THE MANAGEMENT OF ARTERIOSCLEROTIC HEART DISEASE

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The arteriosclerotic conditions involving the coronary vessels and the first part of the aorta represent an important group of disease states; and clinical differentiation of the various arteriosclerotic diseases is a matter of great importance. The disease is not simply one of old age; it occurs in individuals of from 30 years upwards, with a peak reached at the 55-to-60-year group.

In the American Heart Journal (October, 1931) attention is called to the spasmogenic theory of arteriosclerosis, which had also been suggested by Osler. Hyper-irritability of the vasomotor system is advanced as the causal factor. The symptomatology of coronary occlusion differs from that of angina pectoris in that the onset may occur during rest or sleep, the patient’s attitude is restive, the pain is low sternal or epigastric, the attack is of considerable duration, and shock occurs. In angina pectoris the onset is associated with exertion, heavy eating, or nervous strain, the patient is immobile, pain is midsternal, and the duration is short. Often in coronary thrombosis the characteristic fall of blood pressure and rise of temperature may be late manifestations. Predisposing factors are: (1) familial—the “spasmogenic aptitude,” (2) frequent emotional upsets, (3) infections, particularly streptococcal, (4) improper diet, (5) insufficient intestinal and renal elimination, (6) excess of nicotine, coffee, tea, etc., (7) obesity or diabetes, (8) excessive physical effort, (9) nervous tension or prolonged mental concentration.

The fourth electrocardiographic lead is of great help in establishing the
nature of arteriosclerotic heart disease, since an anterior coronary occlusion is much more serious than is a posterior occlusion. Normal electrocardiograms may be obtained in patients with well-advanced arteriosclerotic changes.

Pathology offers a new method of study: the fresh heart is injected with mercury throughout its coronary system and an X-ray examination is then made. This does not seriously affect the tissues, allowing for subsequent histological study.

Treatment should include sedation by mild drugs such as phenobarbital. The use of coronary dilators, especially theophylline ethylenediamine, has had only moderate success. Digitalis is contraindicated in the absence of congestive failure. Psychotherapy is probably of greater importance than is medication and the physician should maintain an optimistic attitude toward the prognosis.

THE VALUE OF TOTAL THYROIDECTOMY IN TREATING PATIENTS WITH CONGESTIVE HEART FAILURE AND ANGINA PECTORIS

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The exact nature of the factors in congestive heart disease and angina pectoris is unknown, but it is known that the condition is one of anoxemia and insufficient blood supply of the tissues allied to the overactivity of tissues. Total thyroidectomy supplies rest through decreasing the work of the heart by lowering the metabolism of the body. The blood supply from the abnormal heart is inadequate for normal work but is sufficient for a decreased basal metabolism.

Subtotal thyroidectomy is of no value in those cases having subnormal basal metabolic rates. Residual fragments of thyroid material render the operation ineffective. In 26 clinics 250 of these operations were performed with but a 6.8 per cent mortality. The complications were: in 8 cases parathyroid tetany which was transient and controlled by calcium therapy; and recurrent laryngeal paralysis in 13 cases, temporary in 4. Paroxysmal dyspnea was markedly aided. Of 100 patients with angina pectoris the results of total thyroidectomy after one and one-half years were: marked improvement in 50 cases, mild improvement in 17, slight improvement in 14, and no improvement in the remaining cases. In approximately the same number of coronary occlusion cases 31 showed marked improvement, 28 mild improvement, 19 slight improvement, and no improvement in the remainder.
Those factors which contraindicate total thyroidectomy are: (1) rapidly progressing cardiovascular disease with (a) malignant hypertension, (b) syphilitic cardiovascular disease; (2) terminal cases, (3) low basal metabolic rates; (4) active infection, such as (a) rheumatic infections, (b) bronchiectasis; (5) renal insufficiency; and (6) coronary thrombosis.

Pre-operative technic embraces: (1) adequate medical care, and (2) minimal operative sedation. Operative technic involves (1) local anesthesia; (2) total ablation; (3) preservation of the parathyroid bodies; (4) avoidance of the recurrent laryngeal nerve. Postoperative care demands: (1) disturbed rest to cough up mucus every 3 hours, (2) minimal sedation.

A basal metabolic rate of —30 is advised with variations as to individuals. This, coupled with a ¼ grain daily dose of USP Thyroid is adequate to guard against hypothyroidism of severe nature. The slight symptoms which are present are limited usually to an increased sensitivity to cold, an increased thickness of the skin and the growth of hair.

This operation is advised for those who can not be treated by other means and in whom an increase in activity is essential. If no increased activity is necessary nitroglycerine therapy is sufficient.

The recent proposal of Morgan and Lyon, in which the ligation of the thyroid blood vessels is advocated, may be criticized, since it does not achieve the complete benefit of a lowered basal metabolism; there is a regeneration and hypertrophy of residual tissues; and further, all the blood supply is not cut off except in an essential operation which is the equivalent of total thyroidectomy.

