particular idiosyncrasy towards them, profuse diarrhoea, vomiting, collapse, exudates in various parts of the body, suppression of urine, cardiac insufficiency, etc. Certain albuminous bodies are produced in living tissues damaged antemortem by either severe mechanical trauma, heat or strong chemical agents which albuminous substances when absorbed into the body cause vaso motor collapse and other symptoms resembling on a phylaxsis.

The flesh of animals infected antemortem by Bacilli Gartner or Aertryck contain toxalbuminoid bodies which when ingested cause severe vomiting, purging, vaso-motor collapse and other symtoms resembling anaphylaxsis. Some other

Bacilli of the Typho-Colon Group when they act on complex proteins as meat, milk, eggs, etc., produce soluble exo-toxins of a protein nature which have a similar effect. If the products of such action by Bacillus Gartner or other members of the Typho-Colon group be separated from the bacilli and injected intravenously, the symptoms produced are similar to those of an anaphylaxsis. The cholera group of Vibrios closely resembles the Typho-Colon group in cultural and certain biological properties. They are also capable of producing in culture under certain conditions exo-toxins which cause collapse, etc. If virulent vibrios are grown in broth, peptone water, Agar, or any other media which does not contain complex proteins, the fresh culture media freed from the vibrios is practically non-toxic, unless organisms of highly and specially exalted virulence are cultured. If, however, normal virulent vibrios which fail to produce exotoxic bodies on broth, etc., are grown on media containing protein as horse serum, defibrinated blood, peptone-gelatin, etc., soluble exo-toxins are produced, which, when filtered from the vibrioes and injected in sufficient quantity produce collapse and other symptoms identical with anaphylaxsis and resembling those of intestinal cholera, the profuse rice water evacuations and consequent dehydration of tissues being excepted. A similar result follows intravenous injection of filtrate of culture of highly exalted virulence grown on broth or peptone, or of the intra-cellular endotoxins of the cholera vibrio. Cholera vibrios grown in vivo in collodion sacs also produce similar exo-toxins causing collapse, etc. [Note.—Bacillus Pestis and some other bacteria when grown in broth and peptone produce no exotoxic bodies, but do so when grown in vivo. These organisms may only produce exo-toxins when acting on proteins. The toxic effect produced by the injection of the intracellular substances of these organisms may be due partly to the fact that these intracellular substances are ferments which acting on the proteins of the blood and tissues convert the proteins of the blood and tissues into toxic substances].

Like anaphylactic antigens, all these toxalbumens belong to the class of proteins or protein derivatives. They all act in the same way as the anaphylactic antigen causing primary vaso-depression and symtoms secondary to this primary effect, but unlike anaphylactic antigens they do not require previous sensitization to produce this effect. The meghanism by which these toxalbumens produce primary depression is probably similar to that by which the anaphylactic dose of antigen produces the same effect. Perhaps the body contains naturally without previous sensitization substances that act as precipitins to these toxalbumens, or these substances act as precipitins to the proteins of the blood and tissues, or acting on the proteins and other substances in the blood and tissues form either substances that are spontaneously precipitated in the tissues or precipitins that precipitate the proteins of the blood and tissues, or they may act directly on the capillary endothelium in some way. Whatever their precise mode of action, their effect is the same as that of the anaphylactic dose of antigen given after previous sensitization.

Besides these toxalbumens certain drugs, for instance Mercury, Quinine, Acetosalycylic acid and other inorganic and organic substances, produce in certain individuals who have a peculiar idiosyncrasy to these drugs symptoms resembling anaphylaxis, though these drugs in similar doses do not produce the same effect in the rest

of men. In these cases the symptoms caused are vomiting and purging, vaso-motor collapse, exudates in various parts of the body, suppression of urine, etc. There can be no doubt that in these cases these drugs cause primary vaso-depression and the other symptoms are secondary to this primary effect. The exact manner in which this primary vaso-depression is caused may be in question. These drugs may either act directly on the vaso-motor neurons and the capillary endothelium or they may act on substances in the blood and tissues in manners described in the previous paragraph. Whatever the precise mode of action, large doses of vaso-stimulant drugs are curative in these conditions, and these cases of such idiosyncrasy to drugs must be classified as conditions allied to anaphylaxsis.

We come now to the study of the pathology and symptomatology of Intestinal Cholera. To understand the distinctive nature of the pathology of cholera we must study intestinal cholera in its acutest forms, as it is in these forms that cholera manifests most distinctly its characteristic nature. Let us therefore study the pathology of the infected intestine of such an acute case of cholera. It is commonly assumed that the profuse rice water evacuations of acute intestinal cholera are the result of an acute inflammatory process of a cattarhal nature in the infected mucous membrane. If so, only an inflammatory process of a hyper-acute character could account for the profuse intestinal evacuation of cholera, and on microscopic examination we should find signs of such hyper-acute inflammation. The signs of acute infective inflammation are degenerative signs in the affected tissues causing loss of staining reaction going on to necrosis, dilation and thrombosis of blood vessels and intense leucocytosis. (Leucocytosis is absent in infectious conditions caused by strong acid producers like B. Welchii and other organisms producing substances having a strong negative chemiotactic effect on leucocytes. These cases show all microscopic and macroscopic signs of acute inflammation except leucocytosis and pus formation). For instance, in cases of very acute and rapidly fatal bacillary dysentery, we may have profuse vomiting and diarrhoea resembling in its profuseness that which occurs in actue cholera. On examining the affected mucous membrane of such cases we find loss of staining reaction of the tissues going on to necrosis, dilation and fibrinous thrombosis of the blood vessels and intense leucocytosis, all signs of acute inflammation. The more acute the case of Bacillary dysentery, the more marked are these signs of acute inflammation. From these sings of acute inflammation we are justified in regarding the profuse intestinal exudation of Becillary dysentery to be the result of an acute infective inflammatory process. But signs of acute inflammation are conspicuous by their absence in acute intestinal cholera, uncomplicated by other factors, the more acute the case of cholera the greater and more typical being the absence of signs of acute infective inflammation. In the infected mucous membrane of such an acute case there is no necrosis of tissues and hardly any loss of staining reaction. There is moderate leucocytosis and no fibrinous thrombosis of blood vessels. The infected intestines of such acute cases show other distinctive sings characteristic of cholera. The blood vessels may in some places be dilated, in others they are collapsed. Instead of being filled with coagulative fibrinous thrombii they contain nothing but the residue left by the formed

elements after the fluid parts have been filtered away. The most characteristic microscopic sign in acute cholera is the marked distention of the submucous tissue with exudate. Here and there in the distended submucous tissue are found cholera vibrios, in the vicinity of which the exudate seems to be most marked and is sometimes, haemorrhagic by diapedesis. Sometimes the distention with exudate is so marked that blister like vacuoles are formed in the submucous tissue. Another characteristic sign in acute cholera is the marked desquamation of the epithelium. This has been interpreted by some to be a sign of acute cattarhal inflammation, But there are marked differences in the character of the desquamation of cholera and that of acute exudative cattarhs. In an acute exudative cattarhal inflammation, for instance that of acute bacillary dysentery, there is profuse secretion of mucus which is aggregated together in streaks and numular-like masses which secretion lasts as long as the mucous membrane is not necrosed. In the masses of mucus are found isolated individual detached epithelial cells. Such numular secretion of mucus is absent in acute cholera, though it is present in moderate quantities in cases that are recovering. In acute cholera with profuse intestinal evacuations mucus is seen in the typical form of small rice water flakes pathognomic of cholera. It is probable that the marked desquamation in acute cholera is the result of the formation of exudate between the basement membrane and epithelial cells detaching small patches of epithelial cells. The mucogen granules present in these cells become changed afterwards in mucus, and thus give us the characteristic phenomenon of rice water flakes in the stool observed only in acute cholera. The nature of the choleraic exudate is also markedly different from that of cattarhal inflammatory processes. It is an albuminous fluid while that of bacillary dysentery is a thin watery serous fluid. Thus the exudative process in intestinal cholera shows quite different signs and characteristics from that of acute infective cattarhal inflammation. [In some cases of acute cholera in which circulatory failure has been more prolonged than usual, areas of necrosis may be found in the intestinal mucous membrane, but as in these cases areas of necrosis are also found in other organs as the kidney, liver, spleen, etc., where there is hardly any infection with cholera vibrios, it is probable that these necrosed areas are not the result of an infective inflammatory action due to the degenerative action of bacterial toxins, but rather the result of an anaemic necrobiosis, being autolytic changes in the cells due to prolonged anaemia. In some cases of cholera in which there is mixed infection of the mucous membrane with B. Coli and other organisms, we may have all signs of acute inflammation as in acute Bacillary Dysentery.]

In the absence of signs of acute inflammation in the acute choleraic intestine some other explanation must be put forward to account for the profuse intestinal exudate. Such an expalanation is suggested by our knowledge of the fact that when virulent cholera vibrioes are grown in such a medium as horse serum containing complex proteins exo-toxins of a toxalbumen nature are formed in the culture which when filtered from the vibrios and injected cause vaso motor collapse. In acute cholera virulent vibrios infect and grow within living cells and tissues which contain complex protein substances similar to those present in horse serum. It is likely that

the vibrios acting on these complex proteins elaborate from them as when acting on horse serum exo-toxins of a toxalbumen nature which cause by their local action on the blood vessels profound active vaso-depression. As a result of this condition of profound vaso-depression in the blood vessels profuse exudates take place in the infected tissues.

With this hypothesis it becomes a simple matter to understand the pathology and symptomatology of acute cholera. The cholera vibrios, of which there are many varieties, all of them actively motile organisms, in intestinal cholera, first infect the epithelial cells of the mucous membrane, then penetrate into the submucous tissues and are finally carried by the blood and lymph all over the body. Wherever they infect living tissue, they find complex protein substances on which they act and produce soluble "anaphylactic" or vaso-depressant exo-toxins which cause by their local action on the blood vessels profound collapse or vaso-depression and consequent formation of exudates. At first the action of these toxins is mainly confined to the submucous tissue where they are formed, thereby the vibrios infecting the submucous tissue. Acting on the blood vessels of the submucous tissue the toxins cause in them a condition of profound active vaso-depression, and consequently profuse sero-albuminous exudates are formed in the submucous tissues. This exudate rapidly passes into the lumen of the bowel carrying with it the detached intestinal epithelium and gives us the characteristic profuse rice water stools and vomit. The action of the toxins is not confined only to the submucous tissue. After some-time the toxins formed in the submucous tissue enter the circulation and are carried all over the body. Wherever they are carried, they produce in the blood vessels by their local action active vaso-depression and consequent formation of exudates in the tissues and organs.

With this hypothesis as to the nature of the action of the choleraic toxins, it will be convenient for the purpose of study to divide acute cholera in two stages, the first stage during which the cholera toxins act only on the blood vessels of the intestinal mucous membrane, and the second stage in which the toxins are carried into the general circulation and act on the blood vessels of the whole body. The first stage is the stage of profuse intestinal evacuation and dehydration, of tissues elsewhere. It is not difficult to understand the pathology of this stage with our knowledge of the correlation between the permeability of the capillary endothelium and its active vaso-motor condition. In the intestinal mucous membrane the profuse evacuation is due to the increased permeability of the capillary endothelium to transudation into the tissues, the result of active vaso-depression caused by the local action of the cholera toxins. In the rest of the body where the cholera toxins have yet not acted, the blood vessels are in a condition of normal active vaso-stimulation. The profuse loss through the intestinal capillaries causes dimunition in the total volume of the blood distending the blood vessels, which diminution results in a passive or mechanical fall of blood pressure in the blood vessels of the rest of the body whose active vaso-motor toxins is otherwise quite normal and the permeability of whose capillary endothelium in both directions remains the same as before the mechanical fall. Before the fall with the higher blood pressure in these capillaries the amount of fluid transuding into the tissues from the capillaries is equal

in quantity to the amount transuding from the tissues into the capillary lumen. After the mechanical fall of the blood pressure in these blood vessels as the permeability of the endothelium in both directions remains the same as before on account of the lessened blood pressure the amount of fluid transuding into the tissues is decreased while the amount transuding into the capillaries remains the same. Hence everywhere in the tissues unaffected by the cholera toxins we have a continuous absorption of fluid into the blood vessels which is carried away by the circulation to the intestinal capillaries where it transudes into the lumen of the bowel. Hence this stage of cholera is one of continuous, profuse, intestinal evacuation and equal dehydration of tissues elsewhere. If the continuous intestinal loss could be checked by restoring to the intestinal blood vessels their previous vaso-motor tonus, blood pressure would soon rise to normal through absorption of fluid from the tissues and further dehydration of tissues would soon cease.

The second stage of cholera is that in which the cholera toxins are carried by the circulation all over the body and allowed to act on the blood vessels of the rest of the body. Acting on the capillaries in various tissues and organs, the cholera toxins cause active vaso-motor collapse and increase their permeability to transudation into the tissue and diminish that in the opposite direction. As a result further absorption of fluid from the tissues into the blood vessels ceases, and fluid with substances in solution transudate into the tissues. Exudates are formed in different organs interfering with their function, the blood becomes thick and viscid and its volume is diminished, and circulation begins to fail through profound general active vaso-motor collapse. The pathology of this condition is identical with that of acute anaphylaxsis after intravenous injection of the anaphylactic dose of antigen except that in most cases of cholera there has been marked dehydration of the tissues during the first stage. In some cases of cholera, called clinically cholera sicca, in which the first stage is very short and consequently there is very little intestinal evacuation and dehydration of tissues, the clinical picture is practically identical with that of acute anaphylaxsis. We have already considered somewhat the pathology and symptomatology of such an acute anaphylactic condition. However a more detailed consideration on points not already adequately brought out would be useful.

(To be continued).

SOME ASPECTS OF SURGERY IN INDIA.

By

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(*Continued from page 111.*)

TETANUS—55.

Age group.	Sex M	Sex F	Sex Children.	Had wound 22	Not known 25	Treatment	Prophylactic Serum no case received before.
... Cases.	18	22	13	No raw surface or wounds or history 6		• (All the cases had chloral and bromide and local wound treatment when present).	
Death	8	13	4				
0-1 No.	1	3	9	6	1	1. Serum only } Subcutaneous. } No. 22.	Cd. 14 died. Otherwise 2.
1-5 Died.	0	0	4	1	1	2. Do. intravenous with other treatment.	3. Not Sanitized cases; 1 cd; one had Bronchitis. 2 died one and a half hours and one 10 days after developed Bed Sores.
6-10 Ow	...	1	2	...	...	3. Do. intrathecal only nil.	
11-15						4. Serum and Carbolic injections 2—both died.	
16-20						5. Serum subcutaneous and intravenous and intrathecal of Mag. Sulph 1 cd.	
21-30	1	...	1	6	3	6. No serum at all, 14 (cd ; died 11 : otherwise 2.)	
31-40	3	4	9	1	6	7. Intrathecal Mag. Sulphas 20 per cent—10 c. only nil.	
40 & above	2		6	1	3	8. Subcutaneous and intrathecal Mag. Sulph 5 cd 2 died 3.	
	1	...		...	...	9. Subcutaneous I. V—1-1 cd.	

Not known 14 adults & 1 child—Ow.

8 deaths and 1 ow
= Deaths 25?
Ow 6

Died within 24 hours of admission—
11 of which one died within 10, ms.
One 1 hr. & one 12 hours.

Existence of clinical symptoms referable to the brain :—
No record has been made.

