AVITAMINOSIS


The authors found that persons with nutritive failure have a blood pressure which is usually below normal and which tends to rise slowly as the nutritive failure is corrected.

The effect of desoxycorticosterone acetate in such hypotensive patients was determined by administration of this substance daily in varying dosage. After the third day, the patients complained of tightness of the skin around the ankles. There was a prompt increase in blood pressure readings and in body weight, and when the drug was discontinued, the blood pressure readings promptly returned to normal.

While the findings are of general interest, the authors do not recommend the use of desoxycorticosterone acetate as a therapeutic agent for hypotension.

MINTZ

BACTERIAL ENDOCARDITIS


Two cases of subacute bacterial endocarditis caused by Streptococcus viridans in patients with rheumatic valvulitis were treated with sulfapyridine and intravenous heparin, the latter being given in doses sufficient to maintain the blood coagulation time at one hour. On the third and fourth days of heparin therapy, the patients developed neurologic signs, with coma and death supervening a few hours later. Postmortem examination revealed massive intracerebral hemorrhage—multiple in one case—characterized microscopically by showing little tendency to organization, the blood remaining fluid.

The author reviews 12 other postmortem reports of cerebral hemorrhage following sulfapyridine and anticoagulants or heparin alone, and concludes that a previous area of encephalomalacia caused by emboli from the valves is a region of lowered resistance to the rupture of cerebral vessels, and that the massive hemorrhage which results is due to the decreased coagulation of the blood.

Cortell


The authors report an unusual case of subacute bacterial endocarditis successfully treated with streptomycin. They also review the literature on this phase of therapy. The causative organism, a bacteroid, is rare in endocarditis. A 53 year old waiter with a clinical diagnosis of subacute bacterial endocarditis manifested an unfavorable response to large doses of penicillin. On the forty-second day after hospital admission the blood culture taken on the thirty-second day was reported positive for bacteroids. Streptomycin, 4 Gm. daily in divided doses every three hours, was then started and continued for twenty-eight days. Three days later the clinical improvement was marked. No new petechiae appeared. After discharge, he was in excellent health and working.

The authors conclude that penicillin in the amounts used inhibited the growth of the organism but could not effect a cure.

Béllet


A fatal case of subacute bacterial endocarditis due to Salmonella typhi-murium occurred in a woman, aged 19, who failed to show clinical improvement from penicillin therapy. A favorable reduction in the febrile state was noted following the use of Chloramphenicol and, to a lesser degree, by streptomycin. In spite of treatment, the disease progressed unabated with progressive toxemia, weakness and the appearance of petechiae and a cardiac murmur, the latter soon becoming high pitched and musical. The progress of the disease in this patient, irrespective of temperature reduction, suggests that a much higher maintenance dosage is required at the onset of treatment than is employed in typhoid fever (i.e., 1.5 Gm. Chloramphenicol every three hours instead of every twelve hours) and that this
treatment should be continued for at least twenty-eight days.

**TANDOWSKY**

**BLOOD COAGULATION**


Heparin tolerance tests were compared in 16 normal individuals with 27 active rheumatic fever patients; 27 patients with active tuberculosis constituted a second group of controls having elevated sedimentation rates. In active rheumatic fever there was an increased resistance to heparin activity; the maximal prolongation of clotting was less than normal and clotting time returned to normal faster than in normal controls. In 12 rheumatic patients the tolerance returned toward normal as the rheumatic activity subsided. The sedimentation rate did not always increase proportionately with the heparin tolerance. There was an increased tolerance to heparin in active tuberculosis, but less so than in rheumatic fever.

The mechanism of increased heparin tolerance in rheumatic fever is unknown. There may be a lowered renal threshold to heparin; there may be heparin storage in the reticulo-endothelial system as demonstrated in rabbits by Piper. The authors suggest an inactivation of heparin in the blood stream by protein binding; preliminary experiments showed an in vitro resistance to heparin in blood from patients with active rheumatic fever similar to the in vivo findings with the heparin tolerance test.

**GOSFIELD**


The authors reinvestigated the action of protamine sulfate on the coagulation of blood and its use as antagonist to heparin in both in vitro and in vivo experiments. They found that protamine sulfate in intravenous doses up to 100 mg. had no effect upon the clotting time of whole blood in human subjects and also had no effect as a local hemostatic agent in dogs.

In the presence of serum or whole blood, the neutralization ratio of protamine to heparin was 18.1 and an excess of either caused prolongation of the coagulation time. The anticoagulant effect of protamine, in insufficient amounts to cause complete inactivation of fibrinogen in whole blood, is due to its interference with the conversion of prothrombin to thrombin, which is not apparent in the presence of an excess of thromboplastin. No antithromboplastic action of protamine sulfate was demonstrated, but protamine does neutralize the serum heparin cofactor.

**BUTTERWORTH**

**CONGENITAL ANOMALIES**


Catheterization of the right heart and of the pulmonary artery was performed in a case of isolated ventricular septal defect (Roger's disease). Information given by the gas analyses of the blood samples secured from right auricle, right ventricle and pulmonary artery was sufficient for the diagnosis since the oxygen content of right ventricular blood and of pulmonary artery blood exceeded that of right auricular blood by 3 volumes per cent. Calculations of the output of the heart showed that the blood flow of the pulmonary artery was twice as large as the blood flow of the aorta. The preponderant intracardiac shunt of blood was directed from left to right, and the volume of blood shunted through the ventricular septal defect was equal to the blood flow of the aorta. The coexistence of secondary blood currents flowing from the right ventricle into the left ventricle was proved by two findings: the oxygen saturation of the blood in the femoral artery was lower (92 per cent) than normal, and the effective pulmonary artery flow was 11.5 per cent below that of the systemic circulation. Pulmonary stenosis did not exist because the mean blood pressure was higher in the pulmonary artery than in the right ventricle; the absence of pulmonary stenosis was also proved by the fact that the pulmonary blood flow was 200 per cent of the systemic blood flow. The high pressure of the right ventricle and the presence of intracardiac currents from right to left indicated a less favorable prognosis than usual.

**LUISADA**


Twenty-five patients with auricular septal defects were studied by means of cardiac catheterization. In one of the cases, the pulmonary veins opened into the right auricle, while in another there was also a mild pulmonary stenosis. In 15 cases, the catheter was introduced into one or more pulmonary veins; in 3 other cases, only into the left auricle.

Comparison of the oxygen content of the caval with the right auricular blood is often sufficient for diagnosis. However, exception to this is possible because: (a) the volume of blood flowing in the two venae cavae is different; (b) a laminar flow in the inferior cava or some other cause prevents an effective mixture within the right auricle; (c) the shunt is from right to left; (d) the flow from the left auricle is scanty; or (e) there is more than one lesion. The only absolute proof of the existence of an auric-
ular shunt is obtained by passing the catheter into the left auricle through the septum. Three types of shunts were demonstrated; these were left to right, bilateral, and right to left (inverted).

Luisada


Two hundred fifty cyanotic, and 50 acyanotic children with congenital heart disease were investigated for the genetic and environmental factors in the etiology of their disease. With the exception of rubella occurring during the first trimester of pregnancy, no other environmental factors were significantly involved. Rubella appeared to be responsible for 4 (1.6 per cent) of the 250 cases with cyanosis. There was also mental retardation in one of these cases and congenital cataracts in 2 others.

The occurrence of congenital heart disease in more than one member of the family is rare. There was no conclusive evidence of congenital heart disease occurring more frequently in children of consanguineous marriages. The causes of congenital heart disease are chiefly genetic, the best evidence for a genetic factor being the occurrence of more congenital cardiac defects in siblings and distant relatives than could be expected by chance. The author feels that, because the risk is small that other children in the same family will develop congenital heart disease, it is proper to tell the mother that there is no risk of other children being born with this disorder.