THE COMMON COLD

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The common cold has an incubation period of about three days, and a duration of two weeks. It is usually indicated by sore throat, headache, and a desquamation of the rhinopharyngeal membranes. The cause has been attributed to chilling of the body or extremities, contact with other sufferers, an upset in the bacterial equilibrium in the nose and throat, and to unknown filterable agents. Chilling has been shown to be of little importance; the fact that arctic explorers and other isolated people have no colds indicates contagiousness. There is good evidence that Berkefeld filtrates of washings from the nose and throat of patients with colds can produce the disease if inoculated to healthy subjects.

Most people have the same number of colds during a lifetime; the greatest number occurring between the ages of 1 and 4, and from 25 to 30.

The four chief methods of prevention, hardening the body by exercise,
vitamin feeding, ultraviolet light, and cold vaccines, seem to be useless. In fact, too much vitamin A in the diet tends to result in more than the normal number of colds.

At present the cause of colds and any way to lessen their severity or duration is unknown, and the only preventive is complete isolation.

R. W. B.

THE CLINICAL USE OF SEDATIVES WITH PARTICULAR REFERENCE TO THE BARBITURIC ACID DERIVATIVES

Dr. Soma Weiss

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Sedation is among those therapeutic procedures most frequently used. Other methods may be equally important in securing symptomatic relief for the patient and should not be neglected, but a nihilistic attitude toward sedatives is unjustified.

Knowledge concerning the exact actions of the sedative drugs is still meager. Among the important depressants of the central nervous system are: (1) the phenazone group and derivatives; (2) the phenacetin group; (3) the salicylates; (4) the aniline derivatives; (5) the inorganic salts—bromides, calcium and magnesium salts; (6) the alcohol and chloral group; (7) the sulphone group; (8) the urea group; (9) the barbituric acid group; (10) the alkaloids of the morphine group. The interrelation of cortical and thalamic function and the exact seats of action of these drugs must be more thoroughly studied before they can be used to their full advantage.

Certain dangers and difficulties arise in the use of these substances. Chloral hydrate in excessive doses may produce pulmonary edema, cyanosis, or sudden collapse. It is relatively ineffective in quieting motor excitement. Evidence exists that in some instances amidopyrine is responsible for agranulocytic angina, but it is probably only one of numerous causative agents of the disease. The use of tons of the drug in Europe with a very low incidence of agranulocytosis speaks for the rarity of the complication.

The barbiturates are widely and often advantageously used. They are hypnotics rather than analgesics. In excited states larger doses may be required to produce sleep than in the normal person. When large doses are injected intravenously the treatment should be slow and continuous, and the procedure should be interrupted when the desired effect is obtained. Nembutal and dial tend to act over a shorter period than many others of the group. The ratio of the effective doses of any two compounds tends to be the same as the ratio of their toxic doses. Surgical anesthesia useful for
short operations, although unsafe with other barbiturates, for the anesthetic
dose equals 50 to 70 per cent of the fatal dose, is relatively safe with evipal,
but fatalities have been reported. In conjunction with scopolamine or other
substances nembutal has proved efficient in providing analgesia and amnesia
during labor but sometimes produces restlessness and confusion. Used with
discrimination, large doses are effective in status epilepticus not otherwise
relied, and such convulsive seizures as are associated with tetanus or cerebral
hemorrhage.

Addiction, in the sense of a bodily state resulting from an alteration of
vegetative function, does not occur. But since barbiturates are often used in
the treatment of patients with mental disease or of those actually addicted to
other drugs, it is not surprising that habituation occurs. This probably
psychological phenomenon is just as important as if it were a chemical one.

Untoward effects are noted in some individuals from relatively small
doses. Many suffer from lassitude, confusion, headache, vertigo, visual and
emotional difficulties. Myalgias and arthritic pain, general or localized, par-

ticularly in the neck, shoulders, or arms, may last for days or weeks after
discontinuance of the drug. Some individuals respond with swelling of the
eyelids or erythematous or bullous dermatitis.

An important variety of intoxication is due to continuous use of barbitur-
ates in large amounts. There results loss of ambition and power to concen-
trate, increasing desire to sleep, at times vertigo, visual hallucinations, tremors,
or changes in reflexes, for example the appearance of pyramidal signs.
Encephalitis, general paresis, cerebral vascular thrombosis or other conditions
may be closely simulated. The danger of chronic intoxication is greater
where elimination is impaired as in renal or cardiac disease. Here the best
choice of drugs and doses is all the more important. Those barbiturates
with the shorter periods of action, dial and nembutal, are indicated.

Sedatives and hypnotics are of great value in providing symptomatic
relief for the patient and may be lifesaving. An exact knowledge of their
pharmacological and toxicological properties is essential in order to use these
drugs in safety and with satisfaction.

A. A. L.

GROUP HOSPITAL INSURANCE

MR. FRANK VANDYK

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For the past few months there has been in effect in New York City
(and in the immediately surrounding areas) a plan for group hospitalization
insurance. This plan has attracted much attention as a practical attempt to
solve the problem of bringing hospital charges within the reach of the ability
of the average patient to pay. The principle of the plan is simply that of
group insurance. The total cost of hospital care within the group is distributed equally among the members, so that each member pays the average cost regardless of how much hospital care he requires. To this scheme the term "three-cents-a-day-plan" has been applied. Under the plan subscribers are entitled to 21 days of hospitalization, with bed and board, a semi-private room, nursing care, operating room facilities, and anesthesia. X-ray examination is not included, while obstetrical care comes within the scope of the plan under certain restrictions. Subscribers to the plan are not entitled to out-patient services.