Trismus in relation to the course of the disease. Trismus is distinctly observed in every case on the 1st symptom. There was only one case in which there was no trismus Male aged 50. Temperature normal, had Lepome of left glutal region with ulceration. Respirations about 4 after each spasm—cured—stayin hospital 35 days : 13500 units subcutaneous injection ; was on Chloral and Bromide.
The degree of anæmia and its possible causation—not noted.
Any post-mortem findings—Nil.
Facial paralysis—its relation to the injury—not noted.
Temperature in relation to the course of the disease—4 had severe rises of Temperature.
Retention of urine—1.
Profuse Perspiration was noticed in many bad cases. No definite notes.
Albumin in urine—one case. No systematic examination noted.

(28 days) 53

Site of wound in cases of Tetanus :—

Injury to head, forehead and scalp	4
Abortion	3
Cancer uterus	1
Wound thigh	1
„ Toes	4
Cancerum Oris	1
Ulcerated lipoma Glutcel region	1
Wound foot	1
„ forearm	1
Multiple lacerated wounds	1
Abscess thigh with Erysipelas and umbilical ulcer in baby aged 28 days.	1
Operation for hernia	1
Wound right heel	2
	22

The following are the No. of days stay in hospital for cured cases.

Days		
15	... 1	17
21-30	... 9	
30-40	... 4	
60-65	... 3	

The amount of serum in cured cases in series No. 9 is 20,500 and 15,000.

In series 8-34000. I.V. 1500 on two occasions

In series 1-varying from 1500 to 20400, 6 below 6000

In series 5-30000 and 1500 I.V, on two occasions.

In Calcutta, Corporation statistics show that Tetunus in new born infants is very frequent. Statistics are not available for other parts of India.

So far as I know ' Noronha ' (7,8,9,) is the only author whose paper is published in the Indian Medical Gazette on this subject recently.

Noronha : "There are some cases that look very mild at the outset, but which in a few hours show so grave an aspect that no amount of serum will save them. Other cases show severe signs at first but improve after the very first dose of antitoxin given intravenously. These cases invariably recover."

Out of 57 cases in 1918, 53 received serum treatment with a mortality of 28, which means 32·83% in serum cases as a whole and 50% of total hospital admissions. These figures compare very favourably with the past when serum was not used at all or when it was supplied in too small a quantity to be of much use. (*Vide Lancet, December 22,1917.*)

Serum has been instrumental in reducing the hospital mortality to some extent at least. At present I am using an average of 22,000 units for each case as a whole, a quantity that is recommended for one single dose. It may here be noted that the improvement in the mortality has been more or less proportionate to the amount of serum used.

1. The virulence of the infection : Absorption is more likely to occur sooner than when it takes place directly from the blood so that trismus is an early symptom. The more complete the latter, and the sooner it appears in all its vigour, the more likely is the case to prove fatal, granting the wound to be outside the influence of the sphere of the 5th nerve in which case lockjan appears very early.

2. The amount of toxin absorbed by the nervous system : Nothing can be done when a lethal amount of toxin is absorbed. A sublethal amount may be prevented from increasing by immediate and repeated injections of antitoxin, given preferably intravenously in nonsensitized cases provided that the dose is large enough. No active surgical interference is advisable.

3. Early involvement of diaphragm and muscles of deglutition are very unfavourable signs and in all such cases serum has proved of no avail with me.

4. Some cases of idiopathic tetanus are very severe and stand a poorer chance of recovery than many others equally severe, the inoculating site of which is accessible to irrigation.

5. Carbolic acid often controls spasms when serum does not.

None of the above cases received a single prophylactic dose and hence non-sensitized cases ; and as regards treatment I have come to the conclusion that intravenous injection is the best. As regards intrathecal, I cannot lay claim to any conclusion as it has not been much used. Intramuscular injections in the few cases in which they have been used have not proved successful.

6. I had noticed a case of general tetanus without any trismus.

Tetanus with facial paralysis : "In some cases the facial paralysis may really be the first symptom to be noticed, or more commonly it may accompany or follow the trismus. In severe cases the paralysis appears very early—as early as the second day. But the seventh day is about its usual period of manifestation.

" Carbolic-acid with serum has proved most disappointing."

I have given the conclusions of an author who has treated the cases in the light of experiences gained during the war. This subject is an all important one and only a very small fraction of cases come to hospital for treatment ; Tetanus in babies due to infection through umbilicus, in aborted women, in women with cancer uterus might not come to hospital at all ; it is all important that proper provision should be made in the moffusils for the prophylactic and curative treatment of this disease.

In this country it is seen now and then that patients after an aseptic operation develop tetanus without any reason. Two instances in 4 years are on record here, one after operation for inguinal hernia and the other after Elephantoid scrotum. The other operations done on the same day went all right. Cultural examination of ligatures was negative. I think the idea at present is that the patients harbour the spores or bacillus and the infection comes into play. This is the explanation given as regards Quinine injection. I have seen a case of tetanus after quinine injection not here but on Military duty. During the 10 years of my service I have seen 2 cases of tetanus soon after cancer penis operation ; one amputation for a dry gangrene after compound fracture. I do not mention of cases in the days when asepsis was not properly understood. Hooton, I. M. S. and Karta Prasad I. M. S. record

cases of tetanus after operations. A case of post operative Tetanus by " Col. K. Prasad, I. M. S., April 1918, I. M. G :—

"5 days after an operation of simple ligature for Hæmorrhoids and died within three days of the infection. There has never been a case of tetanus in the jail before. All aseptic precautions were taken."

He remarks from Burma : " Tetanus is a disease of comparative rarity in civil surgical practice."

I think operators shirk to report this incidence. After burns and gangrene its incidence has been noted under these headings.

There is another variety of cases when Tetanus sets in soon after operation. In gangrene, cancer penis, Osteomyelitis with sinuses where amputation had to be done nothing abnormal is noticed with the patient and the operation is done. 2 days after operation Tetanus sets in generally in acute form and the patient dies. In this class of cases it may be surmised that the patient is harbouring the infection which gets lighted up by the trauma inflected. Nobody is probably to blame but the young medical man will be upset by this. No such case occurred in this series. But I am sure this kind of accident too is generally not reported.

I have attempted to tabulate our series of cases in this page.

Sir Leonard Rojers in I. M. G., February 1914 : "Tetanus accounts for 2% of deaths in the whole 37 years records and in the last 1000 cases, and is far more prevalent in Calcutta than in temperate climates".

Anthrax Niblock : " In India the malignant pustule is not common but the Woolsorter's disease is ".

No case is noticed in this series.

Hydrophobia (for Prevention Ref. I. M. G., January 1922) : Col. Cornwall reports unusual methods of infection as through a chain, etc.

There were 2 cases ; one was due to cat bite; both died.

Glanders " not common in India." Niblock.

THE DIAGNOSIS OF GLAUCOMA

By

P. S. K. CHARI, EYE SPECIALIST, MADRAS.

One of the tragedies of Ophthalmic practice lies in the frequency with which we meet men and women blinded by Glaucoma, simply owing to the failure of the medical men in charge, to make an early diagnosis of the condition and to take necessary steps thereon. It is not that there is any difficulty in recognising what is wrong but rather that the possibility of the existence of the disease is too often forgotten with the result that symptoms are ascribed to some more commonly met with condition.

One of the outstanding signs of Glaucoma which first impresses itself on the attention of the patient and of his doctor is *Head-ache*.

This may be of various kinds. The patient complains that he wakes up in the morning with a dull head-ache which passes away after some time. On questioning him he will admit that the sight of the eye is dim whilst the head-ache is on. Rarely he would have noticed dilatation of the pupil and still more rarely halos round lights. I am far from wishing to suggest that all morning head-aches which undoubtedly emanate from the eye trouble, are due to Glaucoma. For, strange as it may seem, head-aches due to an error in refraction are sometimes most complained of in the morning, though as a rule, they are worse at night and relieved by sleep. Besides, there are other morning head-aches which are in no way connected with the eyes.

The patient should be warned to look out for the association of head-ache, misty vision, dilatation of the pupil, slight circumcorneal congestion and halos round the lights and an ophthalmoscopic examination should be made to ascertain whether there is cupping of the disc or abnormal pulsation of the retinal vessels.

The explanation of this early morning head-ache of glaucoma is of interest. Throughout life, the clear fluid which fills the chambers of the eye is being continually derived from the blood circulating through the Ciliary body. With equal regularity, it is steadily oozing away at the angle of the chamber through the Pectinate Ligament into the canal of Schlemn and thence into the vessels which lead the blood out of the eye. If the rates of the inflow and outflow correspond, the amount of fluid retained within the eye remains constant and the intra-ocular pressure continues to be constant. But if there is any obstruction to the outflow of the fluid whilst the rate of the inflow remains the same, the coat of the eye will become over-stretched by this increase in the mass of the fluid it contains and the intra-ocular pressure will rise correspondingly.

It is only when head-aches are accompanied by the other signs and symptoms of Glaucoma, that we are justified in making a diagnosis of that disease. In any and every case, the first thing to do is to have the patient's refraction carefully tested and any errors corrected. It must never be forgotten that an error in refraction may be a cause of congestion of the eye and so may be a predisposing factor in the onset of Glaucoma.

Sleep is very good for Glaucomatous patients. Glaucomatous attacks usually depend on the onset of a state of congestion of the eye. Sleep quiets the whole nervous system inclusive of its vaso-motor mechanism and so gives the eye a chance of recovering its normal condition of equilibrium. On the other hand if the channels of excretion become narrowed and in consequence the rate of the escape of introcular fluid becomes slow resulting in greater pumping action being required, the patient has reached a condition in which sleep brings a constant and steadily increasing danger. It is steadily increasing because : (1) It increases more and more as the constriction becomes aggravated with the advance of life. (2) It increases with the length of sleep a patient indulges in.

Head-aches after near work.—As a man advances in life small errors of refraction, which have not troubled him hitherto, give rise to symptoms such as head-ache, pains in the eyes, a feeling of ocular fatigue, and increased lachrymation.

The onset of presbyopia has its share. If this is suitably corrected, the symptoms should pass away completely.

If the symptoms do not completely subside and especially if the presbyopia increases more rapidly, than we should normally expect it to do, one of the possibilities, in such cases, we should bear in mind, should always be the occurence of high tension in the eye. The occurrence of a Glaucomatous cup would at once put us on our guard but even apart from this, an increase in the pulsation of the retinal vessels, especially if arterial in character, would have a marked significance for a careful observer. Increased pulsation, especially when arterial is probably invariably the earliest sign of Glaucoma, though it cannot always be elicited owing to the fact that increase in tension is intermittent in character. To sum up: Be suspicious of head-aches in elderly patients when these persist in spite of careful correction in errors of refraction and muscle-balance.

Severe head-aches often attended by vomiting:—Whenever you see an elderly patient suffering from severe headache whether accompanied by vomiting or otherwise, you should at once rank Glaucoma as one of the possibilities to be considered and to be excluded if possible. You must obtain a full view of your patient's eyes and if necessary you must instil a 4% cocaine solution to enable him to face the light. If the eye is congested and if especially the circumcorneal zone stands out pink, as contrasted with the rest of the eye, two ideas should be borne in mind *viz.*, (1) Acute Iritis, (2) Glaucoma. Is the pupil widely and evenly dilated? If so the probability is that you are dealing with a case of Glaucoma. But also remember that a mydriatic may have been used early for Iritis. Search the anterior capsule for evidences of adherent Iris pigment and look also for any characteristic irregularity in the outline of the pupil.

Take the tension of the eye with your hand especially in comparison with its fellow. The acute glaucomatous eye is stony hard. There are many cases of Glaucoma in which the rise in tension is so small that you will be hardly able to feel it at all. Then look at the cornea. In the glaucomatous eye it is steamy. Its polished lustre is gone. The beautiful mirror of the eye looks as if it had been breathed upon. The details of Iris pattern is lost. The anterior chamber is abnormally shallow. In less severe cases, ophthalmoscopic examination will show cupping of the disc.

It is not that there is the least difficulty in making a diagnosis. Certainly not. The trouble is that the busy practitioner may for a moment allow himself to forget that whenever he meets with severe head-aches of this type, Glaucoma is one of the possibilities that should at once flash through his mind. Forewarned will be forearmed.

There are cases in which Glaucoma is secondary to Iridocyclitis. The practitioner will hasten to share the responsibility of such with his specialist colleague at the earliest possible moment.

Loss of sight.—The typical varieties :—

(i) Gradual loss of sight without any apparent cause.

When a patient comes to you complaining that his "sight is not so good as it used to be," you should not be content merely to set a snellen type up before him and to ask him to read it down to the six m line. Sight does not merely consist of central visual acuity as measured by a standard card. On the contrary, there are a number of elements to be considered.

(*a*) The rapid increase in Presbyopia met with in glaucoma is doubtless due to the numbing pressure exerted on the 3rd nerve endings in the ciliary muscle which deprives it of its contractile power.

(*b*) The visual field may shrink in area thus robbing the patient of one of the safeguards of his daily life, whenever he is on the move amongst other people or even amongst inanimate objects.

(*c*) The light sense may be greatly reduced.

(*d*) Reading test difficulty in quickly reading the chart.

To sum the matter up, the tread of glaucoma signs are:—

(*a*) Contraction of visual field.

(*b*) Cupping of the disc.

(*c*) Failure of central visual acuity.

Differential Diagnosis:—What are the other conditions with which we are likely to confuse a chronic glaucoma? These are (1) Cataract (2) Refraction errors (3) Brain trouble.

Cataract.—This is one of the chief diseases where the presence of glaucoma is commonly overlooked. A simple way of diagnosing cataract not often found in text books is to place a +10 lens behind the slit of the ophthalmoscope and focus the rays of light in a dark room and examine the eye at a distance of 5 or 6 inches moving backwards and forwards until sharp focus is obtained. Every detail of lens opacity will stand out clear to your view against the bright fundus reflex.

Refraction errors :—When a man finds that his sight is steadily failing and that the careful correction of any errors present does not help him to see again, something is wrong either with his media, retina or optic nerve. Once again the diagnosis is not difficult in most cases. There is a great deal of rubbish being sold to the public to-day—probably more than ever in history—and medical advice should be included in this category. It is not that specialists cannot do work if they chose but what i wrong is that the hurry and bustle of an aeroplane age lead many to give too little attention to their cases with the result that they do bad work.

It does not pay. We should make up our minds to do it. I know a chemist who advertised : "I cork my reputation in every bottle of medicine I send out." Try that. Ophthalmoscopic examination reveals optic neuritis.

Optic atrophy :—Here we have the real difficulty, *i.e.*, differential diagnosis between the various forms of optic atrophy inclusive of that due to chronic glaucoma. If the discs are pale and the cupping is not pronounced the specialist should be consulted.

Gradual loss of sight with intermittent head-ache :—Watch for the dilated pupil rise in tension, shallow chamber and the evidence of ocular congestion.

Entoptic phenomena :—Photopsiæ or subjective sensation of light is a common and early symptom of congestive glaucoma. It is to be remembered that Photopsiæ are seen under many conditions other than glaucoma. It is likely to occur whenever the retina is irritated, dragged upon, or in any way interfered with.

Rainbow round lights.—These are seen when anything occurs to interfere with the natural transparency of cornea. Two colours are seen—an inner blue or violet and an outer red with an yellowish band between them. Anything which interferes with the transparency of the cornea may be productive of halos and may be seen in other conditions also. They are invariably to be found after treating the iris with silver nitrate, in early stages of cataract. Transcient halos round lights are often complained of by those who suffer from conjunctivitis associated with mucous discharge. Wiping or washing away the offending flakes of mucus from in front of the cornea will abolish the symptom. It is not pretended that this article is exhaustive. It merely touches the fringe of a large subject but it is an effort to help many by drawing their attention to matters which may too easily be relegated to the background of our minds with harmful results to our patients' sight and with damage to our own reputation.