Margolies


Atrial septal defect has been classified as a late cyanotic lesion, one in which terminal cyanosis, due to a reversal of the direction of the intracardiac shunt, occurs when cardiac failure results in increasing pressure in the right atrium. The authors observed a 35 year old man who showed chronic cyanosis, polycythemia and clubbing of digits without congestive failure, and who at autopsy was found to have an uncomplicated atrial septal defect. A review of 180 proven cases of atrial septal defects, with or without concomitant mitral stenosis, reported in the literature showed that in 11 patients persistent and longstanding cyanosis not associated with cardiac failure was present. Pathologic findings in these cases did not differ from those in other, nacyanotic cases. Large defects involving most of the atrial septum were common among cyanotic cases but there was no apparent relationship between the size of the defect and the presence of cyanosis. With the clinical and pathologic evidence pointing to a large volume of blood being shunted from the left to the right auricle, the most likely cause of cyanosis appears to be a free mixing of blood in very large septal defects and/or anatomic conditions permitting a stream of venous blood from the great veins to enter the left auricle directly.

Durant


The author reviews the incidence of bronchiectasis with complete transposition of the viscera and other congenital lesions, and reports a case of a 44 year old man with bronchiectasis and situs inversus totalis, congenital pulmonary eysts, poorly developed nasal antra and congenital deafness with absent mastoid cells. He feels that a congenital abnormality of the bronchiolar wall is responsible for the bronchiectasis seen in such cases.

Tandowsky


A white female child who was said to be normal at birth was observed to have a dusky hue at 6 weeks of age. There was a loud systolic murmur over the precordium which was transmitted to the right side of the chest. At the age of 10 months a diffuse thrill, most pronounced in the third interspaces to the left of the sternum, was felt. X-ray examination revealed the heart to be large and globular. The cyanosis increased and dyspnea at rest became constant. Signs of right heart failure became evident with hepatomegaly and edema of the face, hands and ankles. The electrocardiogram revealed right axis deviation and a suggestion of hypertrophy of the right side of the heart. Death occurred at the age of 19 months. At autopsy there was found: drainage of the pulmonary veins into the coronary sinus, a patent foramen ovale, a bicuspid tricuspid valve, hypertrophy and dilatation of the right side of the heart, chronic passive hyperemia of the lungs and other organs, and terminal verrucous endocarditis of the tricuspid and mitral valves.

There are only 7 cases reported which show drainage of all the pulmonary veins into the coronary sinus. The right heart must transport a greater load of blood than the left heart. Therefore, there is hypertrophy of the right, and relative atrophy of the left heart. In all of the reported cases, the foramen ovale was open and in one case there was a patent ductus arteriosus. As the foramen ovale and the ductus arteriosus become smaller, the load on the right heart increases and cardiac decompensation occurs.

Margolies

Congestive Heart Failure

Contrary to the accepted belief that oxygen at pressures up to one atmosphere benefits those with heart failure due to chronic disease of the lungs, these investigators have demonstrated that this may produce untoward changes in the intracranial circulation of patients with chronic cor pulmonale. The change consisted of a sudden increase in cerebrospinal fluid pressure when oxygen was given in concentrations of 50 to 100 per cent; this was not observed in controls. This increased pressure resulted in myoclonic arm movements in one patient and in coma in another.

TANDOWSKY


Silicosis is a frequent cause of chronic cor pulmonale; from 10 to 50 per cent of the patients with silicosis die with congestive heart failure. Three new cases are described by the author. The electrocardiogram showed right axis deviation of both the P waves and the QRS complexes, while the T waves were inverted in Lead I. In the right precordial leads, the QRS complexes were M-shaped and the intrascioid deflection was delayed. In the left precordial leads, S was particularly large. According to the author, the roentgenologic signs of cor pulmonale appeared at an earlier stage than the electrocardiographic changes. Autopsy revealed severe hypertrophy and dilatation of both the right atrium and the right ventricle. In one case, functional tricuspid insufficiency was proved by autopsy.

Luisada

CORONARY ARTERY DISEASE,
MYOCARDIAL INFARCTION


Seven cases of recent myocardial infarction with delayed appearance of the typical electrocardiographic signs are described. The electrical picture appeared only after a period of from fifteen to sixty days. This fact is explained by one of the two following possibilities; (a) the initial small infarction was not revealed by the electrocardiogram, and later became larger through secondary extension; or (b) the infarction was formed slowly on account of partially or temporarily efficient collateral circulation, or because of a slow occlusion. The authors point out the inadequacy of single electrocardiogram in the diagnosis of myocardial infarction.

Luisada


The authors present the case history of a 60 year old white man in whom differential diagnosis had to distinguish duodenal ulcer, cerebral lesion, or coronary disease because of the history of sudden attacks of syncope associated with pressure over the lower portion of the chest or upper abdomen which radiated to the midback. The pressure was not related to effort. With a normal physical examination, a Master "2-step" test was performed, and a diagnosis of coronary artery sclerosis was made. Nine months later the patient developed a classic anginal syndrome and shortly thereafter suffered an acute coronary occlusion with infarction. The authors believe this case demonstrates the value of the Master "2-step" test in substantiating the diagnosis of coronary artery disease in a patient whose previous history may be quite misleading.

Simon


In 6,000 consecutive autopsied cases there were 436 cases of rheumatic heart disease and 513 cases of coronary heart disease. Seven per cent of the cases with rheumatic heart disease had associated coronary artery disease and 6 per cent of the cases of coronary heart disease had associated rheumatic heart disease. There was no evidence to suggest that rheumatic heart disease has any influence on the development of coronary artery degeneration. The purpose of this paper is to emphasize the relative frequency of these two types of cardiovascular disease as coexistent entities. Awareness of this association by clinicians is not yet sufficiently prevalent.

Wendkos


The authors studied the effect of whole blood transfusion in therapy of shock due to myocardial infarction. A systolic blood pressure of less than 90 in patients presenting the clinical picture of peripheral vascular collapse was taken as the criteria for shock. Blood was administered at a rate of 250 cc. per hour. The total amount of blood given averaged 750 cc. per patient. In all, 30 patients received transfusions and the results were compared with those in 20 cases who did not receive parenteral therapy.

The results showed a mortality rate of 90 per cent in the transfused group as compared with 85 per cent in the control series. Improvement in the shocklike state resulted in 37 per cent of those patients receiving blood, whereas the blood pressure rose in only 25 per cent of the control group. Cardiac failure was increased in 20 per cent of the transfused patients as contrasted with 15 per cent of the controls.

Since heart failure increased almost as often in
the control group as in those patients receiving blood
the authors conclude that this mode of therapy is
relatively safe. However, they did not feel that blood
transfusion improved the mortality rate in patients
with shock due to myocardial infarction.

NADLER

Infarction in a Sixteen-Year Old Boy. New York
The authors report a case of acute myocardial
infarction with recovery in a 16 year old boy. The
clinical picture and the course were typical.
The patient was very obese and the authors believe that
the relationship of obesity to coronary sclerosis in
the young is again demonstrated by this case.

SIMPSON

Hausamman, E.: Coronary Sclerosis in Older People
as Compared to Coronary Sclerosis in the Young.
The author examined the coronary arteries of
69 hearts obtained from routine autopsies on patients
who died from various diseases. The age of
the patients varied between 45 and 90 years (average 66.9).
Twenty-eight of the patients were female.
A pronounced degree of coronary sclerosis was
found in 60 hearts. More numerous areas of necrosis
with fatty degeneration and calcification were found in
the intima of these patients than in those of
patients in younger age groups, but no essential
differences were seen in the arteriosclerotic process.
Vascularization of the intima was observed in 59
cases. It was attributed to the formation of vascu-
larized granulation tissue. Intramural hemorrhages,
consequences of this vascularization, were seen in 11
vessels. In another 11 vessels, residual findings
pointed to an old hemorrhage. In 3 cases, evidence of
a fresh or old coronary thrombosis was found.
In all 3 instances an intramural hemorrhage from
an abnormal vessel in the intima was found to be
responsible. In 5 out of 6 female patients who had
gall stones, severe coronary sclerosis was found.
In 3 cases with tuberculosis and 16 cases with
rheumatic fever, coronary sclerosis was moderate.