To be eligible for hospitalization the patient must be referred by his personal physician, who arranges for admission. Ward service is not available to these patients, but they may secure a private room, provided the physician in charge of the case approves and the difference in costs between semi-private and private charges is borne by the patient. If the total days of hospitalization for the year exceed 21, all charges for additional hospitalization are subject to a 25 per cent discount. Subscriptions to the plan must be made in groups of 10 or more, in order that the principles upon which the plan is based may be maintained.

During the short period the plan has been in effect the required days of hospital care have been well under the average it is designed to accommodate. The plan has received increasing support from practitioners, and fears that it might interfere with the raising of funds by the hospitals have been allayed.

J. D. R.

WHAT IS BEING DONE IN THE FIELD OF HEALTH INSURANCE IN CANADA

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The scope of public health work has gradually become broadened to include not only the attack on communicable disease, but also the problem of increasing the expectation of life by attacking all disease.

In Canada there are various types of state-controlled organizations which render medical care in an attempt to reduce its cost to the public. There are the state-supported clinics for tuberculosis, venereal disease, cancer, child welfare, prenatal and postnatal care. There are also diagnostic clinics. At none of these is the ability of the patient to pay brought into question.

The municipal doctor scheme, introduced several years ago, has now been adopted by 68 communities. These pay the salary of the doctor, who renders such medical care as may be required. The average income of the 58 doctors serving these communities is $4000 a year.
The Health Unit has to do primarily with rural districts. A survey of these areas showed that 25 per cent of the people in the age group 35 to 40 years, and 60 per cent of the groups over 40 were in need of medical care. The Health Unit provides for supervision of the districts by a health officer, and its activity has resulted in decreases in both mortality and morbidity rates.

Canada also offers several health insurance plans. Some of them are based upon a central fund contributed by employers, employees, and Provincial and Dominion Governments. This fund offers cash benefits, the physician being paid on a per capita basis during the first two years of operation of the plan, and on a fee basis subsequently. Such insurance is compulsory for all earning less than $200 a month; voluntary for those earning more. Indigents receive charity care. Physicians in general express approval of such plans.

J. D. R.

THE MODERN TREATMENT OF CRANIO-CEREBRAL INJURIES WITH ESPECIAL REFERENCE TO THE MAXIMUM PERMISSIBLE MORTALITY AND MORBIDITY

DR. DONALD MUNRO

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Ever since Abernethy protested 125 years ago against the "propriety and necessity of trephining" the treatment of cranio-cerebral injuries has been a matter of dispute. At that time the pathological background was provided by the terms "concussion," "contusion," and "compression." These were still the diagnostic criteria 100 years later. After the World War the work of Weed and Dandy introduced the method of dehydration and a renewed interest in lumbar puncture. The pathological rather than the physiological changes associated with head injury became recognized as the proper basis for treatment. The work of Cobb has done much, but methods of treatment are still far from standardized.

The only reason for making a diagnosis is to provide a foundation upon which a rational treatment can be based.

Cranio-cerebral injuries can be properly divided into three groups in accordance with the operative or non-operative requirements. The non-operative class includes cases of concussion, edema and congestion, and contusion and laceration of the brain. As a group these form about 70 per cent of all cranio-cerebral injuries; the immediate mortality should be about 12.5 per cent.
The pathology of concussion is unknown, but many theoretical explanations have been made. Such theories may be summarized as based on (1) molecular disintegration, (2) anatomical change, and (3) circulatory damage. True cases of concussion represent about 1 per cent of cranio-cerebral injuries.

The pathology of edema and congestion, or cerebral edema, is superimposed upon a concussion. In its pure form it consists in an increase in brain volume caused by overdistention of the perivascular and perineural spaces. As a side effect the intracranial pressure may be raised. Diagnosis may be made on the evidence of a history of a blow producing some degree of unconsciousness, followed by headache, nausea, and objective symptoms. Treatment directed toward dehydration or removal of excess cerebrospinal fluid should be successful. Cases of cerebral edema make up about 20 per cent of all hospitalized cranio-cerebral injuries. The mortality should not exceed 0.5 per cent.

If the cerebral pathology is complicated by a bruise of the surface of the brain, with rupture of cortical vessels, there is contusion. If, in addition, the cortical surface is actually torn, the condition is termed a lacerated brain. They are both associated with concussion, with cerebral edema, and almost certainly with subcortical hemorrhages. Diagnosis is made on a history of a blow with lengthy periods of unconsciousness, loss of sphincter control, general flaccidity with tendon reflexes absent, respiratory irregularity, sudden temperature rise, increase in pulse rate, and dilatation of the pupils. Surgical shock is an invariable accompaniment in the more seriously injured. The best treatment is a combination of dehydration and lumbar drainage. Operative decompression is contraindicated. Cases of contusion and laceration make up about 50 per cent of all hospitalized cranio-cerebral injuries; the mortality should not exceed 18 per cent.