NOTES ON ENDOCRINOLOGY AND ORGANOTHERAPY

By

S. K. Roy, M.B.

The thymus :—Bolk believes that the human cranial sutures are kept open by the action of the thymus, thus allowing the brain to reach its present eminence. With the development of the gonads its activity ceases. Should the gonads come in relatively late one is confronted by an overgrown child; if they come in too early the child is precocious. It is interesting to note that the acquisition of adult blood picture and the disappearance of the thymus are simultaneous. Lymphocytosis, the normal blood picture of infancy, is believed by some to be due to reaction of infantile blood to severe toxœmias. In status lymphaticus thymus enlargement is only a part of general adenoid enlargement. Some believe this to be a part of an abnormally sensitive reaction to foreign proteins such as is usual in those whose vagus response is increased. This would account for the extreme vulnerability of sufferers from status lymphaticus to paraoxysmal dyspnoea, syncope and anaphylactic shock. Death from trivial causes in this condition may be due, to a certain extent, to the hypoplasia of the heart due to pressure of an enlarged thymus. No positive evidence has yet been adduced regarding an internal secretion of the thymus. It is generally believed that it plays an important part in the calcium metabolism of the body. Experimental extirpation of the thymus in animals, by depriving the bones of calcium, results in spontaneous fractures, osteomalacia and other abnormalities. There appears to be an antagonism between the thymus and the sexual organs. Ovariotomy is followed by thymus hypertrophy and the removal of the thymus in some animals produces rapid developments of the sexual organs. G. Baggio [1], however, in a review of his own extirpation experiments and from a comparative study of the entire literature of thymic experimentation comes to the conclusions that (1) animals can live indefinitely without a

thymus gland; (2) skeletal development is not directly effected by removal of the thymus; and (3) variations in size of the thyroid, pituitary, adrenal and genital glands cannot be attributed to thymectomy. One change, however, which he finds more constantly in thymectomized animals than others is a reduction in weight of the spleen, and this most frequently in association with loss of body weight and with diminution of the number of lymphocytes in the blood. His final judgment is, therefore, that the thymus belongs to the autonomic neuro-vegetative system and that the hyperplasia of the adrenals when it occurs after thymectomy represents an increased sympathetic response to diminished vagus stimulation, while splenic shrinkage and lymphopenia are amongst the manifestations of this diminished vago-tonic energy. Williams [2] considers that thymus must offer a serious obstruction to the escape of effete matter from the structures above it. There are certain diseases, notably idiopathic epilepsy, functions of cerebral taxæmia, which flourish during the full efflorescence of the thymus and decline with its falling leaf. The same may be said of emotional instability and of the cerebral vascular troubles of infancy and childhood. He looks on true asthma including hay fever as a direct result of seasonally or climatically enlarging thymus and considers that the trusted remedies for asthma are those which have a direct action in diminishing the size of the thymus gland, namely starvation, iodide of potassium and adrenalin. Respecting treatment he says "the food elements which protect us against the so-called deficiency diseases will protect us with equal energy against the glandular enlargements, of which thymic enlargement is only one." Active measures efficient against enlarged thymus are the X-ray ventral decubitus, adrenalin and iodine.

Thymus therapy :—The dose varies from 3 to 10 grains. The extract of this gland should be used with caution on gouty patients, on account of its richness in nucleins. Cobb [3] states that thymus extract has been used in a variety of diseases, ranging from exophthalmic goitre to deficient development. Some observers advise its use in simple and exophthalmic goitre, inchlorosis, in rickets, in delayed union of fractures, in rheumatoid arthritis, and in deficient growth.

The Pituitary body :—The Pituitary body consists of three parts: an anterior or glandular part, an intermediate part and a posterior or nervous part. It has been found by extirpation experiments that pituitary body is essential to life and its removal is fatal. Cushing and his associates found that extirpation of the whole gland, or its anterior portion were alike fatal and that animals died within three days with a peculiar train of symptoms, *e. g.*, subnormal temperature, low blood pressure, sluggishness, unsteady gait, rapid emaciation, slow pulse and respiration, diarrhoea, and diminished urine. Partial excision of the anterior lobe was found to produce obseity with shrinkage of the external genitalia. Partial excision of the posterior lobe—which discharges its secretion into the cerebro-spinal fluid—produces at first a temporary lowering of the animal's assimilation limit for sugar followed by a marked and permanent increase of carbohydrate tolerance, which is again lowered by injection of an extract of the posterior lobe. On the other hand, injection of an extract of the whole gland is followed by an immediate rise of blood pressure with a slowing of the heart's action. This tonic effect is produced not only upon the heart

and blood vessels but also upon other plain muscles such as the stomach, the intestine, the uterus and the bladder. In opposition to this general stimulation the renal arteries dilate, producing diuresis, and this is partly due "to a selective influence of one of the contained hormones upon the cells of the renal tubules. This action has been supposed to be due to a special hormone from the pars intermedia." Extract of the pituitary has also a marked galactogogue action as was pointed out by Ott and Scott in 1910-11. Weed and Cushing have shown that extracts of the para posterior produce a stimulation of the flow of cerebrospinal fluid which is apparently independent of a rise in blood pressure. According to Cobb pituitary extract also counteracts cessation of menstruation and it is well known that pituitary undergoes hypoplasia during pregnancy. Majority of observers are agreed that the posterior lobe of the pituitary contains the active principle. Harrower[4] states that a definite salt, known as *hypophysin sulphate* has been isolated from the pituitary which is available for use and standardized in 1 in 1000 solutions and has been used with success by many observers.

Hyper and hypo-functions of the pituitary :—The best recognized of diseases due to a faulty functioning of the pituitary is "acromegaly" which is now believed to be due to a hypersecretion of the pituitary, and part of the symptoms, especially the excessive skeletal growth, is directly due to an excess of the hormone elaborated by the anterior part of this gland. The state described by Frohlich and named by Bartels "Dystrophia adiposogenetalis" is on the other hand a typical example of hypopituitarism. Cushing believes that the tendency to deposition of fat, which subjects of hypopituitarism show, owes its origin to deficiency of secretion from the posterior lobe. Likewise the usually high tolerance for sugar and the increased assimilation of carbohydrates are due to the same cause. Discussing hypopituitarism Schafer[5] says that if the lesion is concerned with the anterior part of the pituitary the chief effect will be upon the stature, while affections of the posterior lobe produce fat formation and deficient sexual development. Speaking of epilepsy McKenan says that the pituitary gland is often found to be at fault in this disorder and hence is of opinion that pituitary administration should go hand-in-hand with bromides in this condition.

Below we reproduce a modification from an admirable chart by Sprunt[6] of the symptoms of pituitary over-and under-function for the information of the readers.

	States of Overfunction.	States of Under function.
Effect on Endocrine system.	Enlarged sella turcica, intact or eroded. Occasionally normal sella (Thyroid stuma or atrophy.) (Enlarged thymus.)	Small, closed in sella, or large eroded sella from tumor. Hypogenitalism. (Thyroid or adrenal symptom.)

	States of Overfunction.	States of Underfunction.
Effect on Metabolism.	Accelerated basal metabolism. Diminished carbohydrate tolerance. Retention of phosphates and lime salts.	Retarded basal metabolism. Obesity of girdle form. Increased carbohydrate tolerance.
Effect on Bones, Joints and Muscles.	Bony over-growth; enlarged oval, elongated or hexagonal facial skull; enlarged frontal sinuses; exaggeration of external occipital protuberance (X-ray) (Gigantism before puberty.) Broad, thick, spade-like hands.	Dwarfism and acromicria if before puberty, or inversion of sex characteristics. Delayed development.
Respiratory symptoms.	Enlargement of larynx with low-pitched, hoarse voice (Chronic bronchitis and emphysema.)	
Cardio-vascular symptoms.	(Cardiac hypertrophy).	Hypotension (Brady cardia) (tachy cardia.)
Blood changes.	(Mononucleosis) (Eosinophelia.)	
Digestive symptoms.	Spaced incisor teeth (hag teeth,) Large tongue.	
Urogenital symptoms.	Hypertrophied external genitalia. Diminished libido and potentia (later) Amenorrhoea.	Hypoplastic condition of both ext. and int. genitalia; amenorrhoea. Diminished libido and potentia. Polyuria polydypsia.
Nervous symptoms.	Head-aches, dullness, apathy, depression, irritability. (Psychoses) Epileptiform convulsions.)	Tumor symptoms similar to those of states of over-nutrition. Fatiguability. Asthenia. Often slight mental deficiency. Epilepsy.

	States of Overfunction.	States of Underfunction.
Neighbourhood Tumor symptoms.	Optic atrophy; bi-temporal hemianopsia; contraction of visual fields; lesions of other cranial nerves, &c.	Same, if tumor present.
Special sense organ.	(Eye lesions see above) Large ears.	Eye lesions.
Effect on skin and hair.	Thick, dry, sallow skin with exaggerated wrinkles. Hair, beard and eyebrows heavy and coarse.	Dry, smooth, pale and waxy, inelastic, lifeless skin. Sensitive to trauma and rarely perspires. Hypotrichosis. Hetero-sexual distribution of hair.

(To be continued.)

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CASES AND COMMENTS.

HOW TO FIGHT PYORRHOEA ALVEOLARIS?

By

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Pyorrhoea alveolaris is a disease of the tissues around the roots of the teeth but the term is only a description of the advanced stage of the disease, the earlier stages being either over-looked or not followed. It is at the neck of the teeth (between the root and the body) that the gum margin in health blends with the periosteum covering the roots of the teeth and by firmly encircling it and by a "phagocytic action" protects the periosteum from infection.

In "Phyorrhea Alveolaris" these actions of the gum margin are by degrees taken off, a pocket is formed between the roots of the teeth and the gum margin allowing free access of tartar, food debris and also bacteria which infect and destroy the tissues round the roots of the teeth and later the alveolar processes of the jaw bone. Thus a large area of ulceration and in many cases a very large area of tooth and bone tissue open to infection result. The septic matter from this "stagnation area" is not only swallowed with saliva or food but also passes direct into the circulation through the tooth and bony tissues.

Causation:—The disease has been considered to be due to a microbea—streptococcus, a staphylococcus, a lactosi-fermenting bacillus, a diplococcus or quite recently

to a spirochete. Some believe that the disease is local due to irritation by tartar or calculas, bacteria or food debris, and some trace it to mouth breathing, the presence of bacteria being explained as only casual or passive. That the disease is merely a manifestation of a constitutional breakdown has of late gained conside. rable support by the vitamine theory of causation of diseases.

Signs and symptoms.—A thin red line about a millimeter wide running parallel to, and about its own width distant from the gum margin is a sure sign of commencing pyorrhoea. Sometimes, however, the gum is thick and spongy—especially at the processes between the neck of the teeth—and easily bleed in brushing teeth. Later the gums recede, tartar collects under the gum margin, gums become much inflamed and turn darkish, due to the engorgement of veins. On pressing the gum, pus oozes out in the last stage. Finally the alveolus is involved, becomes first inflamed and then absorbed thereby loosen the teeth.

Like syphilis, the local symptoms of this dire disease are too simple to require any urgent medical relief much less dental. Tenderness of the gums at one side of the jaw shifts the mastication process to the other side, the bad taste in the mouth and the bad smell noticed by others are generally unheeded. But when the pus or toxin upsets the general system, a loss of energy, anaemia, a feeling of irritability and inability to get up cheerfully in the morning are noticed.

Consequences:—On swallowing the pus and toxins with food or saliva, the stomach is upset, resulting in loss of appetite, vomiting, flatulence, heart-burn and pain in the stomach. A septic gastritis will be set up, organisms invade the wall of the stomach or bowels, and a gastric or duodenal ulcer may result. From the intestine, gall bladder or appendix may be infected and inflamed, or a diarrhoea set up.

The pus and toxins may directly infect and produce tonsillitis, pharyngitis or adenoids and through the media of the Eustachian tube middle ear disease or neuritis of the auditory nerve (tinnitus). The eyes and nose stand to be [illegible]ded directly through the naso-pharynx or indirectly through blood stream [illegible] affections as iritis, optic neuritis, etc, are traceable to Pyorrhoea. From Pharyngeal affection, laryngitis follows or even Bronchitis, Pneumonia, Pleurisy, Asthma, or Consumption may be lighted up.

With an intense poison circulating in the blood, the vital organs of the body cannot but yield to it sooner or later.

The heart muscle, the arterial wall and the kidneys are too often damaged, resulting in anaemia, as well as depressed or suppressed excretory function of kidneys, and thereby increased poisoning of system. Many authorities hold that diabetes may be caused thus from oral sepsis.

Rheumatoid arthritis is universally attributed to Pyorrhoea either due to direct poisoning or its effect on intestinal stasis or insufficient nourishment to the nerve cells by anæmia.

Deaths from Pyorrhoea directly are uncommon; no doubt, many die of the consequences, above referred to, of septic absorption.

Treatment:—In early stages of inflammation, the disease is amenable to simple remedies. All that is necessary is to maintain hygiene of the mouth, to drain and

clean the "Stagnation areas" from tartar, food debris, etc., and to correct any defect in constitution or to supplement any deficiency in food. In case of mouth breathing adenoids or tonsillitis have to be eradicated.

The treatment of Pyorrhoea Alveolaris during purulent stage, so far followed, is most discouraging and hopeless to the safety of teeth. This has been due to the neglect of the medical attendant in disregarding the early signs of the disease, and of the Dentist in restricting his attention to local conditions alone. Thanks to the researches during the great European War, both the responsible quarters have begun to join their forces together and the early recognition of the disease and safe and sure requisition of the nature's own Resisting Power to combat the disease even in its purulent stage are dawning in the minds of the profession. The doubtful etiological factor will not come in the way to recognise that the purulent state of the jaw and mouth brings on a state of acute poisoning in the body.

One of the elements essential in the fight against infection or toxins circulating in blood has been found to be calcium. Calcium occurs in blood in two forms, ionic and combined. The ionic calcium in blood is much reduced in chronic and acute infections and in case of Pyorrhoea Alveolaris is being lost and deposited round the teeth as tatrar. Hence the importance of diet containing absorbable calcium. In considering the nutritious factor of the diet, the benefit of vitamines cannot be lost sight off. Pyorrhoea is a disease of "civilized condition of life" as birds and monkeys kept in captivity are prone to catch it. Diets consisting of fresh vegetables, fruits, raw milk, eggs and greens constitute most to prevent or cure the disease. If under-feeding in diseased condition is bad, over-feeding is suicidal. For one must not forget that the digestive, assimilative, circulatory and excretory organs are working uphill to get rid of the toxin.

Fasting, complete or partial, will thus be a useful factor in not only giving rest to all the above organs but also to burn up the toxins by living cells.

In glandular therapy, there is a ray of hope that the so-called hopeless diseases will yield to it one day or other. The internal secretions of endocrine glands act as an adjunct in excretion of the toxin and production of immune bodies thereby correcting the constitutional defects. In Pyorrhoea Alveolaris, pituitary and adrenalin have this effect, though for a time only, and the morning next after the injection the patient feels a buoyant life and the gums change to their full colour. Against the uni or Pluri-Vaccinists, a note of warning should be sounded, that they are dealing with a highly, although dead toxitious poison, and that the results so far attained from vaccine therapy are most discouraging if not doubtful. As per the finding of Naguchi and confirmed by Mrs. Kritcheusky and Seguin, injections of neo-salvarsan ultravenous or intravenous are advocated. The local pockets are daily injected from 10 to 20 grms. with water or Glycerine and 4 to 5 intravenous injections of small doses are advocated. 70 per cent of the cases are claimed to have been successful. But even admitting the etiological factor of the trephenoma, it may not be long before spirochete will be found to yield to simple salts and acids contained in our food stuffs as malarial parasites do to citric acid or lime. In fine, the so-called radical treatment by extracting all teeth diseased or suspected, implies admission of failure on the part of the medical and dental profession.