SCHERRF

Bean, W. B., Flamm, G. W., and Sapadin, A.: Hemiplegia
Attending Acute Myocardial Infarction. Am. J. Med. 7: 765
(Dec.), 1949.
The authors delineate a syndrome of acute focal
cerebral disease occurring coincident with, or shortly
after, acute myocardial infarction. Six case reports
are presented.
The neurologic disability is commonly misdiag-
nosed as cerebral hemorrhage, embolus or thrombo-
sis, but is the result of localized cerebral ischemia
secondary to the shock resulting from the acute
myocardial catastrophe. Pre-existing cerebral ar-
teriosclerosis with diminution of blood flow may de-
termin the area or areas of the brain most severely
affected. If the shocklike state is of brief duration,
capillary damage is slight and the focal neurologic
disability may be of transient nature. If shock is of
longer duration, continued capillary anoxia results in
localized edema and tiny hemorrhages with ir-
reversible cerebral changes. This syndrome of acute,
secondary, focal cerebrovascular disease, not the
result of embolism, thrombosis, or hemorrhage, may
also complicate postural hypotension, shock, par-
oxysmal arrhythmias, and acute left ventricular
failure. The disorder is to the brain what acute
coronary insufficiency is to the heart.

HANNO

ELECTROCARDIOGRAPHY

The author describes a case of rheumatic heart
disease with mitral stenosis and insufficiency and
an associated ventricular arrhythmia and auricular
flutter. After digitalization, the ventricular rhythm
became regular. Large P waves at the same rate as
the ventricular complexes were revealed by the
standard leads. On the other hand, special leads,
more sensitive to the currents of the auricles, re-
vealed that, in addition to the former, there were
also smaller waves with a rate of 600 per minute.
The author interprets this case as having a sinus
rhythm in the right auricle with an impure flutter
in the left.

LUISADA

Donzelot, E., Milanovich, J. B., and Plavsic, C.: Frontal
and Horizontal Spatial Vectorography in
the Syndrome of Wolff, Parkinson and White.
On the basis of twenty-five observations, the
authors came to the conclusion that the Delta wave,
representing the electrical sign of the Wolff-Parkin-
son-White syndrome, develops most often in the
direction of the initial part of the spatial vectorgram.
Thus, by establishing the position of the delayed
part within the vector loop, the W-P-W syndrome
can be distinguished from bundle branch block.
However, the syndrome can be complicated by co-
existence of bundle branch block, an example of
which is presented. In this case the authors used
an intravenous injection of atropin to revert the
combined pattern of bundle branch block and W-
P-W syndrome gradually into a pure pattern of left
ventricular hypertrophy. Simultaneous registration
of the carotid pulse demonstrated that the presence
of a Delta wave, indicating pre-excitation of the
right ventricle, did not affect the onset of the eje-
tion of the left ventricle. A statistical evaluation of
the 25 cases of W-P-W syndrome with respect to the
electrical axis and the position of the heart, showed
that an electrically horizontal heart was usually
seen in cases with left ventricular hypertrophy, and
a semivertical or vertical position was present in clinically normal hearts.

Pick


Fifteen cases of ventricular aneurysm are described, 7 of which were studied at necropsy. The authors conclude that severe right axis deviation (between plus 120 and minus 90 degrees) strongly favors the possibility of a parietal aneurysm of the apex. On the other hand, severe left axis deviation (between minus 70 and minus 90 degrees) also may indicate either aneurysm of the apex or extreme thinning of the apical wall. It is the authors’ impression that large aneurysms or those of sudden development in a heart of normal size result in a right axis deviation; on the other hand, small aneurysms or those developing in hypertrophied hearts result in left axis deviation. Upward persistent displacement of the S-T segment in the precordial leads is frequently encountered in apical aneurysms. The absence of electrocardiographic data does not exclude parietal aneurysms.

Luisada


To obtain esophageal leads, the authors introduce a semirigid tube into the stomach, the curvature of the tube tending to follow in a forward direction the inferior surface of the heart. Normal tracings and tracings in cases of posterior infarction are discussed. The advantage of the use of the “gastric” lead for the study of posterior infarctions is emphasized.

Luisada


The author presents the case report of a 30 year old white man with recurrent vivax malaria who, while under atabrine therapy, experienced an episode of precordial lancinating pain, perspiration, and weakness. There was no significant drop in blood pressure. An electrocardiogram taken at this time revealed depression of the T waves in Leads I, II, CF5, CF6, and CF7. The entire contour of the complex in Lead III had also changed. During this episode, malarial parasites were again present in the blood smear. With bed rest, the symptoms subsided and after six weeks the electrocardiogram returned to the control pattern. At no time was a pericardial friction rub heard.

Since the electrocardiographic changes were not reproduced following repeated administrations of atabrine in the absence of malaria, the author believes it reasonable to eliminate atabrine as the causative agent. In the absence of any other explanation for the symptomatology, he believes that it is reasonable to assume that the heart muscle changes resulted from malarial thrombi in the myocardium.

Simon


The author describes changes in the precordial and unipolar extremity leads occurring in clockwise rotation of the heart. With marked clockwise rotation, Leads V1 through V6 or V4 may face the epicardial surface of the right ventricle and show rS and RS patterns, and Lead aVR may present a QR, Qr or qR configuration. When extreme clockwise rotation is present, a QR or qR pattern may also occur in Lead V3 and sometimes in Lead V5.

Hanno


Electrocardiographic studies with multiple leads were performed on 7 cases of Boeck’s sarcoïd with pulmonary manifestations and on 20 cases of far advanced pulmonary tuberculosis. Changes indicative of left ventricular hypertrophy were noted in 6 of the former group and in none of the latter group. Involvement of the myocardium in sarcoïdosis is offered as the explanation of the electrocardiographic changes, but the selective involvement of the left ventricle is unexplained. The author suggests that the electrocardiographic finding of left ventricular hypertrophy may help in the differentiation between pulmonary sarcoïdosis and pulmonary tuberculosis.

Hanno


The author describes the case of a 50 year old woman with hypertension, anginal pain, and complete A-V heart block, complicated by Stokes-Adams attacks. The 13 year old daughter of this patient developed fainting spells following tonsillitis. A partial A-V block with a conduction time of 0.28 second was found in the electrocardiogram. The lesion in this case was attributed to myocarditis. An inherited inferiority of the conduction system was held responsible for the occurrence of A-V block in two generations with two different etiologies.

Scherf
ENDOCRINE EFFECTS ON CIRCULATION


The authors demonstrated that rats in which nephritis was produced by the injection of a potent rabbit anti-rat kidney serum developed a moderate hypertension with and without dietary sodium chloride restriction. If desoxycorticosterone acetate (DCA) was given, the hypertension appeared more rapidly and reached a greater height. If the DCA was then withdrawn there was a decline in the blood pressure to the level of non-DCA treated rats. In these studies, DCA had no augmenting effect on the course of the severe nephritis, such as had been previously reported.

Cortell


This paper is concerned with the study of various adrenal cortical steroids and related compounds on sodium metabolism. Desoxycorticosterone produced a significant sodium retention when amounts as low as 1 microgram were given. Desoxycorticosterone acetate produced sodium retention at a concentration of 25 micrograms. 4-pregnenol-21-trione, 3, 12, 20, 21-acetate gave a significant retention at 1340 micrograms. 17-hydroxy-11-dehydrocorticosterone and 17-hydroxy-9-dehydrocorticosterone caused an immediate increase in sodium excretion during the first twenty-four hours but the sodium excretion returned to control levels in spite of continuous treatment. A group of other steroids studied were found to be inactive at the doses tested.

Mintz

HYPERTENSION


The author reports lumbo-dorsal sympathectomy performed on 24 patients with severe hypertension. Five patients had chronic renal disease and 19 were classified as having essential hypertension. Six patients of the last group were considered to have malignant hypertension.