The operative treatment group of cranio-cerebral injuries includes cases of sub- and extradural hemorrhages, and compound and depressed fractures of the skull. This group makes up about 30 per cent; mortality is 31 per cent. The subdural hemorrhage is the most common member of the operative group, the clots being a mixture of blood and cerebrospinal fluid. The early symptoms are those of the associated brain lesion. The cerebrospinal fluid is usually bloody; the intracranial pressure is high in the early stages but gradually subsides. All types of clot are prone to be bilateral. As a class subdural hematomas occur in about 12 per cent of all cranio-cerebral injuries; the mortality should not exceed 35 per cent and probably can be reduced still further.

Compound fracture of the skull may be linear, comminuted, or depressed. A study of 89 such cases has demonstrated that if principles looking toward avoidance of the spread of infection and removal of those bacteria already present are followed, the operative mortality and morbidity can be kept within reasonable figures. These principles include diagnosis by palpation, avoidance
of cleansing until just before the major operative procedure, operation after 24 hours and before 48 hours after the injury, 100 per cent débridement, elimination of packs or drains in the wound except where the frontal sinus or supraorbital ridge is involved, and complete closure of the scalp, followed by scarification of the regions adjacent to the suture lines. The symptomatology is that of the underlying brain injury. Compound fractures make up about 11 per cent of all cranio-cerebral injuries. The gross mortality of the group is about 32 per cent, but should be about 23 per cent. The present morbidity, largely due to sepsis, is 23 per cent and can be reduced to not over 5 per cent.

Depressed fractures of the skull uncomplicated by any additional scalp, bone, or meningeal injury occur in about 5 per cent of all cranio-cerebral injuries. Such fractures are always accompanied by some form of brain injury. Diagnosis is best made with stereoscopic X-rays; palpation is notoriously inaccurate. All depressed fractures except those in the region of the foramen magnum require operative elevation. The mortality rate should not exceed 4 per cent and if the cases are properly handled should be nil.

Extradural hemorrhage is almost always an expanding lesion with a constantly growing blood clot lying between the skull and the dura. It is the cause of the primary period of unconsciousness in the typical history. Roentgenological examination is extremely important. The general symptomatology cannot be depended upon from a diagnostic point of view. The only final positive diagnosis is that made after an exploratory trephine. Treatment is early operation. Extradural hematomas occur in about 2.5 per cent of all cranio-cerebral injuries. The mortality is highest of the series—59 per cent.

Complications of cranio-cerebral injuries fall into three great classes, (1) those associated with general bodily conditions, including surgical shock and toxic dehydration; (2) those associated with infections in the cranial cavity; (3) non-specific linear fractures of the vault and base. These conditions occurred singly or together in a total of 3.1 per cent of the cases, with a mortality of 28.5 per cent.

Surgical shock is actually or potentially present in all the major cranio-cerebral cases. Toxic dehydration is commonly unrecognized as a complication but it occurred in 2.6 per cent of the cases. The mortality was 17.8 per cent.

The intracranial sepsis group differs in no way from ordinary purulent meningitis. The ratio of occurrence was 0.5 per cent; the mortality was 80 per cent.

In general, treatment of acute cranio-cerebral injuries is being based on the pathology and, while methods vary greatly, certain fundamental facts stand out. Subtemporal decompression cannot be approved. Extradural hemorrhage, depressed fractures, and most compound fractures usually require operative interference.

W. S. M.
THE OCCURRENCE AND TREATMENT OF SHOCK IN CLINICAL MEDICINE

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The state of shock is the physiological result of an acute disparity between the volume of circulating blood and the functioning capacity of the vascular bed. This disproportion can be brought about by a relatively rapid increase in blood volume, by a sudden expansion of the vascular bed, or by a concurrent appearance of both changes. The clinical picture is one of prostration, of cold extremities, sweating, pinched features, pallor, sunken eyes, small rapid pulse, and low blood pressure. There is stasis of blood in the capillaries with a generalized anoxemia and tissue asphyxia, leakage of serum into the tissue spaces and consequent increase in blood viscosity. The kidneys fail to serve their purpose and nitrogenous wastes accumulate. Bacterial toxins cannot be normally neutralized or removed.

The mechanisms that produce the disparity between blood volume and the vascular bed are few and simple. A decrease in blood volume may be due to direct loss of whole blood, as in hemorrhage; it may be due to loss of salt and water from the blood by a variety of routes; and finally, it may be due to loss of serum from capillaries that have dilated and hence have become more permeable to protein. The vascular bed may be increased by toxins that cause the capillaries to dilate, or dilatation may also be produced by the neurogenic route, through the sympathetic nervous system. The loss of water and salt from the body may occur in a number of ways; loss of base and water by diarrhea, vomiting or surgical drainage; loss of serum by exudation into burnt and frozen tissues or by direct hemorrhage; loss of salt in the urine by alterations in the carbohydrate metabolism; loss of salt as a response to acidosis; an excessive urinary excretion of sodium in adrenal insufficiency; or unusual loss of salt and water by the skin following exposure to heat. When salt is lost for any reason, the body sacrifices its previous water stores to protect its sodium concentration. Conversely, water loss is associated with loss of salt, so that a severe drain of salt or water or both is reflected in the circulating blood, producing the disparity between blood volume and vascular bed that results in the state of shock.