After however warning against the grave dangers of purulent stage of Pyorrhoea Alveolaris in allowing it to continue its ravages, and after removing the hopeless teeth and local irritating factors, as tartar, etc., the patient must be given a good opportunity to fight out the disease by fasting treatment, glandular therapy and sufficient vitamine containing diets not to mention other hygienic ways of living, eating and cleansing.

SOME ASPECTS OF BLACK-WATER FEVER*

By

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The ætiology of Black-water Fever is still a sealed book to medical science and this paper based on my experience in treating about 20 cases may be able to throw some light on the subject. The place where I am working is a huge swampy area where myriads of anophelene mosquitoes breed. During the monsoon months—May to November—the high level of the sub-soil water and the high moisture content of the atmosphere make the place a rare hot bed of malaria.

It has been admitted since long that Malaria and Black-water Fever go hand in hand and it is rare to find cases of B.W.F. in non-malarial areas. If stray cases are seen they occur in people who had spent sometime previously in malarial districts.

I have the advantage of a good microscope and some good stains in my hospital. I take the blood of all B. W. F. cases before beginning treatment. All my slides are stained with "Wright's stain." The following are my observations:—

1. In some slides I found mature forms of malarial parasites and crescents.
2. In some slides crescent only.
3. In some slides no parasites at all.
4. In some slides the corpuscles assume various curious shapes which are stained lightly—a stage of corpusclular breaking up.
5. Some corpuscles though not distorted are larger in size, stain also faintly—a prior stage to breaking up. In early acute cases these forms are very apparent.
6. Further the blood coagulates slowly and its consistency is pale, red, and watery.

Any careful observer would be able to see these points and I am sure every observer did note them but their conclusions were wide off the mark and probably biassed. They presented only that part of the blood picture which was in accordance with the theory which they had already conceived in their brain. Advocates of malarial theory chose probably only those cases, where they found malarial parasites or crescents in blood; and specific theory men, those cases where there where no parasites.

The Quinine theory of Black-water Fever also is biassed. Men advocating this theory probably were not aware of the phase known as 'Latent Phase' of B. W. F. This phase precedes the acute onset. An injection or an oral administration of Quinine immediately flares up this latent form. In my own experience I had a couple of cases of this type.

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* Specially contributed to the Antiseptic.

The latency of B. W. F.—This is the crux of the whole affair and this requires elaboration by workers who have got a well-equipped laboratory at their disposal.

The following is my view:—Chronic attacks of Malarial Fever impoverish the corpuscle elements of the blood and the normal alkaline phase of the blood is upset bringing above an acid phase with the presence of acetone.

During this latent phase the patient will give you the following symptoms:—

1. Burning pain during micturition.
2. Frequency of urination.
3. Throbbing sensation in the head.
4. Giddiness.
5. Vague pains all over the body.
6. Slight temperature.
7. Certain visionary disturbances of the eye.

The acute symptoms of the Black-Water Fever flare up suddenly as the result of an injudicious diet, containing an excess of acid substances, such as limes, lemons, tamarind or butter milk. As I said before, administration of quinine at this period has the same effect.

Treatment is finished in one word 'Alkalies.' On this basis I treated all my cases successfully without a single mortality. I administer Alkalies intravenously as well as orally. A temperature of 102° F or 103° F is no contra-indication of intravenous administration. I chose a 5% Sol. Calcium Chloride in normal saline beginning from 5 c.c. doses to 10 c.c., every day till the acute symptoms subside. Further this is supplemented by sips of Sodium Bicarbonate sol. as often as possible.

Quinine even in small doses should be absolutely withheld. Presence of malarial parasites in blood should not be an excuse for administering quinine. Our aim and only aim should be to restore the alkalinity of the blood and to prevent the haemolysis of the RB's. Quinine even in small doses increases the hæmolysis, blocks up the urinary capillaries, causing fatal suppression of urine.

By my method of treatment acute symptoms clear up within 48 to 72 hours: Urine becomes clear and the temperature comes down. When the acute symptoms cease, injections may be stopped but the oral administration of alkalies may be continued for a week. The hæemolytic jaundice which is invariably present, clears up in the course of a week. All acid things should be scrupulously abstained from.

One would ask me "what about those cases where malarial parasites were found in the blood?" I always examined these during their convalescence. I found the integrity of the corpuscles restored and the blood has regained its normal consistency. The parasites were loosing their hold gradually day by day, probably destroyed by the Leucocytes or in the spleen naturally.

In bringing the above observations to the notice of the profession I was guided only by the immense success, I had been adopting this alkaline treatment and I say that "Black-Water Fever is nothing but acidosis" brought about by chronic malaria.

Since the publication in the June 1922 issue of the Indian Medical Journal of my article entitled, "A new method of treating Black-Water Fever" a firm of Chemists in Germany wrote to me that they have stocked this solution in sterile ampules with the addition of a little urea. They called it 'Knol Afinil' and have favoured me with a few samples for trial. I am waiting for the next suitable opportunity to put it on trial and I shall let know the results to the profession through the medium of your esteemed journal later.

PREVENTION OF MALARIA*

By

A. Viswalingam, L. M. S.

In discussing the subject of prevention it is important to consider briefly certain points in the ætiology of disease.

There is a tendency in these days to ascribe the cause of almost all diseases to some microbe known or unknown. This has led to attention being focussed on these organisms to the almost absolute exclusion of other factors. That all living beings are governed by a something we call force which is capable of adapting itself according to circumstances and environment, is sometimes lost sight of. We must therefore consider not only microbes which are almost universal, but also other factors that make it possible for them to get a footing in man. Climate, food, clothing, work and environment are as important as germs in the ætiology of disease. We are surrounded by millions of these lowly organisms. Our skins and mucous membranes teem with germs, and yet they have no effect on a healthy individual. In fact many of them are so beneficial to our well-being that we cannot do without them. One may catch a cold and some microbe is too often accounted to be the cause without attention being paid to the climate, atmospheric changes, etc., which may have changed or upset the normal course of events bringing about not only catarrah of the respiratory passages but also disturbance of the alimentary and other systems where the changed conditions provide suitable soil for the growth of bacteria which are always found in them.

It is easier for a man to understand himself his capabilities and limitations, and equip himself for the struggle for existence, than to attempt to exterminate all the innumerable living organisms that are supposed to cause his ailments. It is well recognised that microbes in themselves cannot cause disease and that there is the power of one's resistance to overcome their deleterious effects. It would be more rational to try and raise this quality to a high standard of efficiency than to rely on the doubtful result of a fight against factors over which it is impossible to have complete control. For, to attack the microbe whilst neglecting one's powers of resistance is equivalent to an army taking the aggressive in a battle without setting its own defensive forces in order.

So in the case of malaria we should not concentrate our efforts solely on the microbe or anophelene, but direct more attention to the other factor (Man). Microbes and mosquitoes have their place in the economy of the universe and they

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* Specially contributed to the Antiseptic.

are endowed with powers to adapt themselves to circumstances and surroundings as a human organism is. We are all convinced that there cannot be malaria without mosquitoes, and we should now recognise that the mosquitoes will be powerless without a source of infection (Man). It may be that the parasites are as unwelcome to the gnats as, say, trichiniasis or hydatid disease to man. It may also be that by interfering with natural conditions under which they live we force these insects to seek a "bloody" diet instead of their usual food of plant or vegetable juice. We do not know for certain if it is by preference that mosquitoes bite man. It is too well-known that mosquitoes are specially active and malaria more rife in places where clearing of jungles or de-forestation is carried out. This not only serves to disturb the natural home of the insect, but also to interfere with the usual order of its life as regards food, etc. The increase in their numbers in these localities may also be due to their being liberated from their natural enemies, viz. birds, lizards, frogs, fish, etc.

Again, the ancients incriminated miasma and waters of marshy lands as the cause of malaria. It may be that they were right not only because mosquitoes abound in these regions, but also because the inhabitants were adversely affected by the air and the water. We know that the nature of our secretions and composition of the body depend on the food and the water we consume, and the air we breath. The miasma, the waters and other factors may so change our constitution and secretions as to make us not only susceptible to the invasion of the parasites but also perhaps to render us peculiarly attractive to bites of insects. For we know they are attracted to their prey not only by sight, but also by the sense of smell which is more highly developed in them than in man.

In tropical countries it is futile to think of eradicating malaria or mosquito-borne diseases solely by a warfare against mosquitoes. It is too gigantic an attempt and would result in the expenditure of vast sums of money in drainage and other operations which are impracticable throughout the country. Besides, we know that natural conditons are favourable for their growth and multiplication. With all the vegetations, innumerable swamps, ravines, pools and rivers that abound in them it is not within "practical politics" to eradicate mosquitoes in a tropical country. If we fill up a swamp or pool, these insects adapt themselves to the changed conditions by laying their eggs in small collections of water on the foliage of plants and in holes in trees and rocks, etc. If we exterminate a known carrier we find another taking its role. We may, if we persevere, diminish their numbers, but an entire eradication is out of the question. This being the case we must look for protection to other factors. It would appear as the most rational method of the two.

It is too well-known that every man that gets bitten by an infected mosquito does not develop malaria. A normal individual who is fairly healthy may have every chance of killing these parasites in the blood. The higher the standard of health, the greater the chance of overcoming the infection. The man who is best adapted to resist disease is one who leads a normal life under natural conditions. We see people living in the midst of an intensely endemic area of malaria and yet escaping infection though living under exactly the same conditions

and exposed to the same danger as their neighbours who succumb to the disease. If microbes in themselves could cause malaria this would be impossible. Again we observe local inhabitants who are immune to malaria not only by means of an acquired immunity resulting from infection during childhood (Germ Theory) but probably due to their having acquired better means of adaptability to changed conditions. We also see many persons harbouring these parasites in their blood who are yet none the worse for it.

In every community or country disease is prevalent mostly among the ill-fed ill-housed, poverty-stricken inhabitants that form the mass of the people. Malaria in the tropics is most prevalent amongst the poor classes and the field labourers who are exposed to all the factors that contribute to contract disease. They live in temporary or semi-permanent huts which are not often built according to sanitary laws. They are engaged in clearing jungle, digging earth, etc., night and day. These people eat food very much below the physiological requirements. The nature of their work, their scanty dress, etc., all expose them to the bites of insects that abound in their surroundings. Most of them sleep on the bare floor of earth or cement both equally damp with seldom a blanket to cover their frail bodies and seldom if ever with a net to protect them from the bites of insects. The lack of good food and water, clothing, etc., has helped to spread the disease more than a host of mosquitoes. Let us see what happens to a labourer who takes in with malaria. He probably goes to a hospital where he remains till he is cured of his fever and may be discharged at once at his request, or he may remain a few days more after the fall of temperature and be discharged convalescent. He may, and in most cases he does, harbour the parasites, and but for the fever which has temporarily subsided after the few days rest in the hospital he is still a sick man and a source of infection. He returns to his old surroundings, breaks down under the strain of work, gets a relapse of fever and again goes to the hospital from where he is again discharged convalescent, for, otherwise, there will be no accommodation in the hospitals if every convalescent labourer is to be kept till he is quite cured.

This "vicious circle" is kept going until at last he is found inefficient and worthless as a labourer and is discharged from his employment, a focus of infection and a source of danger to his community, unable to earn his living, unfit to serve the purpose of his existence and becomes a burden either to the State or to the community.

We must realise that it pays better in the longrun to pay adequate wages, to see the labourer is well-housed, well-clad, and well-fed, and made to do his work under the best possible conditions, paying special attention to those that are specially exposed to infection by nature of their employment. The huts should be screened and made mosquito-proof. When patients take ill valuable time should not be wasted in the hope of a rapid recovery by keeping them in their houses. On their return from the hospital they should undertake such form of labour as may suit their state of health. Every endeavour should be made to maintain the health of a labourer at a level to fight malaria or other diseases. Convalescent homes must be opened to keep those patients who can be discharged from the hospital but who may be unfit to resume work. The importance of eradicating malaria

will receive more attention if it is realised that those afflicted with this disease prove easy victims to diseases, such as, Ankylostomiasis, Pneumonia, Dysentery, and Tuberculosis, which are rife amongst the labourers to an alarming extent. The cure of these diseases in combination with malaria may be said to be almost a failure.

It seems to be evident that if a patient is treated so as to completely restore him to strength and thereby render him more capable of resisting a return of the disease that patient will become one source the less for the operations of carrier mosquitoes. In present methods the infected individuals are allowed to remain a constant source of infection from whom the Anophelene draws the virus for inoculating others. If this is conceded it becomes obvious that the draining of swamps and the destruction of mosquitoes must go hand in hand with concentrated efforts in eradicating or suppressing the virulence of the malarial parasites in those already affected by the disease, who will otherwise remain a potential danger which any stray mosquito can multiply to the detriment of all. We must therefore look for protection more from within than from without. To raise your fellow man's physical standard of efficiency to fight disease would be not only an act of humanity but also a wise investment and a help to preventive medicine.

The above is written not so much to disparage anti-malarial measures such as mosquito destruction as to emphasise the other side of the problem, *i.e.*, the human factor, which does not appear to have received the attention it deserves not only in the prevention of malaria but also of other diseases.

TREATMENT OF AMOEBIC DYSENTERY

By

H. N. Bagchi, Assistant Surgeon, Tropical School of Medicine and Hygiene.

In the following pages I intend to discuss the treatment in vogue for Amoebic dysentery; at the same time I shall refer very briefly in passing, to the signs and symptoms of the disease. I shall discuss the different stages of the treatment as well as the diet question by an actual reference of a case watched by me. Amoebic dysentery as is known to all is a specific intestinal disease caused by the introduction through food or water of Loeschia histolytica inside the alimentary canal. The disease gives rise to passage of frequent motions containing blood and mucus in association with tenesmus and tormina. It produces in some colitis and enteritis, whilst rectitis and prolapse of the intestine are not uncommon more especially in children.

Mr. M. H.M. aged 40, got an attack of dysentery in September last. His symptoms were passage of frequent motions containing small quantity of blood and mucus intimately mixed with a little faecal matter which were associated with abdominal pain and tenesmus. He had an attack of fever, his temperature being 100° F., and his pulse at the time 110 p. m. He passed about 30 stools on the 1st day of his attack.

Microscopic appearance of stool:—Smallish stool, brownish red in colour, mucus and blood intimately mixed with little faecal matter and in places mucus found in lumps like sago grain. A sample of the stool preserved in 4 parts of saline solution was being sent for bacteriological examination. As the patient was greatly distressed

for the intestinal gripings and tenesmus I advised a flannel binder for the abdomen with instructions to foment the abdomen. The relatives were enjoined not to allow the patient to get up as it might retard his recovery and there was a danger of his ulcer breaking down by exertion. Without waiting for the result of stool examination I gave intramuscular injection of emetine Hychochlor gr I. just by way of clinical test. There is a belief with many people that emetine directly kills the Entamoeba Histolytica. Dale and Dabell have experimentally proved that even in 1% Sol. emetine failed to do harm to E. Histolytica. Dale has suggested that the therapeutic efficiency of emetine is due to the result of its action on the tissue of the host rather than on the parasite.

I prescribed the following powder collected from Col. Barnordo's clinic:—

Rx

Aspirin
Sod. Salicylas } a a gr i
Pulv. Ipec Co

Creta prep gr. iv.

To be taken every 6 hours.