Of the 24 cases, 4 patients died and 18 were studied after the operation. In only 5 of the 18 cases was the fall in blood pressure appreciable, but even in these the postoperative blood pressure level remained well above normal. Retinal edema, hemorrhages, and exudates disappeared except in one case. The cardiovascular state of 4 cases of hypertensive heart disease appeared to improve temporarily. Cardiac asthma disappeared, and breathlessness on exertion diminished in some. Four of the 6 patients with malignant hypertension died. The two who survived showed considerable improvement.

One of the most impressive features of the operative results was the general improvement in health that resulted.

The authors conclude that in a properly selected case the relief is greater than that which can be obtained by medical treatment alone. The operation should be limited to severe and rapidly progressive cases which comply with the following conditions: the age should be less than 50 years, the renal function should be good, there should be no evidence of coronary or cerebral artery disease, and there should be no severe heart disease or heart failure. Operation in early and mild cases is not advised.

Bellot


The purpose of this investigation was to determine whether hypertension has the same effect as renin on renal function in the rabbit. It was found that, qualitatively, both increase sodium and chloride excretion, increase urinary output, affect the inulin and diode clearance in the same way, and produce a urine, the chloride content of which tends to approximate and slightly exceed that of plasma. On the basis of these results the authors conclude that the changes in the volume and composition of the urine during the diuresis produced by renin and hypertension are due to suppression of the tubular capacity differentially to reabsorb water, sodium, and chloride. It was suggested that the effect of renin on the kidney was mediated by hypertensin.

Abramson


In patients in older age groups with hypertension and in patients with essential hypertension and malignant hypertension, the functional state of the pressoreceptors was studied by means of bilateral blockade of the carotid sinus by Novocain. The patients referred to reacted to this procedure by a sudden increase of the pulse rate as well as of systolic and diastolic blood pressure readings. This was interpreted to indicate that a reflex regulation of the blood pressure is present in hypertension. Nornotonic subjects reacted to the same procedure by showing a rise in pressure that was more marked but of shorter duration. The counter-regulation in
normotensive subjects by the remaining pressoreceptors was absent in the hypertensive patients, indicating that in the latter there is a higher threshold for impulses in the whole system due to the impaired elasticity throughout the vascular tree. A neurogenic mechanism in the production of hypertension is acceptable; however, hyposensitivity of the pressoreceptive system on an anatomical basis has to be postulated instead of a hypersensitivity, which has been assumed by others to be present in hypertension.

Pick


In his review of 800 patients with hypertensive disease, the author reports that the prognosis is worse in those patients presenting an initial abnormal electrocardiogram. On the basis of T-wave changes, a group of 264 patients were studied over a period of eleven years. In those with definitely abnormal electrocardiograms little tendency was shown for improvement; in only 3 did the electrocardiogram improve. The mortality rate in men with electrocardiographic evidence of myocardial disease was five and one-half times greater, and for women three times greater than the average mortality, against two and one, respectively, for hypertensive subjects without electrocardiographic change. The author feels that any therapy for hypertension capable of effecting a regular and lasting improvement of the electrocardiogram should be of value.

Tandowsky


Veriloid, a purified alkaloidal fraction of veratrum viride, was given to 10 hospitalized patients after a control period of at least forty-eight hours of bed rest. Measurements of arterial pressure and pulse rate were made at least three times a day and, when these had stabilized, every half hour for the two hours before and four hours after the administration of the drug.

Veriloid was also given to 25 ambulatory cases after three measurements were made of arterial pressure and pulse rate under standard conditions during each visit. The patients were then given 1 or, at the most, 2 mg. of Veriloid four times a day at intervals of at least four hours. The patients were gradually worked up to their nauseating dose, and then maintained at a slightly reduced dosage, which averaged 2 mg. of Veriloid four times a day at the end of three to four weeks. Patients were cautioned, if nauseated or otherwise uncomfortable, to remain recumbent and to reduce slightly their subsequent doses. On this regimen, severe collapse reactions were rare. The antidote used for these reactions was ephedrine sulfate (30 to 45 mg.) and/or atropine (0.5 to 1 mg.).

Both groups of patients had a definite drop in both systolic and diastolic pressures. The drug produced less nausea and vomiting than any other active oral preparation available and could be given for short periods or for periods as long as five months. Meticulous regulation of dosage is important in obtaining optimum results.

Mintz


The author discusses 2 patients with hypertension in whom the adrenolytic drug, benzodioxane (933 F), was used as a diagnostic aid to rule out pheochromocytoma. Each patient received an intravenous infusion of 5 per cent glucose. After about twenty minutes, 933 F was injected into the infusion tubing for two or three minutes in a dose of 10 mg. per square meter of surface area. Both patients showed a marked rise in the systolic and diastolic blood pressure and an increase in pulse rate. Nausea, headache, dizziness, flushing and precordial pain were experienced. The author concludes that the stimulation of the central nervous system caused by 933 F is a dangerous side reaction, and is an inherent property of such compounds that apparently becomes more manifest in patients with hypertension that is not due to pheochromocytomas.

Nadler


In a group of 26 patients placed on a low-salt diet, 23 presented a fall in blood pressure. The authors conclude that a diet of this type may produce a fall in blood pressure in many hypertonic subjects, but not in all. Addition of salt to these patients' diets without their knowledge caused a rise in blood pressure. No cause for this effect is offered, but they feel that investigation into plasma volume and renal function may offer the necessary clue. They warn of the danger in using a low-salt diet where extensive renal damage is demonstrable.

Tandowsky


Ten patients with Wilms' tumor associated with hypertension were given preoperative roentgen-ray irradiation. Four patients had a marked fall in blood pressure five to eight days after the beginning of treatment. Three of these 4 patients had a detectable
reduction in size of the tumor, but this was preceded in all cases by the change in blood pressure. Two of the patients in this treated group were still alive after five and one-half and eight years, respectively, both with normal blood pressure. Six patients given preoperative irradiation did not respond with any lowering of blood pressure or reduction in the size of the tumor five to eight days after beginning treatment. One patient had a normal blood pressure following preoperative irradiation, which persisted following nephrectomy until six months later, when hypertension occurred with the development of pulmonary metastases. Irradiation to this area resulted in a return of the blood pressure to normal limits. Eleven and one-half months following the initial admission, this patient died with severe hypertension. Postmortem examination showed widespread pulmonary and hepatic metastases, but no evidence of tumor recurrence at the original site and with no involvement of the other kidney.

The cause of hypertension seen in Wilms' tumor remains unknown. While the preponderant majority of patients with renal embromya have an associated hypertension, some do not. Although the concept of renal ischemia seems applicable to some of these cases, it does not seem to apply to the case where metastatic lesions in the lungs and in the liver were associated with a return of hypertension. In addition, repeated attempts have failed to demonstrate the presence of a pressor substance in these tumors.

Schwartz


The authors compared serial renal clearances in dogs with spontaneous hypertension, in dogs rendered hypertensive by the Goldblatt method, and in normal dogs. Three dogs with spontaneous hypertension were found to have normal renal plasma flow and glomerular filtration rate. During the third year of their known hypertension, serial renal clearances done at intervals showed no tendency for the animals to develop impaired renal function. Pathologic studies on 2 of these dogs revealed slight to moderate chronic focal lesions in the kidneys, and bilateral adrenal cortical adenomatous hyperplasia.

Seven nephrogenic hypertensive (Goldblatt method) dogs were studied. Clearances revealed that some exhibited normal kidney function, while others showed depression of renal plasma flow and glomerular filtration rate. In the latter, the filtration fraction was elevated in some and not in others. Serial renal clearances showed no tendency toward progressive impairment of kidney function. This was found regardless of the duration of the hypertension and whether or not the immediate postoperative clearance values were normal or depressed.

Kidney function was not found to improve over the course of a year or more in dogs submitted to the Goldblatt procedure, even though these dogs showed immediate depressed clearance postoperatively. Autopsies on 3 such dogs showed minimal renal changes in one, unilateral kidney atrophy with contralateral hypertrophy in 2 and normal adrenals in all.