The treatment of shock is the immediate increase in the circulating blood volume. Saline infusion has long been used in this respect, but its value is limited by the fact that it does not combat the cause of the fall in blood pressure which is the loss of peripheral resistance in the circulation; it
acts by diminishing the disproportion between the quantity of circulating fluid and the capacity of the circulatory system. Recent observations have shown that a normal man can receive 1500 cc. of normal salt intravenously without an appreciable rise in venous pressure, while dehydrated patients can accept many times this amount. The ideal treatment for advanced shock is a large blood transfusion, since the relatively non-diffusible serum protein makes the influence of added blood a more permanent one. The use of vaso-constricting drugs is contraindicated since, though they cause a temporary increase in arterial pressure, they influence the already constricted capillaries and cause a marked decrease in blood volume, thus eventually exaggerating the state of shock.

W. S. M.

NEWER CONCEPTIONS OF ANESTHESIA AND ANESTHETISTS

Dr. Frank H. Lahey

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Anesthesia is still in a period of rapid progress. It is being realized more and more clearly that the anesthetist should not be subservient to the surgeon, but should cooperate with him so that the special knowledge of each is used most effectively. For this reason the anesthetist should be well versed in clinical medicine and should have had adequate experience with general practice before specialization. Since anesthesia by such persons must be rather expensive, the use of nurse anesthetists in the simpler cases, always with supervision, is advisable to reduce costs.

Spinal anesthesia should be given only by the expert, since it often results in emergencies needing experience to handle satisfactorily. Safer anesthetics are the gases, such as cyclopropane, ethylene, nitrous oxide, or ether. Due to its strength, cyclopropane can be mixed with 85 per cent oxygen as contrasted with 15 to 25 per cent for ether or ethylene. Combined with the carbon dioxide absorbing apparatus which allows the same gas to be rebreathed, cyclopropane is an excellent anesthetic.

For thyroid operations a tracheal catheter prevents suffocation due to closing of the trachea by pressure from outside. Avertin is useful for the orthopedic surgeon because the necessary apparatus can be applied in bed after the operation, while the patient is still unconscious.

It is the duty of every hospital to train anesthetists and to send them where they can give others the benefit of their knowledge and experience.

R. W. B.
DANGERS INHERENT IN THE CLINICAL DIAGNOSIS OF CANCER

DR. DUDLEY MERRILL

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Cancer is readily masked by minor ailments. A careless examiner encountering hemorrhoids during the examination of a case of rectal bleeding, for example, may miss a co-existing carcinoma. On the other hand, certain diseases may mimic cancer very closely. Even the most careful clinical examination may fail to reveal the true nature of the disease.

Biopsy is the most accurate method of diagnosis. Accuracy is essential for correct treatment and prognosis. Important among the diseases simulating cancer are pernicious anemia, idiopathic hypochromic anemia with the Plummer-Vinson syndrome, tuberculous adenitis, and gumma. Without biopsy or other laboratory examination, tuberculosis of the skin or breast, amebic abscess of the liver, benign polyp or ulcer of the stomach, aortic aneurysm, infectious mononucleosis, and a multitude of other conditions may be confused with malignant neoplasms. Lead poisoning was found in one patient suspected of having a carcinoma of the gastro-intestinal tract, and scurvy in one thought to have cancer of the jaw. Even laparotomy with gross inspection may be insufficient in establishing a correct diagnosis. In one patient aged 45 years the diagnosis of carcinoma made when the colon was found firm and adherent proved, on further study, to be diverticulitis. But accuracy in interpretation of the biopsy is essential. A soft, post-traumatic swelling of the shoulder with numbness of the extremity in a woman of 26 was misdiagnosed hemangioma at another hospital. Reexamination, however, did not substantiate this diagnosis and operation discovered and cured an arteriovenous aneurysm.

The early and accurate diagnosis so often afforded by biopsy may be important in determining therapy and prophylaxis. In one case with a lump in the right subclavian fossa, the underlying condition was proved by biopsy to be tuberculosis rather than tumor. Had the proper diagnosis been established earlier, adequate therapy might have saved the patient’s life. In a man 51 years old with a positive Kahn reaction, biopsy of a lesion on the tongue showed nothing more than chronic inflammatory reaction. Antiluetic therapy cured the leukoplakic lesion and served as prophylaxis against lingual carcinoma which so often arises in syphilitic tissue.
THE IMPORTANCE OF A DISCUSSION OF MINOR AILMENTS IN THE MEDICAL CURRICULUM

Dr. Louis P. Hamburger
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A brief résumé of a series of lectures, designed for fourth year medical students, concerning the treatment of the minor ailments was given, with suggestions as to their successful management.