The rationale of giving the above will be apparent when we remember that mucinogen is converted into mucin in the intestine, and it is the property of bile to fix the mucinogen and thus prevent its forming mucin in the intestine. The drugs he uses for this are reputed cholagogues. There is a practice of giving salines with emetine treatment to prevent water-logging the system as well as for washing away the amaebae and necrotic material from the system. By prescribing Pulv-Aspirin et Ipec Co. I was assisting the flow of normal bile which has antiseptic and purgative properties at the same time. Moreover emetine acts far more powerfully in the presence of bile than emetine alone. In old days Ipecac root powder in doses of 30-60 grs. was employed in the treatment of dysentery. It used to cause nausea and vomiting and to prevent this morphine or Tinct opii was prescribed a few minutes before the administration of Ipecac powder. It used to be given after a two or three hours fast following a saline purge, and no food or liquid must be administered for at least a couple of hours to prevent vomiting. Sometimes we have to keep the patient in the recumbent posture and apply Sinapism to abdomen to prevent vomiting. The patient was kept on plain boiled water for the 1st 24 hours of the attack. The report of the stool examination result was as follows:—

Few motile Entamoeba Histolytica found. Many degenerated pus cells, R. B. C. mucus and Charcot Leyden Crystals present in that specimen of stool. Reaction of the stool was acid and laboratory diagnosis was amaebic dysentery.

2nd day.—Temp. normal, stools 10; it contained blood, mucus and a little faecal matter as well. Tenesmus and tormina diminished in severity; tongue coated but moist. Pulv aspirin et Ipec Co by mouth and Emetine Hydrochlor gr i with Sol. adrenalin chlor. ½ c.c. injected hypoder. Emetine is a cardiac depressent to counteract which it is my practice to give it with sig adrenalin chlor. or precede by a dose of Makaradhuj by mouth.

Diet :—Barley water and weak tea sweetened.

3rd day.—Temp. normal, stools 5 containing blood and mucus intimately mixed with a greenish stuff. Tenesmus and Tormina gone. Pulv Aspirin et creta prep by mouth t. d. s. Emetine with Sol. Adremalin Chlor ½ c.c. given hypoder.

Diet :—Barley diet, lime-whey and a little Horlick's malted milk.

4th day.—Temp. normal, stools 3, semi-liquid greenish yellow having a tinge of blood in it, mucus being intimately mixed with the stool. Pulv aspirin et creta prep by mouth t. d. s. Emetine Hydrochor gr. i injected hypo-stat.

Diet :—Barley diet, Horlick's milk, Ghale and a few Biscuits (thin arrow root biscuits.)

5th day.—Temp. normal, 2 formed stools containing pinpoint mucus here and there intimately mixed with it but no blood. Pulv aspirin et creta prep by mouth. Emetine injection hypo-stat. Diet Horlick's milk, Bael sarbat (unripe bael roasted in the ovun and sarbat made by emulsifying in water and straining through muslin) and a few biscuits.

6th day.—Stool 1, moderate quantity. Tongue moist and clean, patient feeling distinct returning of his appetite. Pulv aspirin et Ipec Co by mouth t. d. s. Emetine Hydrochlor gr. i injected hypoder and Isoofgul sarbat. Diet, rice diet with magoor fish, curry and milk.

Here patient went for a change and was advised to carry Emetine Bismuth Iodide Salol coated tablets with him, three tablets to be taken at bed time, and that a course of 6 doses be taken in succession. The idea of giving the drug at bed time is that when stomach contents are acid the drug is well tolerated. Moreover a full course of treatment means 10 grs. of Emetine injected on as many days which will free a patient of all symptoms of dysentery and of E. Histolytica for at least 6 months' time.

A CASE OF CHOLELITHIASIS.

By

P.K. Kurup, Sub-Asst-Surgeon, Government Head-quarter Hospital, Coimbatore.

The patient was a Mohamadan girl K.B., aged 15, who complained of pain in the right hypo-chondrium. Duration, three days. Patient had a similar attack of pain at her house some months ago, but was cured with some house remedy, though temporarily. Now, she felt pain not only in the right hypo-chondrium, but also radiating to the epigastrium and even to the back and right shoulder, the pain in the last site being of a tingling character. There were nausea and vomiting after meals. A rise of temperature 102° F was seen with every attack of pain, more or less paroxysmal in nature. The vomiting used to give some relief to her. Appetite impaired and bowels loose.

Physical examination revealed that the lass was ill-nourished, eyes sunken and the cunjunctivae icteroid. Tongue coated white. Slight fullness in the right costal margin. The stomach and intestines normal. Spleen slightly enlarged. Liver, the lower border of it palpable. Arca of G. B. tender. Rigidity of the right rectus abdomen is present and Murphy's sign predominating. Heart and lungs did not show any changes except that the heart-beat was a little weak. (Here I am of opinion that the weakness of the heart in this case is probably due to the paralytic action of bile salts on the cardiac ganglia.)

The treatment given to her was first a purge. Then she was put on morphia for pain. Milk and coffee formed her diet. As regards medicinal treatment the specific olive oil was given internally for three days. Then I found the conjunctivae clearing. She said that she felt better, and had no pain. I must say that olive oil is our sheet anchor in gall-stones as morphia is in acute mania.

Comment.—I hear from my colleagues that they too saw cases like this, in Mohamadan women. I think that there is something which makes this malady predominating in them. This special predilection to this race and sex, I attribute to the "shut-life", and the lack of proper exercise to the liver and consequent stasis of bile. Another point is the tight way of wearing garments.

Osler in his Medicine says that pregnancy has something to do with it, rather it has an important influence, I think, in the occurrence of this disease as observed more in pleuripara than in primi or nullipara.

In conclusion I request my readers to be kind enough to look into the etiology of this disease and whether the particular race or sex has got anything to do with it.

ELECTRIC LIGHT THERAPY (CLINICAL CASES.)

By

U. Venkata Rao, L.M.P., Medical Practitioner, Madras.

Case 1. Mrs. Mohamad Bai, aged 19 years, had a severe attack of Dengue fever last October. The fever and pains lasted for 12 days. Five days after the attack of fever she developed swelling on the right side of the neck involving the cervical glands. In two days the swelling extended to the shoulder and back and the right arm became immovable. From this day she came under my observation. Temperature was 104° F., severe tingling pain on the whole of the upper arm and the front of the shoulder, including the scapular region, and the right side of the neck was much swollen. I advised hot water fomentations, Belladonna pigment with Ichthyol externally and Sodii Salicylas with Antipyrin mixture internally and a dose of veronal to produce sleep. In two days the swelling subsided in the neck and back but the whole right arm from shoulder to the wrist and back of the palm were swollen to double the size. The same treatment continued. After four days, namely, on the 12th day, the temperature came to 100°F., the pain subsided, the swelling on the forearm went down considerably, but the upper arm and the elbow joint were double the size, hot and hard to feel. I stopped Belladonna and began to apply antiphlogestine fearing an abscess would develop on the inner side of the shoulder and internally gave Salicin. Four days after the temperature was normal, the swelling on the upper arm reduced, but the shoulder joint was still the same. The lymphatic gland on the inner side of the elbow was of the size of a lime and hot, and the whole of the lymphatic vessel swollen and felt like a cord from the axilla to the elbow. All these days she was not able to move the hand, but the tingling pain had subsided. I stopped the antiphlogestine and began to paint Tinct. Iodine after hot fomentations. This was continued for another ten days. After this period I advised gentle massage by rubbing the arm with equal parts of ghee, cocoanut oil and neem oil and hot water fomentations. This was continued for another two weeks,

When I saw her again, that is two months after the beginning of the swelling, the right elbow joint was 1½ times the left normal one and the upper arm also was a little swollen. She was not able to move the forearm without the aid of the left hand and even then she was able to bring the forearm to an obtuse angle to the upper arm and no weight she could lift. She was tired of eating through her left hand. I suggested light treatment from December 10th for two weeks. I showed Blue light carbon 16 C.P. for half an hour every day. By that time the swelling subsided considerably and she was able to touch the chin with the fingers though with the aid of the left hand. Another 20 days I showed Violet light carbon 32 C.P. every alternate day. The patient was able to carry her hand to the head without the aid of the other hand. She was able to eat with the hand and was able to lift light weights. I made her to carry a stool with difficulty. The swelling almost disappeared except at the back of the elbow joint. The node-like feeling on the inner side of the elbow was reduced to a pea-size, and the cord-like feeling of the lymphatics disappeared. I continued the treatment for another two weeks. She was able to tie her hair. But the swelling of the joint on its back still continued and I strapped the joint by means of j and j. Belladonna plaster for five days and applied light over it. After a week the patient's arm was completely alright though the elbow joint looks a little stouter than the left elbow joint.

Case 2. Miss Saraswathi, aged 10 years, had been suffering from enlargement of the right cervical glands, three in number, of the size of a marble each, for the last four months. After continuous painting with Tinct. Iodine, morning and evening for a week, the swelling would disappear and after 20 days again the glands would begin to swell. Thus three times happened. I suggested excision, but the parents were not for it. I wanted these glands to coalesce and to point. I applied hot antiphlagestine for four days. This brought on pain and inability to shake the neck, and the glands appeared to coalesce but not pointed and was very hard. I then began applying Red light carbon 32 C.P. for 15 minutes twice a day. After the third day—6th application—the patient's temperature rose to 103° with rigors and the swelling though increased had no nodular feelings, but became abscess-like. The next day I opened the abscess and about two ounces of white cheesy pus escaped. The next day the temperature was normal. On the fifth day after the opening the abscess completely healed.

Case 3. Mr. Appadorai Mudaliar, aged 30 years, suffered from an abscess on the back at the left supra-scapular region. A circumscribed swelling about 3 in. in diameter and two inches in thickness. Hard and painful swelling, temperature 101° F. No sugar in the urine and the patient was unwilling for operation. Applied Red light carbon 32 C.P. for two days twice a day 15 min. at a time and hot antiphlogestine applied. On the 3rd day the abscess burst at 3 points and some pus escaped. The application of Red light antiphlagestine was continued for three more days. The openings became big and several in number and with gentle pressure most of the pus and some cheesy matter removed and the openings plugged with Iodoform gauze as far as possible. From next day onwards in about a week the whole abscess was thoroughly healed, except one opening which required Iodoform powder and plaster for another week.

THE ANTISEPTIC

APRIL, 1923.

RETRECHMENT IN GENERAL HOSPITAL.

We understand from reliable sources that the Senior Medical Officer in the General Hospital has recommended to the Government of Madras to cut down the number of Assistant Surgeons now working in the hospital and substitute them by House Surgeons recruited from among the new medical graduates. It would seem that he could manage the institution with three or four Assistant Surgeons, and the services of the rest could with advantage be dispensed with in view of economy.

We do not know how far this suicidal proposal will find favour with the Government. It is really a step in the right direction to encourage the recruiting of young men of the medical profession to work in the hospitals as House Surgeons and Physicians. It gives them that highly desirable training in all the departments of hospital work, which every one who has got the interests of the profession and the growth of independent medical profession at heart would like to see cultivated. But it loses all its redeeming features, if such a course of action is to be followed at the expense of the efficiency of a great institution. The one reason why the people in this presidency have got that supreme faith in the treatment administered in the General Hospital is due to its efficiency, in the matter of cure, and this healthy feeling could be sustained only by having the services of a suitable number of experienced hands. The number of Assistant Surgeons now working in the hospital, are the irreducible minimum, and any attempt to reduce them further would seriously affect the efficiency and prestige of the institution. At the same time, we would like to have as many House Surgeons as possible recruited from among the young men who have just come out from the University. The services of many House Surgeons and Physicians in the hospitals would really add to the efficiency of the institution. Civil Assistant Surgeons, we do want to continue to be in charge of the

It was almost a scandal that the highly paid medical officers, were receiving fat sums as allowances in addition to their pay. We fail to see why medical officers should receive such sums of money, when they are bound by duty to serve the department, in lieu of their monthly pay. The Committee enters its dignified protest against this kind of extravagance and suggests rigorous curtailment of allowances.

By carrying out retrenchment under these various heads, the Committee anticipates a net reduction of Rs. 3,45,500 in the provincial expenditure. We would invite the attention of the Madras Government to these figures.

CURRENT TOPICS.

SURGERY.

Haematuria as seen by the Surgeon.—ANDREW FULLERTON, F. R. C. S. I. When a practitioner meets with a case of hæmaturia he should be careful in acertaining the source of the hæmorrhage, whether it is from the kidney bladder, ureter, or the prostate. The use of a cystoscope or an urethroscope in a particular case must be well considered before its introduction along the urinary passages.

General considerations:—If the blood is intimately mixed with the urine it is probable that the source of the hæmorrhage is the kidney. In such a case the urine is dark, red or smoky in colour. But this is not always the rule. The presence of frequency of micturition is always strongly suggestive that the site of hæmaturia is the bladder on the prostate. Frequency and bleeding in an old man will at once suggest an enlarged prostate. If frequency of micturition and hæmaturia are combined with pains in the glans penis, scalding and urgency and if in addition pus and mucus are present the diagnosis of cystitis is justified.

If the hæmorrhage is before or at the beginning of micturition it comes either from the prostatic urethra or the anterior urethra. Blood issuing from the urethra independent of micturition is usually from the anterior urethra. If the urine shows a number of clots it is often of bladder origin but it might also occur if the kidney is injured either by gun-shot wounds, crushes or strains when clots may form in the bladder. The size and shape of the clots often aid in the diagnosis of the case. Long casts often indicate some trouble either in the kidney or the ureters and short ones from the uretheal. Microscopical examination of the urine for renal-casts, cells from bladder, ureters or kidney, pus-cells, crystals or micro-organisms are often useful aids in the diagnosis of a case.

I. AFFECTIONS OF THE KIDNEY.

(*a*) *Tubercle of the Kidney*:—Nearly 75 p. c. of these cases give a history of haematuria and in the majority of cases observed especially in tubercular affections

of the urinary track the primary focus was found to be in the kidney. The haematuria in this condition is the same as in advanced cases of cystitis.

(*b*) *Renal haematuria.*—In this there are very few symptoms present to indicate the presence of haemorrhage. The haemorrhage is more or less severe, persistent and is seen to issue from one of the ureters. During the intervals the urine may be clear and the patient fairly healthy. On cystoscopic examination the bleeding may be found to be unilateral.

(*c*) *Renal Calculus.*—The two cardinal signs of Renal Calculus:—Renal colic and haematuria. Vomiting is also frequently present. A history of Renal colic with or without blood, the presence of pus, the presence of albumin, diminished S. G. of urine on the affected side where the flow of urine is obstructed always points to Renal calculus, but Radiography will certainly detect the smallest calculus and confirm the diagnosis. A ureteral spasm or tuberculosis of the kidney often simulates Renal colic.

(*d*) *Pyelitis*:—This condition is recognised by the presence of pus on one or both sides. This is usually an asanding infection caused by B. Coli, or other pyogenic organisms. The haemorrhage is slight and the patient often suffers from high fever and rigors. X-ray confirms the diagnosis.

(*e*) *Renal tumours and cystitis.*—These are hypernephrana, malignant adeno.na and sarcoma. The bleeding may be little or profuse but the haematuria is often painless and occasionally clots are passed. To distinguish from renal calculus, an early X-ray examination is always safe.

(*f*) *Nephritis*:—In this the haematuria is always attended by any one or two of the following symptoms:—casts in the urine, albumin during the intervals, albuminuric retinitis, oedema of face and extremties. This usually disappears under medical treatment.

(*g*) *Injury to kidney*:—Slight strain often injures the kidney and gives rise to considerable haemorrhage. In severe injuries a haematuria around the region of the kidney, severe pain, and clots in the urine are the essential features that lead to a correct diagnosis. Occasionally, however, operative measures are required.

(*h*) *Hydro-Nephrosis*:—The chief signs and symptoms of this condition are pain, vomiting and a tumour in the lumbar region. The S. G. of the urine on the affected side is lowered. Haematuria is not an essential feature although it may be present in some. X-ray is very useful in the diagnosis.

(*i*) *Pyonephrosis*:—In this condition there is profuse discharge of pus with little or no haematuria.

(*j*) *Movable kidney*:—The kidney is movable from side to side, considerable pain, and haematuria little or absent. The S. G. of the urine on the affected side is lower than that on the sound side.