In general, renal clearances showed correlation with postmortem kidney findings, although normal renal clearances occurred with anatomic abnormalities of normal kidneys. The present studies suggest that mechanisms other than elevated blood pressure operate to produce progressive kidney damage and impaired renal function. It is apparent that canine chronic benign hypertension does not result in progressively impaired renal function, in contrast to the situation in human essential hypertension.

Schwartz


The author points out that, because of the intrinsic shortcomings and deficiencies of the investigational studies, the enthusiastically proclai ned beneficial effects of dietary and surgical treatment in hypertension, are, in many instances, more apparent than real. The pretreatment blood pressure determinations are taken over too short a period of time to constitute a proper control; moreover, the pre-treatment readings are made at a time when the patient is in an uncustomed environment and, in the case of contemplated surgery, is emotionally upset because of this realization. These factors tend toward artificially high pretherapy blood pressure levels. The post treat net pressure determinations, on the other hand, are made in the comparative calm following reassurance offered by dietary therapy or the lack of apprehension when operation is a thing of the past. In many instances the post-therapy period of observation has been too brief for any definitive evaluation. In the case of dietary programs, the beneficial effects resulting from weight loss itself have not been controlled. Moreover, several of the articles advocating the rice diet in hypertension have included patients with acute or chronic nephritis and/or cardiac decompensation. These are the principal targets of the author, who believes, nonetheless, that dietary and surgical methods have a place in the therapy of hypertension, albeit a small one.

Hanno


Hydergine (CCK 179), the combination of the
ABSTRACTS

1219

three dehydrogenated ergot alkaloids of the dimetilpyruvic acid group, has been shown to be the most active and best tolerated of the drugs investigated in the treatment of various forms of high blood pressure, such as juvenile hypertension, high blood pressure with subjective symptoms in the absence of organic damage, hypertension with prominent cerebral, retinal, renal or myocardial (electrocardiographic changes, angina pectoris) damage, hypertension with hormonal disturbances or with peripheral vascular disorders. Hydrgine has proved clearly superior to bromides, barbiturates, and purine derivatives in the treatment of hypertension.

Objectively, its therapeutic action is manifested by a reduction of the systolic and the diastolic blood pressures, improvement of the alterations of the eye grounds caused by hypertension, improvement of the electrocardiogram and of the disturbed renal function. A favorable influence is also obtained on the subjective symptoms of hypertension such as headache, vertigo, tinnitus, fatigue, sleeplessness, blurred vision, scotoma, hot flushes, ataxia, tremor.

In mild cases oral treatment with gradually increasing doses usually suffices. Generally improvement is seen after twelve days of treatment and a full therapeutic effect after twenty to thirty days. The combined oral and parenteral treatment with Hydrgine, however, is considerably more effective; improvement is evident in seven days and a full therapeutic response is observed in sixteen days. The combined treatment is especially recommended for severe cases. Either method, however, requires single or repeated courses of two to three months' treatment interrupted by intervals free of medication, or continuous treatment. Medication should not be abruptly discontinued but gradually reduced — in oral therapy by a daily reduction of one to two drops with each dose.

The following directions are of fundamental importance for the treatment with Hydrgine: (1) Therapy must be carried out over a sufficiently long time; when the first symptoms of improvement are observed, dosage should be increased until the optimal effect is obtained. (2) A sudden interruption of treatment or any abrupt change of the dosage should be avoided. (3) Therapy must be adjusted to each individual. Symptoms of intolerance may manifest themselves by stimulation of counter-regulatory mechanisms following excessive doses of the DH-alkaloids or, spontaneously, in autonomic instability. Supervision and periodic control of the patients are, therefore, imperative.

AUTHORS

PATHOLOGIC PHYSIOLOGY


Rabbits suffering from slow or rapid lowering of body temperature show a reduction in heart rate directly proportional to the fall of body temperature. The P-R interval and the QRS complex are also roughly proportional in their prolongation to the fall in body temperature. The relative prolongation of electrical systole is not a linear function of body temperature; it becomes relatively more prolonged at lower body temperatures. The very marked changes in the S-T segment and the T wave under such conditions show individual differences in extent and localization. The changes in rate and conduction are exclusively the result of the direct effect of cold. The prolongation of electrical systole is partly the result of cold directly on the muscle fibers and partly the result of anoxia due to lowered oxygen dissociation. The T wave changes are exclusively the result of anoxia. The anoxic nature of the S-T segment and the T wave changes, as well as part of the prolongation of electrical systole, is proved by the fact that increasing the oxygen dissociation of the blood by acidification reverses them to normal. Increasing the amount of oxygen physically dissolved in the plasma also reverses these changes. Anoxemia does not play any role in the production of any of the changes seen in the heart with exposure to cold.

WENDKOS


Definite evidence of enlargement of the heart was observed in about one-half of a series of 185 soldiers with traumatic arteriovenous fistulas. The degree of cardiac enlargement appeared to be related to the size of the fistula, the duration of its existence, and perhaps its distance from the heart. The incidence and degree of cardiac enlargement and the rapidity with which this occurred were less in those patients with fistulas above the level of the heart than in those in whom the lesions were located in the pelvis and lower extremities. Reduction in the size of the heart was observed following excision of the fistula.

ABRAMSON


The cardiovascular effects of toxemia of pregnancy were analyzed on the basis of a clinical and electrocardiographic study of 14 patients. In 4 instances the toxemic state resulted in a serious circulatory condition which was the direct cause of death in one case. Two patients with pre-existing essential hypertension showed a marked aggravation of their condition, as shown by increased blood pressure levels and transient T wave changes. Case 3 developed congestive heart failure in the immediate postpartum period; complete recovery resulted
in less than one month. Pulmonary embolism due to massive obstruction of the pulmonary capillaries was demonstrated at autopsy in Case 4. A number of cells from this lesion were considered to have been forced through the pulmonary circuit since they were found in the myocardial tissue. It is suggested that this may be a significant factor in cardiac involvement in certain cases of toxemia of pregnancy.

**Schlesinger**

**PATHOLOGY**


Twenty-three cases of carcinoma and 7 of sarcoma and metastases in the heart were studied. In only 2 patients was the diagnosis made before death. Signs of cardiac failure were found clinically in 12 cases. The primary tumor in 6 of the cases with carcinoma was in the bronchi. The left ventricle was more often involved than the right. Tachycardia was the most frequent finding. Gallop rhythm and a pericardial friction rub were occasionally found. The electrocardiographic changes included bundle-branch block, auricular fibrillation, A-V nodal rhythm and abnormal T waves.

**Scherf**


The electrocardiogram of the turtle was studied by means of direct leads before and after auricular damage caused by cauterization. Four clinical cases presenting abnormalities of the auricular waves are presented.

The authors conclude that auricular fibrillation is a final stage which occurs only after a series of transitory auricular disorders. In certain cases, the following stages can be observed: (1) increased conductivity within the left auricle; (2) rapid left auricular rate followed by flutter and then fibrillation; (3) flutter of the right auricle with fibrillation in the left; (4) total fibrillation of the auricles. According to the authors, the occurrence of normal P waves does not exclude either auricular dissociation or partial fibrillation. The latter is revealed only by special leads for the study of auricular disorders.

**Luisada**


An unusual anomaly of the left atrium in which that chamber was subdivided by a membranous fold extending downward from the roof of the chamber is reported. This fold, or curtain, bulged anteriorly and had a free sickle-shaped border below, just above the atrioventricular opening. The posterior compartment received the pulmonary veins; the anterior compartment continued into a normally-shaped auricular appendage and a normal mitral orifice.

This malformation has been previously described as a “trivial” heart. The author believes that the proper term should be “pulmonary sinus heart” because the embryologic deformity is a faulty incorporation of the pulmonary vein into the posterior wall of the atrium. The deformity apparently has no special clinical aspect; it conceivably could give signs resembling mitral stenosis. This particular patient died at the age of 70 years from hypertensive cardiovascular disease, in which the atrial defect was incidental.