Common cold: The “common cold” is in reality not a clinical entity and can not be defined on clinical grounds. It is now fairly well established that chilling predisposes to an attack. When the condition is associated with fever the patient should be advised to go to bed. A familiar prescription in these cases is given in Harold Diehl’s formula:

\[
\begin{align*}
\text{B} & \quad \text{Codein. sulph.} & \text{gr. } \frac{1}{4} \\
& \quad \text{Papaverin. hydrochlorid.} & \text{gr. } \frac{1}{4} \\
& \quad \text{Lactos.} & \text{gr. iii} \\
& \quad \text{M. et ft. caps. No. i} \\
& \quad \text{D. t. d. No. xii} \\
\text{Sig:} & \quad \text{A capsule as directed.}
\end{align*}
\]

La grippe: This ailment may be distinguished from the common cold by a higher fever and associated marked prostration. The attacks are found to be seasonal. Bed rest and the forcing of fluids are to be stressed. A useful prescription to relieve the fever is found in the following:

\[
\begin{align*}
\text{B} & \quad \text{Acid. acetylsal.} & \frac{s}{3} \\
& \quad \text{Caffeinae (alkaid)} & \text{gr. xv} \\
& \quad \text{M. et div. in caps.} & \text{No. xii} \\
\text{Sig:} & \quad \text{A capsule every 4 hours.}
\end{align*}
\]

Epidemic influenza: This disease is indistinguishable at its onset from la grippe. The virus responsible for the latter is probably involved in influenza. In the case of children extreme care must be taken. Isolation from known sources of infection is advised. Preventative measures should include the removal of adenoids and tonsils, avoidance of overheated rooms or the loss of body heat through the wearing of damp clothes.

Cough: Coughing may be attributable to various causes. In its effectual treatment its etiology must be considered. Where codeine is contraindicated the following cough mixture may prove useful:

\[
\begin{align*}
\text{B} & \quad \text{Dilaudid.} & \text{gr. } \frac{1}{4} \\
& \quad \text{Elixir. terpin. hydrat. (or} & \frac{s}{3} \text{iv.} \\
& \quad \text{Elixir. aromatic. rubri)} & \text{M.} \\
\text{Sig:} & \quad \text{One or two teasp. as required.}
\end{align*}
\]
**Constipation:** Regularity of bowel movements depends largely on habit formation. In general it has been found better to avoid all use of purgatives in the treatment of habitual constipation. One method which has proved highly successful consists in dissolving a heaping teaspoonful of table salt in a quart of water. The solution is prepared before retiring. Immediately on awakening the patient drinks two glassfuls of this salt solution; five minutes later a third and five minutes later a fourth. Rarely is further medication necessary.

**Diarrhea:** Usually diarrheic movements are caused by overstimulation of the bowels due to excessive peristalsis. This may occur without any pathology existing in the walls of the intestine itself. When prolonged and intense it often leads to serious complications. The principle of treating the condition lies in removal of the offending material and resting the musculature, eventually restoring normal function. In attempting to accomplish this the following prescription is often helpful:

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| Bismuth. subcarb. | ss  |
|-------------------|-----|
| Tinct. opii camphor.| i   |
| Aq. Cinnamon. ad   | iii |
| M.                |     |
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Sig. Two teasp. every 3 hours.

Where the condition is hyperactive a hypodermic injection of morphine sulphate, grains 1/4, or pantopon, grains 1/3 has been effectual.

**Migraine:** The history given by the patient is frequently valuable in establishing the etiology and events bringing on attacks. A course of bromides with caffeine each morning for three weeks, and resumption after a pause of ten days if necessary frequently clears up the condition for a time. The value of the treatment is enhanced by the use of the barbiturates.

Where the use of aspirin is ineffectual relief is often attained by the use of the following mixture:

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| Acetphenetidini |
|-----------------|
| Acid. acetylsal.|
| Caffeinae (alkaloid) |
| M. Div. in caps. xxiv |
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Sig. Two caps. as required.

Recently great concern has been voiced concerning the use of pyramidon in cases of persistent migraine. Where it is used alone infrequently and not in combination with the barbiturates there is rarely cause for worry. In practice it is to be denied women because of their repeated use of the barbiturates. Where men cannot obtain relief through other drugs its use should be restricted to doses of five grains at intervals of not less than six hours nor oftener than three times a day.

A. B. C.
LABOR

DR. EDWARD A. SCHUMANN

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The following precepts may be laid down: (1) a long labor is not necessarily a pathological one and the indications for operative interference are not to be based on the duration of labor; (2) interference before the proper time may be disastrous; (3) the mortality associated with operative interference before the early second stage is high; (4) complete oblivion to pain may be obtained only at the risk of severe hemorrhage and other complications; (5) the presence of dystocia should be recognized before labor begins.

Considering dystocia only, operative interference is probably necessary in only about one delivery in fifty. One should strive toward the relief of pain and prevention of trauma, the object being to leave the patient in as good anatomical condition as before. In many cases the physician tends to interfere too early because of the urging of relatives or for fear of an unduly protracted labor. It should be emphasized that many more women and babies are harmed by too early interference than by too great delay.