(*k*) *Horse shoe-kidney*:—Oscaluria, Henock's puripura and accessory renal arteries are other abnormalities which are usually very rare.

II. "AFFECTIONS OF URETER"

(*a*) *Ureteral calculus*:—The signs and symptoms resemble those of Renal calculus but are only diagnosed by X-ray.

(*b*) *Injury to Ureter* :—Rare.

III. AFFECTIONS OF BLADDER.

(*a*) *Cystitis.*—In this condition, the haematuria occurs at the end of the micturition in the form of a few drops of blood with the last drops of urine. The causal organism is usually B. Coli communis. In some cases the blood is mixed intimately with the urine.

(*b*) *Tumours of bladder.*—These are often accompanied by severe haemorrhage and even formation of large masses of clots in the bladder. But in some the haemorrhage is very trifling. Papillomata are the most common tumours met with and the malignant tumours are of equal importance, especially in the aged.

(*c*) *Vesical calculus* :—The haemorrhage is very little and it usually occurs at the end of micturition. This condition is usually accompanied by cystitis and hence the difficulty in its correct and early diagnosis. The sudden cessation of the stream of urine and the pain at the point of penis may be found in both the conditions. Only X-ray examination confirms the test. The use of a sound often helps in detecting the stone but in all cases of suspected vesical calculus a preliminary cystoscopic examination must be made.

(*d*) *Ulceration of the Bladder*:—This condition is frequent in tubercular disease of the bladder, cystitis and malignant disease. The haemorrhage is very slight.

(*e*) *Rupture of bladder vessels* :—This is often caused by straining.

(*f*) *Bilharzia Hæmatobia*:—Haematuria occurs at the end of micturition, but other urinary symptoms are absent.

(*g*) *Injury of Bladder*:—Very common in fracture of pelvis.

IV. AFFECTIONS OF PROSTATE AND URETHRA.

(*a*) *Enlarged prostate—prostatitis*:—In this condition the haemorrhage is often due to the accompanying cystitis ; or the hæmorrhage may be from the vessels of prostate itself, when a number of clots fill the bladder and obstruct the free passage of urine.

(*b*) *Papilloma of the Urethra*:—The bleeding is usually profuse and independent of micturition. Urethroscope is of much use in detecting the source.

(*c*) *Stone impacted in the urethra*:—In this condition the hæmorrhage is very trifling.

Treatment:—If the hæmorrhage is profuse the patient should be kept at perfect rest and morphia gr. ½ is administered. Calcium chloride or Lactate should be given internally for a few days. Preparations of Ergot and Hazaline may be tried for sometime. Tumours, calculi and tubercular kidney usually require surgical interference. In cystitis, urinary antiseptics and lavage of bladder often stop the haemorrhage. If this fails adrenalin may be employed. A slower but more lasting remedy is to irrigate the bladder with silver nitrate solution. Failing this the bladder should be opened and the cause dealt with accordingly or a tube might be inserted and irrigation with hot water carried out. If the bladder is full of clots it

may either be removed by an evacuating catheter or if neeessary by performing cystotomy. Raising the foot of the bed is of much help and packing of the bladder has always been unsatisfactory. Bleeding from the anterior urethra can be easily arrested by pressure but if it is from the membraneous portion pressure should be applied on the perineum. If all the above measures fail, transfusion of blood or intravenous injection of gum saline solution should be given a trial.

Tetanus :—Richard H. Miller (Surgery, Gynaecology and Obstetrics) after reviewing the result of 116 cases comes to the following conclusions :—

1. Prophylactic injection of antitoxin should be given in every case in which there is the slightest possibility of development of tetanus.

2. Excision and debridement of the wound is the first essential. The wound must be kept open—neither packed tight nor bandaged light.

3. The use of magnesium sulphate and carbolic acid is of doubtful value.

4. Sedatives must be used as indicated and Lumnial is in our experience the best, given in 1 gr. doses for children and 3 grs. doses for adults.

5. We advise antitoxin in large doses by the intraspinal and intravenous route, with small doses into tissues round the wound.

Posterior Median Incision for Double Hydrocele.—G. Jean (*Archives de Med et Pharm. Navales*, p. 54).—The advantages of the median posterior incision over the inguinal incision in the case of double hydrocele are that only one incision is necessary instead of two and a more æsthetic result is obtained, the scar being indistinguishable from the line of the median raphe.

The scrotum is turned back upon the abdomen and 5 cm. incision is made in the raphe on the back of the scrotum. When the cellular tissue is exposed the tunica vaginalis is pressed into the wound. Without attempting to separate the surrounding fascia from it, an incision is made through both, large enough to admit the testicle. The tunica is then turned inside out in the ordinary way, and the operation is repeated on the opposite testicle. Two or three catgut sutures take up the skin, dartos and cellular tissue on one side of the scrotal septum, then the celluar tissue, dartos and skin of the opposite side, any bleeding points being included in these stitches. In the writer's experience this operation has never given rise to hæmatoma. If drainage is necessary it can be made at the most dependent point of the scrotum.—MEDICAL REVIEW.

Vaccines in Urinary Infections.—O. Wulff (*Hospitalstidende*, pp. 19 and 157).—At. Prof. Rovsing's hospital in Copenhagen, Wulff has treated with vaccines 108 patients suffering from bacterial diseases of the urinary tract, gonorrhœa not included. In earlier papers he has stated that infections of the urinary tract often behave capriciously, terminating frequently in complete spontaneous recovery. He

has now come to the conclusion that such spontaneous recovery is exceedingly rare; the disease may run a latent or subterranean course for a considerable time, but once established it seldom disappears of itself. Among his 108 cases as many as 92 represented infections with the coliform group, 8 with staphylococci in pure culture, 7 with a mixture of Gram-positive cocci and Gram-negative rods, and 1 with steptococci.

Four main classes are defined. In the first class, represented by 43 cases, the disease was characterised by acute, recurrent attacks of fever. In 21 cases vaccine treatment was followed by a cure, and in 16 by definite improvement. Among the 6 failures there were several cases of pyelitis gravidarum. In the second class, represented by 32 cases, the disease was characterised by absence of marked subjective symptoms and by a comparatively sluggish course. Sixteen were cured, 10 improved and only 6 unaffected by vaccine treatment. In the third class, represented by 17 cases of pyelitis with calculi there were 8 in which, for various reasons, the calculi could not be removed. Naturally vaccines in these cases could do little good. In the remaining 9 cases, in which the calculi were removed, recovery or improvement was effected, with the exception of 1 case, A fourth class, represented by 8 cases, was characterised by various peculiarities and complications which were calculated to obscure the effects of vaccine treatment. Eliminating all the cases in this class, and the 8 cases in the third class in which calculi were retained, as well as another 8 cases in which vaccine treatment was prematurely discontinued for various reasons, the writer is left with 84 cases by which the value of vaccine treatment can be judged. The results were recovery in 45 per cent., improvement in 32 per cent and no change in 16 per cent.

After an exhaustive review of the literature Wulff points out that the pessimists and sceptics have invariably had only a few cases, whereas every writer with much experience always passes a favourable judgment on this treatment. Apparently in about 20 per cent. of all cases these diseases prove absolutely refractory to vaccines; the reason for this is obscure. The most prominent effect in the class of case characterised by acute febrile exacerbations is the complete cessation of these exacerbations and the disappearance of various symptoms for a long time. This effect may be maintained for several years; in Wulff's experience up to 12 years. Autogenous vaccines are superior to stock vaccines, and an initial dosage of 10 to 30 million germs may gradually be increased to 10,000 million or more.

The Treatment of Acute Osteomyelitis.—G. Brandt (*Deut. Med. Woch.*, P. 972).—However desirable early operation in acute osteomyelitis may be, it is as a rule impracticable, as it is seldom possible to diagnose early and localise the condition before a subpereosteal abscess has formed. When such an abscess is diagnosed, the surgeon has the choice of merely incising or puncturing it, on the one hand, or performing an extensive operation with free opening up of the diseased bone. To ascertain whether conservative or radical measures are the more effective, the writer studied the records of cases of osteomyelitis treated during the past 20 years at the University Hospital in Halle. In this period, in

which more then one surgeon conducted this hospital, both systems were followed thus allowing comparison.

Among the 304 cases there were 78 deaths—*i. e.*, a mortality of 25·65 per cent. Among the 89 cases treated by incision there were only 16 deaths—a mortality of 17·97 per cent.; while among the 170 cases treated by resection of bone, there were 50 deaths—a mortality of 29·41 per cent. The remaining cases were either treated by both methods (first incision, then resection) or were not operated on at all, as the patients were moribund on admission. In both the first two categories there were several cases of septicæmia and pyæmia, and a comparison of the two methods would be fairer if these already doomed cases were eliminated. After this elimination, there remained 79 cases treated by incision only, and with a mortality of 16·16 per cent. Thus, however these statistics were manipulated, the mortility was appreciably smaller for the cases treated only by incision. It was also found that incision has less often been followed by complications. In as many less 36 cases, suppuration of a joint was demonstrable on the patient's admission to hospital, and this complication developed in 8·8 per cent. after resection of bone, and only in 4·7 per cent. after simple incision. Metastases in other bones or in the soft tissues occurring after treatment followed resection in 13·5 per cent. and incision in only 6·7 per cent. In other words, post-operative pyarthrosis and metastases were as frequent after resection as after simple incision.

To ascertain whether the prognosis for resection did or did not depend on the duration of the disease at the time of operation, the writer classified his 170 cases of resection, according as the patients were operated on: Within (1) the first 5 days of the disease; (2) the first 8 days; (3) the first 14 days; and (4) after the fourteenth day. The mortalities in these 4 classes were respectively 42·1, 29·3, 20, and 13·3 per cent.

Thus there seems to be no advantage in performing resection early in the disease, the mortality of which depends chiefly on the virulence of the infection, and only in a minor degree on the treatment adopted. The conclusion is that in most cases it is well not to perform radical resection of infected bone. The chief object of operative treatment is to provide free escape of pus, and when this has already made its way through the Haversian canals of the bone to the subperiosteal space, incision of the periosteum is sufficient. When the disease has started in this space and the interior of the bone is unaffected, it is obvious that incision alone is enough. In 12 cases, 2 of which terminated fatally, resection of bone failed to reveal any pus, and in 16 other cases, including 5 fatalities, only a small spot of pus, about as large as a pea, was found on resection. There may, however be exceptional cases, when the bone is very hard, as in old patients or in children with rickets, in which resection of bone may be necessary in order to provide escape of pus.—MEDICAL REVIEW.

A New Method of Relieving Pain in Acute Epididymitis.—Louie Nagorsky (*New York Med. Journ.*, p. 561).—Various writers have noticed the close functional relation between the erectile tissue, lying on the borders and ends of the

three turbinate bones, and the genital organs. Fliess in particular has noticed that by cocainizing this tissue, known variously as genital spots, sensitive spots or swell bodies, the pain of dysmenorrhœa may be immediately relieved. Monthly epistaxis, or vicarious menstruation, is another proof of the relation. The writer has noticed that the swell bodies are swollen not only in the female synchronously with congestion of the genital organs, but also in the male suffering from acute epididymitis who will often complain of a cold in the nose or say that his nose feels stuffy. Considering that the relief of pain in the female was due to a sympathetic reflex blocking the pain impulse, the writer tried the same method in the male and with constant success. The operation is simple and painless and requires little skill but the correct technique is essential. An applicator covered with cotton-wool, saturated with ½ to 1 per cent. cocaine or novocaine solution (without adrenalin) is passed into the nares. The operator "hugs the floor" of the nasal cavity and when he feels he has reached the posterior chamber gently tilts the distal end of the applicator to an angle of about 25%. The plug should be sufficient to block the posterior nares. It is left in position, in close contact with the turbinate bones for 5 minutes. After 5 minutes the patient feels much better and in many cases is completely relieved. Pressure on the inflamed epididymis is easily tolerated and he walks with greater ease. The pain may return again in from 2 to 8 hours, but it will not be severe. The treatment is not claimed as an adjuvant to cure, but is solely for the relief of pain. It may be used for this purpose also in acute hydrocele of the cord, acute orchitis and traumatic congestion of the genitals.

Cases of Infected Knee Joint Treated by Incision, Drainage, and Movement.—P. WEATHERBE (*Lancet*,) When a diagnosis of septic knee joint is made, treatment should be begun at the earliest possible moment. This should consist of free opening of the joint by lateral incisions, 4 to 6 in. long, on either side of the patella followed by thorough irrigation, the breaking down of all adhesions, manipulation by full flexion and extension, the introduction of several rubber drainage tubes, the application of wet boric lint covered with oiled silk, and the establishment of continuous drainage of the joint by capillary action. The dressing should be changed once a day with removal of the tubes and irrigation, full flexion, and extension of the joint.

This treatment should be repeated daily until the wounds are healed. Failure will occur if any of the details are not observed; that is, if the incisions are not large enough, if the joint is not fully flexed each day, or if the dressings are not kept wet or are discontinued before the wound has thoroughly healed. The changing of dressings and the movement of the joint are comparatively painless. This method of treating septic knee joints apparently gives the best prognosis as regards both life and function.

MEDICINE.

Tremors in Children.—J. C. SCHIPPERS, Nederland. Tijdschr. voor. Geneeskunde, 1920.—According to Peritz, tremors occur relatively seldom in children. Pelnar distinguishes tremor from athetotic and choreiform movements and defines it as consisting of small involuntary movements oscillating round a position of equilibrium; it is fairly regular, and is localized in a joint or a group of co-operating joints; it causes no fatigue and does not interfere with movements. As to its nature, he thinks that in the static innervation of skeletal muscles we have to do with an oscillating and undulating tetanus; the oscillations have a frequency of fifty per second, the undulations one of eight to thirteen waves; only the latter can be registered by a sensitive appartus; they are really the true tremors; in static innervation they have the oscillating intensity of a continuous tetanus. Kollarits regards tremor as a sequel of a disturbance of co-ordination of agonistic and antagonistic muscles; since even during rest a certain activity of muscle takes place, there is thus no particular difference between trembling during rest and movement; the cause of the tremor must be looked for in the cerebral cortex. Pelnar gives the chief kinds of tremor thus: Physiological tremor in healthy persons, emotional tremor, adynamic tremor, tremor form cold or trauma, tremor from poisons, as alcohol, nicotine, ergotine, mercury, the thyroid gland, etc., uræmic and eclamptic tremor, neurotic tremor, tremor in Basedow's and in Parkinson's disease, in organic nervous diseases, hereditary and familial tremor, and tremor from commotio.

Schippers here records five cases of various kinds of tremor in children: (1) hereditary familial tremor in a boy of eight; fine, quick tremor in arms; genitalia large for his age, but no sexual precocity; the family history showed the true nature of the tremor; (2) two cases of acute cerebral tremor in infants under two years of age; this kind of tremor is sometimes of unilateral distribution, sometimes limited to arms or legs; there may be lively reflexes, spastic signs, pareises, ataxia; once facial paresis and nystagmus; the tremor usually follows an acute infection, as pneumonia, measles or intestinal catarrh; it lasts for from two to twelve weeks and is usually of good prognosis; (4) a sporadic case of cerebrospinal meningitis of a two months infant, with tremor, and (5) an infant of twelve months in whom tremor of arms on emotion was present; lumbar puncture showed a meningitis. Necropsy showed a ventricular meningitis and great hydrocephalus. Tremor as an early sign of meningitis is seldom seen, but Hutinel regards prodromal tremor as a diagnostic sign of meningitis in children. Schippers concludes from his observations that tremors in children, when nonsymptomatic are of the greatest importance; their presence should lead as to a careful search for other signs of central nervous system affection, and eventually to lumbar punctnre.—THE JOURNAL OF NERVOUS AND MENTAL DISEASE.