**Gouley**


Although rheumatic fever follows in the wake of a preceding Group A hemolytic streptococcal infection, accumulated evidence points to the fact that the streptococcal infection per se is not alone the causative factor in the development of the rheumatic state. The possibility that an allergic reaction on the part of the host is pathogenetically involved is suggested by much experimental and clinical work. These studies are reviewed in this paper.

Rheumatic-like lesions have been produced in the experimental animal by the induction of allergic reactions either of the necrotizing Arthus type, characterized by the presence of circulating antibodies, or of the bacterial tissue-fixed-antibody type. Sensitization by the production of isoantibodies and autoantibodies have given equivocal results. These animal experiments must be interpreted with reservation because, in the absence of other than morphologic criteria, the specificity of the induced lesions is open to question. From the clinical point of view, it is pointed out that there is as yet no test for the detection of specific antibodies in rheumatic patients not found in other individuals recovering from streptococcal infections.

**Hanno**

**PHARMACOLOGY**


Experiments were designed and performed for the purpose of testing the selectivity of certain vasodilator drugs and stimuli for the peripheral cutaneous circulation. Heat, alcohol, moderate doses of Priscol, and food caused selective vasodilatation of the skin of the fingers and toes in varying degrees. Methacholine chloride and tetraethylammonium
chloride caused widespread vasodilatation, unselective for the skin of the fingers and toes.

The vasodilator stimuli which were studied were classified with reference to their actions on peripheral cutaneous blood flow and elsewhere as follows:
(a) Those increasing only the cutaneous circulation. Examples are heat, food, alcohol, and Priseol in moderate doses. These have wide margins of safety. Decreases in "splanchnic" blood flow may play a supportive role in their action. (b) Those which increase peripheral cutaneous flow and dilate other vascular beds sufficiently to induce increased cardiac output, in order to maintain blood pressure. Examples are methacholine chloride and large doses of tetraethylammonium chloride. These have narrow margins of safety. (c) Those which fail to increase peripheral cutaneous blood flow either with or without significant changes in cardiac output and blood pressure. Examples are tetraethylammonium chloride in small doses and niacin.

DURANT


The embryonic duck heart preparation, which is sensitive to minute amounts of digitoxin when present in Tyrode's solution and human serum, was used for quantitative detection of digitoxin excreted in the urine of patients receiving the drug. Each of 5 subjects was given 1.2 mg. of digitoxin orally and each excreted greatly varying amounts of the drug in the urine. The results indicated that approximately 14 per cent of the amount of digitoxin administered orally to these subjects could be recovered in the urine collected the first three days after administration of the drug.

MINTZ


Eight cases of supraventricular paroxysmal tachycardia are reported, all in infants below 1 year of age. Two of the infants died, one of vascular collapse after the end of the attack and the other of congestive failure during an attack. In 2 cases, vagal stimulation terminated the attack. Oral quinidine was useful in several cases.

Clinical and electrocardiographic characteristics of the attack are given; they include a post-tachycardia syndrome. The term "prenatal" is suggested in place of "congenital" for instances in which the paroxysmal tachycardia is observed before delivery.

PHYSICAL SIGNS


The phonocardiographic tracings of 9 children with a clinical diagnosis of Roger's disease were studied. The authors found some typical features in the tracings of the cardiac murmurs. They began in early systole with very slight oscillations scarcely higher than the isophonic line and continued during the rest of systole with wide oscillations of increasing-decreasing height. The features of the typical cardiac murmur are attributed by the authors to the balance of pressures between left and right ventricle in the various phases of systole.

Luisada


The author describes the phonocardiograms of 2 normal individuals and presents a new phenomenon, as yet undescribed in man: a reduplication of the third sound. The name "fifth sound" is suggested. The splitting or reduplication of the third sound had been described in animals by Luisada and Mautner, who attributed it to asynchronous rapid filling of the ventricles. The author, on the other hand, explains the fifth sound as a secondary vibration, due to an elastic reaction of the ventricular walls.

Luisada


Several cases presenting an inspiratory splitting of the second sound over the aortic area are described. They include cases of congenital dextrocardia, displacement of the heart toward the right, and traction on the vascular peduncle by adhesions. According to the author, observation of a split second sound at the right of the sternum should lead to suspicion of displacement, rotation, or inversion of either the heart or the large arterial trunks.

Luisada


A case of calcified pericarditis with a quadruple rhythm is described. A phonocardiogram revealed both an early systolic and an early diastolic snap. The systolic snap is more typical; the authors attribute it to vibration of either the calcified surface or the junction of articular plaques. The diastolic vibration is less typical and can be found also in constrictive pericarditis without calcification.

Luisada
ABSTRACTS


The authors report their observations on 82 children with a diagnosis of mitral insufficiency as the only rheumatic lesion. The diagnosis of mitral insufficiency was made in the presence of a long, blowing systolic murmur, varying in intensity from faint to loud, heard at the apex and transmitted into the axilla. All children were carefully examined by fluoroscopy and 24 per cent showed enlargement of the left ventricle. For controls, there were included 179 children with potential rheumatic heart disease, and 556 normal children with no heart disease. Four hundred and twenty-two (76 per cent) or the normal children had a functional systolic murmur. Of those with potential rheumatic heart disease, 1.6 per cent showed enlargement of the left ventricle.

The results of this study indicate that cardiac enlargement visible on fluoroscopy occurs in children with a diagnosis of mitral insufficiency based on the presence of a characteristic murmur, but that such enlargement is by no means the rule.

Bellet

PHYSIOLOGY


The authors devised a technic in which the R wave of the electrocardiogram is used to "trigger" the sweep of a recording cathode-ray tube. By this method, the timing of the Korotokow blood pressure sounds showed a respiratory variation. Younger subjects showed more alterations, which were due to the shape of the pulse wave and to differences in its conduction velocity, than did older subjects. These variations were related to respiratory changes in blood pressure; in the case studied, the blood pressure was highest at expiration. At this time, there was maximal velocity of pulse wave conduction. The interval between the R wave and the first heart sound was found to be constant, while the interval between the R wave and the second sound varied with respiration. The second sound occurred later at expiration when the pressure was higher. Timing of the pulse wave also revealed that respiratory variations occurred; at expiration the pulse wave arrived earlier. Spontaneous changes in pulse wave velocity were noted during voluntary apnea, suggesting that these are dependent on blood pressure changes.

WaifF


Using the venous occlusion plethysmographic method, the authors were able to study the rate of blood flow in the human leg during rhythmic contraction of the gastrocnemius muscle. Their results confirmed the findings of others that during the period of effort the mechanical hindrance of the contractions reduced the flow to 40 per cent of what it would otherwise have been.

Abramson


Although it is generally accepted that cooling of the body reduces the peripheral blood flow, the question of where the blood is to be found when the peripheral blood vessels are constricted has not been satisfactorily answered. The authors investigated the problem through a study of vital capacity measurements in male subjects. Cooling the body produced a fall of vital capacity, while warming caused a rise in this measurement. This was interpreted to indicate that cooling results in movements of blood from the extremities to the lungs, while warming causes movement in the opposite direction.

Abramson


The effect of electrical stimulation of the carotid sinus nerve was studied in dogs and rabbits under chloralose anesthesia. Unlike the findings observed in cats, a marked depression of arterial blood pressure occurred. Normally, activation of the chemoreceptors in the carotid sinus by changes in blood composition causes a rise in blood pressure, while excitation of the baroreceptor mechanism by increasing the intrasinus pressures produces a marked drop in pressure. The results obtained in the dog and rabbit through stimulation of the carotid sinus nerve, containing both types of fibers, were therefore interpreted to indicate that in these species the effects of baroreceptor fiber stimulation are predominant over those of chemoreceptor fiber stimulation.