Among the causes of dystocia are contracted pelvis, too large an infant, rigidity or other abnormality of the soft parts, monsters, tumors, and other obstructions. The success of the labor is in direct proportion to the earliness with which the obstruction is recognized. A single examination should inform the physician of its presence. Simple external pelvimetry should be done, followed by radiological examination if any doubt exists. If this is unfavorable, the matter should be explained to the patient and Cesarean section offered. This should be insisted upon if there is extreme pelvic contraction. If one is still uncertain, a test of labor (6 to 12 hours of actual uterine contractions) or the method of Tweedy, which is based on the maternal and fetal pulse and respiratory rates, may be used. A better plan is to make a painstaking examination in the later months of pregnancy and to decide before labor sets in whether vaginal delivery is desirable.

The disability following many forceps deliveries is greater than that after Cesarean section, and it may well be true that the primary mortality after early elective Cesarean section, performed before rupture of the membranes and especially when done under infiltration anesthesia, will compare favorably with that of any method of delivery. One should, however, be guided by the condition of both mother and infant and should not be too hasty about rushing a weary, dehydrated woman to the operating table.

Instrumental delivery may be necessary in cases of deep transverse arrest,
descent of the head in an oblique, flexed, but impacted position, or face, brow, or breech presentations. The Kielland and Barton forceps are probably best for the deep arrests. If they are to be used high in the birth canal, the position of the parts must be known. A preliminary vaginal examination should be done and every effort made to obtain a true cephalic application to the sides of the head. In cases of version, the Piper after-coming head forceps are invaluable. One should have the patient completely anesthetized and in the Trendelenburg position and should obtain needed space by episiotomy. In some deep transverse arrests one blade of the Kielland forceps, aided by manipulation with the other hand, may be very effectively used.

In cases of troublesome rigidity of the soft parts, several time-honored devices are available, e.g., playing a forcible stream of hot water directly on the cervix through a bivalve speculum, packing the vagina firmly with cotton soaked in boroglycerin solution, or making the well-known deep cervical incision.

P. M. L.

THE CARE OF THE TUBERCULOSIS OF CHILDHOOD IN THE HOME

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A large proportion of adult tuberculosis can be attributed to original infections contracted during childhood which have not been definitely diagnosed and adequately treated in the early stages. At this time the disease rarely exhibits frank pulmonary pathology and must be recognized by other signs and symptoms. The infection usually spreads from a focus in the lungs by way of lymphatics or blood stream, and the degree of extension depends upon the dose of bacilli, the size of the original lesion, and the development and nutrition of the host. Lymph node involvement is common, particularly mediastinal, cervical, and mesenteric. Such cases often progress insidiously; even bone tuberculosis may be relatively silent. The classical picture of extensive miliary spread is not often seen. The outcome of the bronchogenic type is chiefly a question of sepsis. In the early years of life the highest mortality from tuberculosis is caused by meningitis which can be allayed if cases are recognized at their onset and treated properly.

This treatment frequently can be accomplished in the home as well as in the sanitarium. The typical tuberculous child is listless and unsmiling, with lustrous eyes and long lashes. Hirsutism is usually noteworthy, especially on the nape of the neck. He does not play well, like normal children.
The tuberculin test is positive, but X-ray examination is more often than not negative or equivocal. Such children, in whom active tuberculosis is suspected, are being restored to health by rest, air, diet, and hygiene under home supervision in New York City and its environs. Small, inexpensive tents can be improvised on the apartment house roof or in the back yard in which the patient lives, following a régime of planned rest and play. Regular visits by community nurse and physician, with periodic examinations are necessary because the final outcome depends on adequate medical care. H. H.

COMMON PARASITIC DISEASES IN THE NEW ENGLAND STATES

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From the earliest colonial days until the latter part of the last century parasitic diseases were a serious cause of invalidism and death in the New England States. In conjunction with other so-called tropical diseases, notably yellow fever, cholera, and bacillary dysentery, they were responsible for heavy mortality. Severe epidemics of dysentery were frequent in Connecticut; while the majority of these were probably caused by bacteria, some outbreaks were conceivably associated with amebiasis. With drainage of the land, which was necessarily associated with agricultural development, malaria became less prevalent. But for two decades following 1870 this disease was more widespread than in the early days of its endemicity because of numerous pools, ponds, and swampy places created by extensive road and railway building, factory construction, and the impounding of waters for power production.

It should be mentioned that many local species of the Insecta, such as lice, bugs, fleas, mosquitoes, houseflies, and ticks, acting as transmitting agents, are responsible for various infections which are of greatest importance to the public health officer. Clinically, however, the physician of the New England area is more concerned with protozoa and parasitic worms or helminths.

Parasitic Protozoa: These organisms inhabit the human intestine and include several against which there is no pathogenic evidence. Among these are certain flagellates, such as Giardia intestinalis and Trichomonas hominis. Of the infusoria one species, Balantidium coli, is occasionally found in the colon of man and may be responsible for diarrhea or severe dysentery. There are also five amoebae that may live in the human colon. Four of these are non-pathogenic but should be recognized, however, if found in diarrheal stools,
and not confused with *Entamoeba histolytica* which may give rise to extensive ulceration and complications. Although we do not yet have a perfect drug for the treatment of amoebiasis, the foremost in popularity at the present time are carbazole, vioform, and anayodin (iodoxyquinolin sulphonic acid). For hepatic amoebiasis emetine hydrochloride is still the drug of choice.