An Additional Contribution to the Symptomatology of Epidemic Encephalitis. Kennedy, Davis and Hyslop. *Arch. Neurol, and Psych.*, July 1922.

This article embraces a contribution to the late symptomatology of encephalitis lethargica and enriches our present knowledge of the widespread clinical incidence of this disease.

The cases are grouped under the following headings: 1. spinal types; 2. disturbance of metabolism; 3. disorders of motility and 4. disorders of the vago. sympathetic mechanism.

Under spinal types are noted cases, manifesting, not only affections of the ventral horns and evidence of transverse softening of the cord, but, also, an entire new symtom-complex—that of syringomyelia.

Metabolic disturbance is becoming more evident and cases are cited to illustrate temporary disorders in the vegetative system. Increase of body weight, excessive thirst, polyuria and, occasionally, glycosuria with diminished sugar tolerance were noted.

Under disorders of motility, our attention is drawn to such symptoms as stammering, rhythmic movements, breathing irregularities and eccentric station, as evidence of disturbance in the toning mechanism.

The final vago sympathetic-group—is characterized by first; a strongly positive oculocardiac reflex-ocular pressure, in one of these cases, stopped the pulse for twenty-eight seconds, following relief of pressure; and second, by exophthalmos, which was observed in twelve cases.

As a result of their investigation in the drug therapy of epidemic encephalitis, which the authors believe should be directed toward the vegetative nervous system, the following observations are recorded:

1. Thyroid and pituitary substances have no effect on the residual encephalitic symptoms.

2. Epinephrin increases the pulse rate by 50% and decreases the rigidity for several hours after administration.

3. Atropine, in large doses, increases the rigidity and makes the patient subjectively worse.

4. Scopolamin, in doses of 1/100 grain three times daily by mouth produced a lessening of the rigidity in one-half the cases in which it was employed. It restored facial mobility and rendered the patient more comfortable.

5. Gelsemium—the fluid extract—in doses of 7 minims, three times daily, had a very similar effect to that of scopolomin and the effects persisted so long as the drug was used.

The conclusion arrived at is that, in scopolamin and gelsemium, we have our most useful drugs in relieving the rigidity and discomfort associated with the late residual effects of encephalitis. Of these, gelsemium is more advantageous in that it can be used indefinitely and is free from the dangerous effects, of a cumulative nature, sometimes associated with scopolamin.—C. M. A. J.

High Blood Pressure with Tachycardia.—Mannaberg (*Wien. klin. Woch.*) on observation of 241 cases of high blood pressure, found that 131, or 55 per cent, had a normal pulse frequency, 103, or 43 per cent., had tachycardia and 7, or 3 per cent., bradycardia. Only a systolic reading of 180 mm. Hg and upwards was regarded as high blood pressure, and a pulse frequency of 60 and below as bradycardia. Of the 103 cases of tachycardia 38 had a pulse below 90 and 17 above 120, the highest being 140, with a blood pressure of 240 mm. Of the 241 cases 100, or 41 per cent. were men, and 141, or 59 per cent. women; 32 per cent. of the men and 70 per cent. of the women had tachycardia. Mannaberg attributes the tachycardia in these cases to disturbance of the endocrine glands, especially the thyroid. In favour of this view are the predominance of tachycardia in the female sex, the inefficacy of digitalis, the frequent occurrence of sweating, the relative frequency of glycosuria, and the occasional presence of goitre. Treatment is not of much avail, the tachycardia not being affected by digitalis, theobromin, or quinine. Rest in bed is the best means of obtaining temporary relief. High blood pressure with bradycardia is a rare occurrence. In Mannaberg's seven cases, five of which were in men and two in women, the pulse did not fall below 52, and the blood pressure ranged between 190 and 260 mm. Apart from two, aged 56, all the patients were over 60 years of age.—THE BRITISH MEDICAL JOURNAL.

The Diagnosis of Intestinal Tuberculosis.—LOLL (*Wien. klin. Woch.*). Gives the results of numerous examinations of the faeces, with respect to the value of the detection of occult blood and of tubercle bacilli in the diagnosis of intestinal tuberculosis. He found that in all cases of tuberculous ulceration of the intestines occult blood could be detected in the faeces by the benezidin test, after diet which had been free from any food containing haemoglobin for six or seven days. From the results of his observations he concludes that examination of the faeces for tubercle bacilli, as an indication of intestinal tuberculosis, is useless, since the tubercle bacilli found in the faeces are chiefly due to the patient swallowing his own sputum, which contained tubercle bacilli. In cases of extensive tuberculosis of the intestines, when the pulmonary disease has not caused the sputum to contain tubercle bacilli in large numbers, then the faeces have contained few tubercle bacilli, or generally none at all. When the expectoration has been free from tubercle bacilli the faeces have been found alse free from tubercle bacilli, although extensive intestinal tuberculosis has been present.—BRITISH MEDICAL JOURNAL.

Calcium Salts.—D. DANIELOPOLU, S. DRAGANESCO AND P. COPACEANU (*La Presse Medicale*, May 13, 1922) contribute an article on the action of calcium salts in heart failure. In seven patients suffering from heart failure calcium chloride was injected intravenously in doses of two and a half to five cubic centimetres of a 10% solution. An improvement occurred in the patient's condition in four instances in which it was injected alone and in one instance in which it was injected after strophanthin had failed to improve the patient's condition. The conclusion was reached that calcium chloride has a tonic effect on the failing heart, but is not superior to digitalis or strophanthin in this regard. It also has the disadvantage that it may cause increased coagulability of the blood.—A. M. J.

Intravenous Injection of "Hexamine".—E. S. COOKE (*New York Medical Journal*, November 1, 1922) records his personal results from the use of "Hexamine" by intravenous injection and comes to the conclusion that this is the most satisfactory method of administration. The first experiments were made with patients suffering from chronic pyogenic process in the kidney and prostate. In view of the satisfactory nature of the results obtained, the method was applied to patients suffering from acute conditions in all portions of the genito-urinary tract. A dose of 0·25 gramme was found to be as efficacious as a larger dose and far less likely to cause hæmaturia. The injections were given at intervals of one to three days, according to circumstances. In all, seventy-five patients were treated. No unpleasant systemic reactions followed the injections.—A. M. J.

Intramuscular Injection of Turpentine in Skin Diseases.—As a result of their experience with injections of turpentine in the treatment of a large number of skin diseases, Levin and Rose recommend its employment in certain conditions. It may be of real value in the pyogenic infections, especially when there is follicular involvement. In such instances the injections may be given in conjunction with the local application of the Roentgen rays. Good results were observed in cases of tinea barbae. In old ulcers the administration of turpentine was followed by evidence of stimulation and a tendency to healing. Fair results were attained in acne indurata. A dose of from 0·5 to 1 c. c. of a 15 per cent. solution of rectified turpentine in sterile olive oil, injected intramuscularly, causes no pain and gives the best result. The effect is both local and general. Locally, there is apparently cell irritation, while the vital centres in the medulla oblongata are reflexly stimulated. —ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY, CHICAGO.

Iodine in Pulmonary Tuberculosis.—M. BONDREAU (*Gazette des Practiciens*, May 1, 1922) summarizes the effects of intensive treatment of pulmonary tuberculosis by iodine. He employs the tincture of iodine of the French Codex and administers the drug by mouth in liquids, generally during meals. Commencing with a small dose, he gradually increases it until the patient receives twenty to forty-five miles a day. M. Bondreau states that iodism is merely a bogey to frighten the timid. He considers that the above treatment is suitable in all cases of tuberculosis and that the iodine acts as a direct remedy.

OBSTETRICS AND GYNAECOLOGY.

Present Tendencies in Gynæcological Treatment. — According to Gellhorn (*Amer. Journ. of Obset. and Gynec.*) there is need at the present day for a reassessment of the relative value of surgical and of non-operative treatment in gynæcology; surgical treatment, in spite of the great advances which have been produced during the last two decades, no longer deserves the pre-eminent improtance which it then enjoyed. For cancer of the cervix Doederlein and also Bumm eliminate surgery altogether, and rely exclusively on radio-therapy, of which the mortality is much less than, and the percentage of cures is probably as

great as for extended hysterectomy. For fibroids X-rays and radium check the hæmorrhages in about 98 per cent., and reduce the size of the tumours in about 75 per cent. of the cases, with a mortality which is negligible, as against an average mortality of 3 to 5 per cent. after surgical procedures; not all fibroids are suitable for X-ray treatment, but the overwhelming majority can be cured by non-surgical means. In chronic, and especially in gonorrhœal pelvic inflammations, the writer believes that there is a growing tendency for surgical treatment—which, to be effective, has to be radical and mutilating—to be superseded by subcutaneous injections of foreign protein or of turpentine, or by "temporary castration" by radium or X-rays, alone or in combination. Therapeutic curetting, he considers, now finds its legitimate use for abortion and polypi alone. The necessity for surgical treatment of uterine malposition will become progressively less as it is more widely recognized that 75 per cent. of all displacements occur after labour, and that these may be prevented by the proper hygiene of the puerperium or cured by the temporary use of pessaries.

Etiology of Sterility in Female—MACOMBER D (PROSTAN M. & S. J.) —This article is based on the findings in 337 cases. Conditions responsible are:—

	Per cent.
Closed tubes	19
Tuberculous tubes	4
Endocervicitis	5
Endmetritis	2
Total due to inflammation ...	30
Retroversion	11
Fibroids and miscellaneous	8
Simple congestion	4
Total due to congestion ...	23
Anteflexion	19
Double uterus	1
Infantile uterus	4
Total due to developmental errors ...	24
Anteflexion and ovaries	8
Retroversion and ovaries	3
Ovaries alone	8
Age, diet, menopania	4
Total due to ovarian conditions ...	23

OPHTHALMOLOGY.

Influence of Trauma on Onset of Interstitial Keratitis.—BUTLER, T. H. (*Brit. J. of Ophth.*)—The author draws the following conclusions:—

1. An attack of interstitial Keratitis may be precipitated by an accident to cornea which is predisposed by syphilis and tuberculosis to disease.

2. It is possible that a slight trauma such as instillation of drops or irritation of general anæsthetic may have the same effect.

3. The attack in the injured eye may be followed by interstitial Keratitis in the uninjured.

4. It is possible that an injury to one eye may cause an attack of interstitial Keratitis in the other.

The Diagnostic Use of the Uveal Pigment in Injuries of the Uveal Tract.—A. C. Woods (*Archives of Ophthalmology*, September, 1922) has examined the sera of seventeen patients suffering from intra-ocular injury involving the uveal tract by means of the complement fixation reaction with an antigen of uveal pigment. One group comprised ten instances which gave a positive reaction and which healed up without any sympathetic disturbance. Three eyes were excised for various reasons. In the second group the sera of three patients did not yield a reaction and at the same time showed signs of sympathetic disturbance. In the third group, three patients showed alarming symptoms in the injured eye, but no manifestations of sympathetic disturbance in the second eye; the sera of all these patients failed to yield a reaction. The author points out that a consideration of these results shows that a positive reaction was always followed in time by a subsidence of inflammation without any manifestation of sympathetic disturbance. Failure to react is not so conclusive. The serum does not yield a positive reaction before ten days after injury and sometimes not before four weeks. Further, the power of the serum to react may be followed by a period in which no reaction is obtained and this may again give place to a power to react. However, if at the end of six weeks the serum of a patient does not yield a positive reaction, it seems unlikely that it will ever do so and in such instances the possibility of sympathetic disturbance should be carefully considered.

Furunculosis and Conjunctivitis.—A. Bernard (*Le Journal des Sciences Medicales de Lille*, September 24, 1922) relates the history of a young woman of twenty-five years who had suffered for fifteen years from boils on all parts of the body, together with attacks of phlectinular conjunctivitis. An autogenous vaccine of staphylococci was prepared and injected in increasing doses during two months. The doses ranged from one hundred million to two millard organisms. For two years she has had neither boils nor conjunctivitis.

The Naso-Lachrymal Passages.—D. M. Campbell, J. M. Carter and H. P. Dout (*Archives of Ophthalmology*, September, 1922) have made an X-ray study of the lachrymal passages of sixty patients. Some of these were normal, some were obstructed and some had been operated upon. The investigation was undertaken with the object of obtaining information that would be useful in determining

the operative treatment. The passages were injected with oil and bismuth and skiagrams were taken in lateral and postero-anterior positions. The results showed gross variation in the appearance and size of the structures. The authors show that the two canaliculi, the sac and duct may present a most bizarre appearance and may be malformed and very grotesque in contour. The passage of a probe in these circumstances may easily do considerable harm. It may happen that suppuration still continues after operation for removal of the sac, showing that part of the sac still remains. The skiagram may then show the possibility of doing a short-circuiting operation or it may be the means of localising the remaining portion of the sac, so that it can be removed. The skiagram also demonstrates the position which the lachrymal duct occupies in relation to the middle turbinate bone. The authors favour the nasal drainage operation and employ the nasal route.

DENTOLOGY.

Pyorrhoea Alveolaris.—*Synonymous* with it are chronic general periodontitis, Rigg's disease, alveolar osteitis, periodontal disease, interestitial gingivitis.

A few generalisations which can be made regarding Pyorrhœa Alveolaris are—

(1) We find it in adult life between 35 and 55.

(2) People possessing the strongest and whitest teeth are generally the sufferers.

(3) Dead teeth are immune.

Causes of pyorrhœa can be divided into predisposing and exciting or immediate causes. A number of wasting diseases predispose one to an attack of pyorrhœa not through direct infection but through metabolic and nutritional changes—such diseases are gout, diabetes, rheumatism, malaria and alcoholism. It is quite possible that these produce toxins which have an affinity for the alveolus and gingival margin. The absence of the antiscorbutic Food Factor, and constipation also seem to be strong predisposing factors. Abnormally hard biting, food fermenting on the gingival trough, irregular dentition, mouth breathing and use of a clamp too high up and injuring the tissues are amongst the immediate causes. These begin by lowering local resistance or causing breach of surface in Epithelium or injury to the periodontal membrane through which bacterial infection might occur. Inflammation of gum tissue follows with inflammation of periodontal membranes. Small points of bone are then involved which become absorbed. A small pocket is thus formed which gradually becomes larger and larger and becomes a stagnation area and septic focus. Pus is nearly always present in the later stages.

If a microscopical examination of a swab from a pyorrhœa pocket be made, in addition to all the ordinary mouth organisms, will be found the large and small Spirochætes, Fusiform bacillus, and Leptothrix. If a swab is taken and cultivated on agar, blood agar, or glucose broth streptococci in three varieties—Streptococci longus, haemolyticus, and viridans-are found.

Patients can be classified into two classes, according to whether they show general symptoms from the disease or not. The former variety may suffer from

general malaise, rhuematism, head-aches, anaemia, rhuematoid arthritis. Another important fact to be realised is that pyorrhoea is invariably associated with constipation.

Treatment :— (a) General Treatment.—

1. First of all the constipation has to be treated and the bowels kept regular by taking Paraffin. If possible the patient should be given Agar as this is not absorbed, and providing the necessary bulk prevents stoppage of peristalsis.

2. Treat also with intestinal antiseptics.

3. A course of vaccine treatment must be given only if the general symptoms are present as its effect on the condition at the actual sight of injection in the mouth is questionable. This only improves the general condition and helps cure.

(b) *Local Treatment.*

I. *Which could be done by the patient himself.*

(i) Silk must be passed between teeth after meals to remove debris lodged there.

(ii) A tooth brush must be used.

(iii) The gums must be massaged with fingers or if necessary with common salt or Tannic acid powder as many times as possible.

II. *Treatment by the doctor.*

A. *Treatment of teeth :—*

(i) All teeth which will remain functionless after successful treatment will have to be extracted.