Abramson


The author states that there is experimental and clinical evidence that the following events produce vibrations contributing to the formation of the first heart sound: muscular contraction and tension of the ventricular walls at the onset of ventricular systole (muscular factor); closure of the auriculoventricular valves (valvular factor); movements and distention caused by the ejection of blood from the ventricles into the arteries (vascular factor); and residual vibrations due to the preceding auricular contraction (auricular factor). The valvular factor
is the most important. The second heart sound is attributed to vibrations produced by closure of the semilunar valves and vibrations in the walls of the arteries and blood column. The third heart sound is due to vibrations of the ventricular wall produced by the inflow of blood from both auricles. Muscular contraction and distention, passage of blood through the auriculoventricular orifices, distention of ventricular walls by the inrush of blood from the auricles and friction of the auricle against neighboring structures are the underlying factors accounting for the auricular sound.

NADLER


Thirty-five normal adults were tested at rest and after mild exercise. The blood pressure, arterial oxygen saturation, precordial electrocardiogram, ventilation volume, expired gases and respiratory rate were measured by means of continuous recording apparatus while the subject was walking on a treadmill. The authors' results confirmed previously reported changes in gas composition and showed that adaptive changes in respiration and circulation complement and spare each other by differences in time and rate of change of the various cardiac and pulmonary functions.

BUTTERWORTH


The authors report a study of the effect of digitals on heart rate and cardiac output in the presence of auricular fibrillation and sinus rhythm. They investigated this relationship by determining the right auricular pressure and oxygen saturation of venous and arterial blood by the use of cardiac catheterization in subjects with and without cardiac failure. Digoxin was instilled intracardially (0.75 to 1.5 mg.) in 27 patients, 12 with sinus rhythm and 15 with auricular fibrillation. The effect of atropine was similarly studied in 20 patients.

Following Digoxin injection in the presence of cardiac failure, the rise in cardiac output was as pronounced in those with sinus rhythm as in those with auricular fibrillation. The authors found no relationship between the degree of slowing and the increase in cardiac output. Relief of venous congestion occurred independently of the degree of slowing. Cardiac output improved whether the ventricular rate was slow or fast. Atropine in normal and failing hearts produced a fall of auricular pressure and a rise in cardiac output. There was no evidence that acceleration of rate produced by atropine either depressed cardiac output or increased venous congestion. Following Digoxin injection, the use of atropine in fibrillating hearts reversed the slowing effect without counteracting either the rise in cardiac output or the fall in venous pressure caused by Digoxin. The same held true for patients with sinus rhythm.

TANDOWSKY


The author describes a technic for the examination of renal plasma flow, using paraaminohippuric acid given in a single intramuscular injection together with a local anesthetic and adrenalin. Use of the local anesthetic avoided the pain which ordinarily followed the intramuscular injection of concentrated PAH. The injection of a small amount of adrenalin prevented a too rapid fall in plasma concentration of PAH without influencing the blood pressure or pulse rate. The most favorable mixture was found to consist of 0.3 ml. of 20 per cent PAH and 0.05 ml. of 2 per cent xylocain-exadrin (containing 0.0006 mg. of adrenalin) per Kg. of body weight. Comparison of this method with the continuous intravenous technic of determining PAH clearance showed close conformity of the two methods.

SCHWARTZ


The authors describe a dye injection method for determining the blood volumes in the right and left heart and in the lungs in normal individuals and in patients with various types of heart disease. The blood volume between pulmonary artery and brachial artery was determined from the dilution curve of Evans blue dye injected into the catheterized pulmonary artery. The amount of blood in the systemic arterial system proximal to the point in the brachial artery where blood samples were obtained was calculated by multiplying the cross-sectional area of the aorta, determined roentgenologically, by the distance from the root of the aorta to the site of arterial puncture. This method of calculation was found to be reasonably accurate when compared with a direct determination in a case of auricular septal defect.

The blood volume of the right heart was determined directly by subtracting the volume found when dye was injected into the pulmonary artery by catheterization from that found after injection into the superior vena cava. Total blood volume
of the heart was calculated from the roentgenologic heart volume based on the known correlation between roentgenologic heart volume during life and heart weight at autopsy. The blood volume of the left heart was presumed to be half of the total blood volume of the heart.

The amount of blood in the pulmonary artery, capillaries and veins was calculated by subtracting the blood volume in the left heart and proximal part of the arteries from the blood volume found between pulmonary artery and brachial artery. No consistent change in pulmonary blood volume was found in patients with various degrees of decompensation, with mitral valvular disease or with hypertension.

Schwartz

RHEUMATIC FEVER


The groundwork for bacteriologic and immunologic studies in rheumatic fever was laid after the separation of Group A streptococci into various serologic types. The discovery of the method of separation led to immunologic studies of the antigenic components of these streptococci in rheumatic fever patients. This knowledge, in turn, provided the basis for various investigations of experimental streptococcal infections in rabbits. Eventually, by exposing these animals to streptococci conditions approximately similar to those observed among rheumatic fever patients, a histopathologic picture closely resembling that of human rheumatic carditis was induced in their hearts. The small proportion of infected rabbits showing this picture roughly approximated the relative frequency of rheumatic fever encountered among patients infected with Group A streptococci. On the basis of these investigations and of the hypothesis employed in planning them, there seems to be furnished additional support to the theory that Group A streptococci are important factors in the pathogenesis of rheumatic fever. The investigations also indicate how these microorganisms may act in giving rise to this disease.

Wendkos

ROENTGENOLOGY


The authors present a method of automatic multiple rapid exposures in angiocardiography. Only two exposures per second could be accomplished with the existing apparatus but the authors expect to achieve five exposures per second soon.

The desirability of showing the complete cycle of circulation is illustrated in a case of aortic coarctation in which the filling of the right chambers, the pulmonary arteries and veins, the left chambers and the aorta and its main branches were well demon-

strated. Three views of the right ventricle indicated the magnitude of changes in chamber size during systole. Multiple exposures in a patient with atrial septal defect showed such narrowing of the right ventricular outflow tract in one exposure that infundibular stenosis could well have been inferred were it not for the subsequent observation in which the expansion of this portion indicated that such an organic defect did not in fact exist. Still another series demonstrated increase and decrease in the diameter of a pulsating pulmonary artery.

The authors stress that integration of multiple serial angiocardiography with electrocardiography should provide us with more information on the sequence of events in the cardiac cycle than is available at present.

Schwedel


The authors emphasize that the portion of the aorta most commonly affected in syphilis is the lower ascending portion, hidden by the heart in conventional roentgenograms but seen in the angiocardiogram. Measurements were made of aortic diameters in the mid-ascending, transverse, mid-descending and diaphragmatic portions in 100 normal subjects and in 60 patients in whom the diagnosis of syphilitic aortitis was entertained. Diameters were greatest in the ascending portion, diminishing progressively distally. In the normal mid-ascending aorta the range was 16 to 38 mm., and diameters over 38 mm. were considered abnormal. The diameters in all syphilitic patients exceeded the normal width, measuring 38 to 70 mm. (average 45.4 mm.). Other angiocardiographic findings were irregularity of the aortic lumen (95 per cent), calcification of the ascending aorta (26.6 per cent), aneurysm (41 per cent), abnormal thickness of the aortic wall, and tortuosity of the thoracic aorta.

The authors stress that aortic dilatation to a width exceeding 35 mm. could occur also with hypertension, rheumatic aortic valvar insufficiency and coarctation of the aorta. They did not observe aortic dilatation with arteriosclerosis alone.

Schwedel


The authors analyzed pulmonary artery width (prominence) and amplitude of pulsations in relation to pulmonary artery flows and pressures measured by the method of cardiac catheterization. They concluded that flows of less than 7 liters per minute per square meter of body surface rarely produce
dilatation, whereas flows in excess of 7 liters usually do produce dilatation roughly proportional to the increase in flow. With increased flow there is a corresponding increase in the amplitude of pulmonary artery pulsations, noted either in the main pulmonary artery, its hilar branches, or both. Increase in pulmonary artery pressure also may cause dilatation and increased pulsations. The combination of increased flow and pressure is more likely to produce dilatation and increased amplitude of pulsations than either alone.