**Malaria:** Sporadic cases occur on account of the ever-present anopheles. The three kinds of malaria: tertian, caused by *Plasmodium vivax*; quartan, caused by *Plasmodium malariae*; and aestivo-autumnal, caused by *Plasmodium falciparum* should be differentiated by blood smears, since the treatment varies according to type. In tertian and quartan, bed rest and soft diet following a saline purge enable the patient to develop immunity despite the paroxysms which become milder after the first one or two with improvement in the blood picture. For a week or longer, until parasites disappear from the blood, five grains of quinine hydrochloride are given orally three times daily. In aestivo-autumnal malaria treatment should be commenced as soon as the condition is diagnosed because one cannot rely on the development of immunity. It should be remembered that a double or mixed infection of the same or different parasites may be present. Atabrine is sometimes used for tertian and quartan. Plasmochin does not seem to affect the schizogony stages of the parasites that produce the paroxysms but is lethal to the gametocyte forms whereby the mosquito transmits the disease.

**Helminthic Infestations:** Intestinal roundworms (nematodes) and tape-worms (cestodes) are represented in the northeastern states. The indigenous roundworms are *Ascaris lumbricoides*, pin worm (*Enterobius vermicularis*), whipworm (*Trichuris trichiura*), and *Trichinella spiralis*. For the first three, santonin, oil of chenopodium, and aspidium by mouth and high enemata have been found successful. Hexylresorcinol, the most recent therapeutic agent, has been highly recommended.

Trichiniasis is not uncommon and may be diagnosed from history and symptoms. Rarely the dead adult male worms can be found on stool examination in the early stages. While the larvae are migrating to the muscles they may be found in the sediment of 10 cc. of centrifuged citrated blood. In doubtful cases biopsy may be justified. A skin test has been described, using as antigen powdered larvae recovered from artificially infected pigs. Treatment is purely symptomatic and prophylaxis depends on controlling any source of infected swine and the boiling of all pork half an hour for every pound of meat.

The important cestodes are the fish tapeworm, *Diphyllobothrium latum*, and the beef and pig tapeworms, *Taenia saginata* and *Taenia solium*. The symptoms caused by these parasites are similar in many respects. Diagnosis
rests with the discovery of ova or separate segments in the feces. The object of treatment is to remove the head of the worm by the administration of male fern since the segments are regenerated from the intact head. Hexylresorcinol has also been recommended.

The 1930 census for Connecticut reported 382,871 foreign-born Whites and 521 Orientals; among these were the following parasite-bearing races: Scandinavians 23,488; Greeks 3,337; Italians 87,123; and Portuguese 2,345. Among these races occur more cases of amoebiasis than are apt to be found among native-born Americans. Many cases of hydatid disease caused by the dog tapeworm, T. echinococcus or Echinococcus granulosus occur in Italians and Greeks. We sometimes meet that very fatal disease Kala-azar, especially in its infantile form; and these people may be infected with the pig tapeworm, T. solium, which is rare among our native born. The larval form of this worm, Cysticercus cellulosae may be responsible for severe neurological or eye symptoms. The Puerto Ricans may bring hookworm, ascaris, and malaria; and a number have schistosoma infection of the liver and intestine. The Chinese and Japanese frequently harbor a number of the parasites mentioned and may suffer from liver fluke disease caused by Clonorchis sinensis or from endemic hemoptysis due to the lung fluke, Paragonimus westermanii.

Missionaries from foreign fields, engineers, scientists, and others returning from work abroad, especially in the tropics should have their blood and stool examined for animal parasites immediately upon their return. Animal parasitism cannot be relegated definitely to climatic zones; it is a subject of clinical importance in all climates.

H. H.

EARLY TREATMENT OF FRACTURES OF LONG BONES

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The increased number of fractures of long bones renders a knowledge of diagnosis and treatment more important. A fracture may be defined as a wound of bone occurring in two essential types; Type I, ends separated and malaligned, and Type II, ends not separated and not malaligned. Type I may be diagnosed by sight. Type II, in 80 per cent of the cases, may be diagnosed by means of the special senses of sight, touch, and hearing. To wait for an X-ray diagnosis often means the loss of valuable time.

Treatment consists of converting Type I into Type II, maintaining the carrying angle, and preventing shortening especially if the patient is over
16 years of age. Type II needs simple splinting only. Type I fractures must be reduced prior to splinting. The reduction may be provisional or temporary or secondary or permanent. The optimum time for reduction is within six hours and, in many cases, if done soon enough, the provisional reduction may be adequate. Traction and countertraction should be applied immediately, by means of home-made and always available materials if necessary. Open reduction, often necessary with fractures of the humerus and ulna, should only be done after two attempts at closed reduction have failed. Compound fractures, with lacerations, should be treated by débridement, administration of tetanus antitoxin, and liberal cleansing with soap and water. The wound should be repaired by open sutures and covered with gauze soaked with iodine-saline solution. The sutures should not be tied until three days have elapsed. This minimizes the possibility for infection and does not seriously detract from the cosmetic appearance. In open reduction a general or local anesthetic may be used. Besides the treatment as outlined it must be remembered that the essence of treatment is adequate supervision.

A. A. R.