(ii) *Scaling*, i.e., removing the large masses of tartar from even the roots in the pockets. This is indeed a tedious process. Done by Abbot's scalers. The polishing of the roots after this is done by Younger's scalers.

The patient must be advised to have his teeth cleaned once in a couple of months all his life till the teeth last.

B. *Treatment of the surrounding tissues.*—Drugs such as Liqr. Arsenicalis, Chromic Acid (5%) and Silver Nitrate (1%) can be used locally.

C. *Treatment of the pockets :—*

The pockets must be removed and gum made self-cleansing by the following 3 methods.

I *Removal of the teeth* must be done only in acute cases because too much stress cannot be laid on the importance of keeping the teeth if it can be done with no ill-effect to the patient.

II *Cause the gum tissue to adhere to the tooth and thus obliterate the space.*

The general success of this line of treatment is not very encouraging.

III *Removal of flap of gum and thus of the outer wall of the pocket.*

(a) First of all try astringents on the gum. If this fails the gum can be removed either by

(b) Cautery ; or

(c) Excision by *Gingivectomy*. Steps in which operation are ;—

1. Local injection of Novocain and adrenalin.

2. Extent of pockets determined with probe ; and

3. Gums removed as far as base of pocket first on inside and then on outside and in between. As the patient usually feels debilitated after the opertion as a result of toxaemia too much should not be attempted at one sitting.

4. Put tricloracetic after the operation on the exposed surface so as to virulate the tissues with formation of new gum.

Note.—(1) Perfect asepsis must be observed in the preparation of the patient and during the operation.

(2) The cuts should be as clean as possible.

(3) For parts inaccessible to knife use the cautery.

(4) One of the greatest disadvantages is the unsightliness seen if operation is done on the front teeth. The patient must be forewarned of this.

(5) This is practically the obvious treatment of the disease.

[Summary of the lecture delivered by Mr. H. Slater and published in the Guy's Hospital Gazette].

BOOK REVIEWS.

THE PERITONEUM.

By Arthur E. Hertzler, M. D., F. A. C. S., Surgeon to the Halstead Hospital, Halstead, Kansas. Vols. I & II. St. Louis. C. V. Mosby Company 1919. I & II Vol. 870 Pages, 230 illustrations.

The First Volume deals with the structure and function in relation to the principles of abdominal surgery and the Second Volume deals with the diseases and their treatment. The work is the result of the author's experience extending over 25 years as an abdominal Surgeon. The first Volume deals in details Physiology and Histology Development, and Gross Anatomy of the Peritoneum; The chapter on *'Wound healing,* is very exhaustive. The other chapters deal with the nature and genesis of peritoneal adhesions, the prevention of adhesions, the changes in the circulation and inflammatory reaction of the peritoneum. As for the medical treatment of peritonitis, we agree with the learned author that drugs are of no use. Time-honoured opinion is given up by the profession and condemned. Epinephrin, Ether and camphorated oil, are not of much use, except as stimulants. External use of heat, particularly moist heat, aids materially in relieving pain and can be advantageously employed when the patient is under observation for the purpose of diagnosis. Surgical treatment of peritonitis has so overshadowed the medical treatment, that few surgeons are disposed to believe in it, when once diagnosis is made. Surgical interference is the only remedy. The cause of death in peritonitis, as the author rightly points out, is due to the absorption of toxins or bacteria, most likely both and their action on some vital organs. According to Dr. Heineke's experiments the death from peritonitis is due to progressive loss of the tonus of the vaso-motor centre. The chapter on 'appendicitis' gives a full detail as to, Etiology, Diagnosis, Treatment, Indications for operation, &c. A chapter has been devoted to the tumors of the peritoneum. It is not possible to do full justice to the work before us in a small review with a limited space available in the Journal. So we apologise to the author if we fail fully to appreciate his useful work. We congratulate the author on the work

before us and we strongly recommend the book to every Surgeon in this country and to every Consulting Medical Library. The illustrations and the get up, as usual with the American Publishers, are nothing but superb.

PRINCIPLES & PRACTICE OF X-RAY TECHNIC FOR DIAGNOSIS.

By JOHN A. METZGER, M.D., Rœntgenologist to the School for Graduates of Medicine, University of California, 1922. 144 pages. 61 illustrations [C. V. Mosby Company, St. Louis].

The author deals about the Laboratory and appliances in the first chapter. The second chapter is devoted to stands, tables and target adjustments. The rest of the book is devoted to standardized positions of the different parts of the body and technique of application of X-rays. This portion of the book is very useful and instructive, especially for beginners. The object of the author is to place a book in the hands of the student and the operator containing a formula on which to base his work in order that he may obtain better results and thus be able to reach a more correct diagnostic interpretation. The photographic illustrations themselves will give a sufficient knowledge of the proper positions for accurate findings and are sure to be of great assistance to workers. A chapter at the commencement of the book is rightly devoted to Glossary and Index of Electro-medical terms, which will be of great use for biginners. The last chapter is devoted to the technique of developing the plates, with all developing solutions.

DISEASES OF THE SKIN.

By H. H. HAZEN, A. B. M. D., Professor of Dermatology in the Medical Department of Georgetown and Howard Universities; sometime Assistant; in Dermatology in the John Hopkins University; Member of the American Dermatological Association. 1922. 2nd edition. 608 pages 241 illustrations; 2 colour plates. [C. V. Mosby Company St. Louis].

In Medical Colleges and schools in India much attention is not devoted to the teaching of diseases of skin, as we don't generally find in this hot country, where there are very few people who don't take one bath at least a day, the varieties of skin affections as we find in the West. In support of this observation, we have neither Professor of Dermatology nor an Hospital, exclusively for the treatment of diseases of the skin. Therefore this useful book with numerous illustrations will be of immense use for practitioners in the country. The author deals in the book among others, congenital affections of the skin, diseases due to local irritation, diseases due to external infection, diseases due to animal parasites, diseases due to systemic infection with spirochaetes, diseases due to Fonemias, diseases due to nerve changes, and diseases due to food. Each separate chapter is devoted to diseases such as eczema, cancer, benign and malignant tumors and the illustrations are clear and very instructive. We recommend the book to practitioners and students.

FRAMBOESIA TROPICA (PARANGI OF CEYLON.)

By R.L. SPITTEL, F.R.C.S., (Eng.) Surgeon, General Hospital, Colombo, Officer-in-Charge of Venereal Clinic, Geueral Hospital, Colombo. 59 pages profusely illustrated 1923. Bailliare Tindall and Cox 8, Henrietta Street, Covent Garden, W.C. 2. London. Price 5sh net.

This disease, which is known in Ceylon by the name 'Ceylon parangi (best known as yaws) a word signifying foreigner and applied to the Portuguese is

endemic in Ceylon and causes 'Spironema' (Castellarie) an organism resembling that of syphilis, to which it also bears a close clinical resemblance. Like syphilis, Parangi manifests a primary lesion, and secondary and tertiary stages. The summary of the difference between Parangi and Syphilis in a tabular form given on page 49 will aid our readers to diagnose the disease. As for treatment the author advocates Salvarsan or Neo-Salvarsan with iodides, just as for syphilis Salvarsan or Neo-Salvarsan with mercury. His experience of Antimony and other arsenical preparations in the treatment of the disease, is somewhat inconsistent and should not be compared with Salvarsan. The illustrations are very good and give a clear idea of the diseases and the havoc played by them. The book is neatly got up. We recommend the book to our readers.

ANALYSIS OF MEDICAL JURISPRUDENCE

By DR. M. A. KAMATH, M.B., C.M., Lecturer, Tanjore Medical School. 1922. 124 pages [to be had from the Author] Price Rs. 2.

This small synopsis is the notes compiled by the author for lecture on the subject in the Tanjore and Vizag Medical Schools. It is mostly a summary, as it were, of Lyon and Waddel's standard text book of Indian Medical Jurisprudence. The first 85 pages deal with jurisprudence and contain a concise, clear, but nevertheless exhaustive account of all that one ought to know as a medical jurist. The latter half dealing with toxicology is however not so very exhaustive. *Poisoning* by the alkaloidal vegetable irritants, snake venom, and the Asphyxiants to mention only a few, are given only a passing attention—a fact which perhaps may be justified in a small synopsis but which, at any rate we hope, to see rectified in the next edition of the work. As it is, barring these small omissions if we may so call them, the book is a nice small handbook essentially suited for the medical student for revising the subject before an examination.

MATERNITY AND CHILD WELFARE

By DR. A. LAKSHMANASAMI MUDALIAR, B.A., M.D., Assistant Superintendent, Government Maternity Hospital, Madras with, a foreword by Major A.J.H. Russel, M.A., M.D., D.P.H., I.M.S., Director of Public Health, Madras, 1922. 149 pages, (Everymans Publishers Ltd., 1, Mclean Street, George Town, Madras). Price Re. 1-8.

Maternity and child welfare is one of the problems of modern times. It is one of national interest. Nowhere must the importance of this be brought home to the minds of the people than in India where the death-rate of children is appalling and what is more is yearly increasing. Dr. Lakshmanasami who, as Assistant Superintendent of what is probably the biggest Maternity Clinic in the East is perhaps one of the best authorities on the subject, in his usual beautiful and impressive style tackles the subject in as thorough a way as possible. Commencing with a consideration of the comparative statistics of Indian and foreign mortality figures, the author next proceeds to discuss some of the more potent causes of this national problem. He lays particular stress, and we think rightly too, on the part the barber midwife, poverty and ignorance, alcohol, and sanitation, play in increasing infantile death rate. He next proceeds to briefly state some of the activities of the Municipal bodies in the West. The appointment of health visitors, establishment of milk depots, nurseries, and child welfare centres as done in the West are described. The doctor then proceeds to give a short history of the work the child welfare centres have been doing in Madras for sometime. The author in the latter part of the book fully deals with the problems which if carried out will lessen infantile mortality. The organisation of baby weeks, the establishment of health visitors, milk centres and antenatal clinics and other measures for training the expectant mother and the necessity for a proper training of midwives are all exhaustively dealt with and sufficiently emphasised. A perusal of this small book will convince even the most careless of readers of the necessity for the commencement of more active measures as suggested therein for the prevention and stoppage of what is now perhaps the greatest drain on our resources. We most heartily recommend the book to all those interested in child and maternity welfare and congratulate the author on his production.

BOOKS RECEIVED.

The following books have been received and the courtesy of the Publishers in sending them is acknowledged. Reviews will be made from time to time. [Ed. Antiseptic.]

Diseases of Women.—By H. S. Crossen, M.D., F.A.C.S., Clinical Professor of Gynæcology, Washington University Medical School, Gynæcologist to Barnes Hospital, Washington University Hospital; St. Lukes Hospital, Jewish Hospital, etc., Fellow of American Association of Obstetricians, Gynæcologists and Abdominal Surgeons. 1922, 1005 pages. 934 engravings and 1 colour plate. 5th edition revised and enlarged. (C. V Mosby and Co., St. Louis.) Price sh. 10.

Physiology and Biochemistry in Modern Medicine.—By J. J. R. Macleod, M.B., Professor of Physiology in the University of Toronto, Canada, Assisted by Rog G. Pearce, A. C. Redfield, N. B. Taylor and others. 1922. 992 pages. 243 illustrations and 9 colour plates. 4th edition (C. V. Mosby and Co., St. Louis.) Price sh. 11·00.

The Elements of Scientific Psychology.—By Knight Dunlop, Professor of Experiment Psychology in John Hopkins University, &c., &c. 1922. 368 pages, illustrated. (C. V. Mosby and Co., St. Louis.) Price sh. 35.

Diabetes Mellitus and its Dietetic treatment.—By B. D. Basu, Major I.M.S. (Retired.) 1922. 96 pages. 12th edition. (The Panini Office, Allahabad.) Price Rs. 2.

Syphilis.—By Burton Peter Thomas, M.D., Visiting Syphilologist to Hospitals of Department of Correction Welfone Islands, New-York City. 1922. 525 pages, illustrated with 69 engravings. (Lee and Febiger, Philadelphia and New-York.) Price sh. 5·50.

High Frequency Practice.—By Burton Baker Grover, M.D. 1922. 398 pages, illustrated with 95 engravings. (The Election Press, Kansas City.)

Obstetric Tables—A Guide for Students.—By M. C. Anderson, L.R.C.P., (Edn.) Obstetrician, Brixton Hill Maternity Home. Hon. Gynæcologist, Brixton Dispensary. Fellow of the Obstetrical Society, Edinburgh, &c., &c. (Black's Medical Series.) 1923. 111 pages, 2nd edition. (A. and C. Black Ltd., 4, 5 and 6, Soho Square, London.) Price 3/6 net.

Surgical Tables—A Guide for Students.—By M. C. Anderson, L.R.C.P., (Edn.,) &c., &c. (Black's Medical Series,) 1923. 155 pages, 2nd edition. (A. and C. Black Ltd., 4, 5, 6, Soho Square, London.) Price 3/6 net.

Electro-Therapeutical Practice.—By Chas. S. Nershanger, M.D., President and Professor, General Electro-Therapy, Illinois School of Electro-Therapeutics, &c., &c. 1922. 394 pages, illustrated. 22nd edition. (Ritchie and Co., Chicago.)

Our Babies for Mothers and Nurses.—By Mrs. J. Langton Hewer. 1921. 17th edition. Illustrated and revised. (160th thousand.) (John Wright and Sons Ltd., Bristol.) Paper Covers 2/6 net. Leather Covers 4/6 net.

The Biology of Death.—By Raymond Pearl, John Hopkins University (Monograph on Experimental Biology Series.) 275 pages, illustrated with charts. (Lipponcott Company, 16, John Street, Adelphi, London.) Price 10/6 net.

The Art of Anæsthesia.—By P. J. Flagg, M.D., Lecturer in Anæsthesia, College of Physicians and Surgeons, New-York, &c., &c. 371 pages, illustrated. (T. B. Lippincott.) Price 18.

Clinical Methods for Students in Tropical Medicine.—By Lieut.-Col. Birdwood, M.A., M.D., D.P.H., I.M.S., with a foreword by Sir James Roberts, C. I. E., Kt., and contributions by Lieut.-Col. Harvey; Lieut.-Col. Christophers; Lieut.-Col. Walton; Major Megard; Captain Acton. 1920. 3rd edition. 376 pages. (Thacker Spink and Co., Calcutta.) Price Rs. 7-8.

Hints to Dressers.—By S. Anderson, B.Sc., M.B., C.M., D.T.M. & H. (Camb.,) Lieut.-Col., I.M.S. 1918. 2nd edition, 85 pages (Thacker Spink and Co., Calcutta,) Price Rs. 2.

Practical Bazaar Medicines.—By Lieut.-Col. Birdwood, M.A., M.D., D.P.H., I.M.S. 1920. 179 pages. (Thacker Spink and Co., Calcutta.) Price Rs. 3-8.

Studies in Malaria.—By Hugh Stott, M.B., B.S (Lond.,) Captain, I.M.S. 1916. 190 pages. (Thacker Spink and Co., Calcutta.) Price Rs. 5.

The Treatment of Cataract.—By Henry Smith, B.A., M.D., M.Ch., Lieut.-Col., I.M.S. 1910. 121 pages, illustrated (Thacker Spink and Co., Calcutta.) Price Rs. 7-8.

Manual of Ophthalmic Operations.—By F. P. Maynard, M.B., D.P.H., F.R.C.S., Lieut.-Col., I.M.S. 1920. 2nd edition. 248 pages, illustrated. (Thacker Spink and Co., Calcutta.) Price Rs. 9.

Manual of Ophthalmic Practice.—By F. P. Maynard, M.B., D.P.H., F.R.C.S., Lieut.-Col., I.M.S. 1920. 816 pages, illustrated. (Thacker Spink and Co., Calcutta.) Price Rs. 12.

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