In pulmonic stenosis with normal or reduced flow to the lungs, the size and the pulsations of the pulmonary artery and its branches are normal or diminished; where there is post-stenotic dilatation this is confined to the main pulmonary artery, and does not extend to its branches. Normal pulmonary artery contours may be observed with atrial and ventricular septal defects, patent ductus arteriosus, Eisenmenger's complex, mitral stenosis and in pulmonary vascular disease. Such contours may be normal even when pulmonary artery pressures are moderately increased.

Schwedel


The authors describe the roentgenographic findings in 49 cases of sickle cell anemia of prolonged duration. The usual red blood count was less than three million. The chest findings indicated that cardiac enlargement is one of the most constant features of this disease, though the degree of enlargement varies considerably. The heart contour was globular, there was prominence in the pulmonary conus region and enlargement to the right and to the left.

Eleven of the 49 patients had clinical evidence of cardiac insufficiency, 2 with roentgenographic manifestations of pulmonary edema. The authors attributed the pulmonary findings in these 2 cases to sickle cell crises rather than to left ventricular insufficiency. In general, there was poor correlation between the presence and severity of roentgenographic findings and the severity or duration of the anemia. The presence of bone and joint pains, fever, leukocytosis, murmurs and cardiac enlargement also was suggestive of rheumatic cardiac involvement.

Schwedel


The authors cite their experience with 40 angiocardiographic visualizations. Patients were prepared by sedation, including morphine. Eight to 30 cc. of the opaque injectable substance were used in infants, and from 40 to 45 cc. in adults. The injection time was from 1.8 to 2 seconds. Ether and saccharine were used for circulation times. Their contraindications were severe allergy, anaphylaxis, nephritis, severe liver damage and coronary artery disease. Illustrations and diagrams of the circulation in various conditions are shown.

Schwedel


The authors describe the technical development of their apparatus for the taking of rapid automatic serial exposures on films measuring 9½ by 9¼ inches. The entire process is automatic and continuous until the exposure button is released. Two films may be taken each second for as many as 40 exposures. Roll film is used and exposures are synchronized with a self-cocking Potter-Bucky grid. Usually exposures are 500 m.a., 1/20 sec., 65-100 K.V.P.

Schwedel


The author describes the roentgenologic findings in a 60 year old man with a machinery murmur clinically diagnosed as patent ductus arteriosus. A double linear calcification was noted in the region of the ductus extending from the pulmonary artery to the aortic downward projection so frequently seen in this condition. This calcification was even better demonstrated by the technic of planigraphy. There was no operation or postmortem confirmation. Calcification of the patent ductus obviously is a contraindication to operation on this structure.

Schwedel


The author describes the development of electrokymography since the photoelectric cell was first used for this purpose in 1939. The present day machines and methods are described. Typical curves are shown of the left ventricle, right ventricle, left and right auricles, and the aorta. These are taken simultaneously with the electrocardiogram.

Schwedel


The author discusses the various sites at which auricular pulsations may be recorded with electrokymography and concludes that the best region for such recording is in the posterior-anterior projection, at the junction of the pulmonary arterial and left ventricular pulsations. Here, pulsations of the left auricular appendage could be elicited in 45 out of 50 cases, even though no definite auricular contour or pulsations could be recognized in this region. In
the other 5 cases transmitted pulsations from the left ventricle or pulmonary artery obscured the smaller auricular waves. The electrocardiogram and carotid artery pulsations were used as reference points for the identification of individual auricular waves.

**Schwedel**

**SURGERY IN HEART AND VASCULAR SYSTEM**


The author discusses the Blalock-Taussig postulate and upon this and the careful use of radiography, radioscopy, cardiac catheterization and angiography, determines the extent and type of surgical intervention indicated. Various surgical techniques and methods are reviewed. Because of the difficulty of vascular dissection and the inability to properly visualize the heart and origin of the pulmonary artery and aorta, the author feels that a right-sided approach to the stenotic valve is dangerous. The mortality rate of patients having the Blalock and Potts operation at the Guy's hospital was 15.5 per cent, which is similar to the results of Blalock. Fifty-six per cent of those who recovered presented almost perfect results.

The author feels that in the presence of pure pulmonary stenosis valvulotomy is the procedure of choice. He warns that heart failure may be expected during the course of this procedure, and early preparation must be made for cardiac revival immediately following the valvulotomy. The difficulty of correcting an infundibular stenosis, a complete atresia, and stenosis associated with Fallot's tetralogy is discussed; the author feels that valvulotomy should be the procedure of choice in these lesions. To date, he reports 5 successful cases in this group following this procedure.

**Tandowsky**


The basic pattern of congenital tricuspid stenosis consists of a diminutive or absent right ventricle with atresia or hypoplasia of both the pulmonary artery and the tricuspid valve. In order to be compatible with life, this lesion must be associated with an interauricular septal defect. A ventricular septal defect, or a patent ductus arteriosus, or both must be present also in order that blood may enter the pulmonary artery. Two cases are presented which illustrate the two ways in which blood may reach the lung, one by way of the patent ductus and the other by way of an interventricular septal defect and a hypoplastic pulmonary artery. The latter anomaly resulted in a diminished pulmonary blood flow at low pressure. The former anomaly resulted in a vigorous pulmonary blood flow at high pressure.

It is suggested that a method for differentiating these variants of the basic pattern of tricuspid stenosis is the response of the blood oxygen saturation to inhalation of pure oxygen. In patients whose lungs are supplied through a hypoplastic pulmonary artery, a marked shift in oxygen saturation of arterial blood upon inhalation of oxygen should not occur. For these patients an aortic-pulmonary shunt is indicated. In patients whose lungs are supplied through a large patent ductus with blood under high pressure and in whom vascular pulmonary changes have ensued, a marked shift in the oxygen saturation of arterial blood upon inhalation of oxygen may be expected. In these patients, operation is not indicated.

**Lecks**


In an attempt to evaluate the use of vein grafts to replace arterial defects, the authors excised a segment of abdominal aorta in 17 dogs and obtained continuity of lumen by using a venal caval graft. In all instances the diameter of the vein graft was greater than that of the abdominal aorta. Although some dilatation of the grafts occurred, in none was there evidence of aneurysm formation. Progressive thickening of the vein was noticed, but the wall did not resemble that of an artery. The grafts appeared to function well and no changes in circulatory dynamics as reflected in femoral artery pulse pressure tracings were noted.

Because of the successful outcome in animals, superficial femoral vein grafts were used in 2 patients suffering from the tetralogy of Fallot to bridge a defect between the subclavian and pulmonary arteries. In one an excellent functional result was obtained while the other died postoperatively from pulmonary embolism.

**Abramson**


This paper is concerned with an evaluation of the benefits to be derived from the introduction of tale powder into the pericardial cavity for the purpose of inducing a hyperemia of the myocardium and the stimulation of new intercoronary communications in patients suffering from coronary artery disease with disabling coronary insufficiency. Presumably, the adhesive pericarditis thus produced does not interfere with cardiac function nor does it increase cardiac work.

The procedure was employed in 36 patients with angina pectoris, all of whom suffered from an extreme degree of disability and failed to show any improvement after a prolonged period of medical treatment. Six patients died in the hospital after
operation, giving a hospital mortality of 16 per cent. Three of these patients died within forty-eight hours of coronary occlusion. The other 3 patients died within two or three weeks after the operation, from coronary occlusion which developed after the operation and one from a rupture through an unhealed infarct which was discovered at the time of the operation. From the standpoint of relief of the anginal pain, 70 per cent were markedly improved and another 15 per cent were moderately improved. According to their own estimate, 85 per cent of the patients were more than 50 per cent improved. Eight patients considered themselves to be completely relieved and normal. The ability to care for their daily needs has been restored to all the patients who are living. With only one exception, these patients have been able to return to their former occupations or to engage in other gainful occupations even though many of them had been completely incapacitated before the operation.

WENDROS

THROMBOEMBOLIC PHENOMENA


The ratio of deaths from venous thrombosis and pulmonary embolism at present is still as great as existed ten years ago. In an attempt to elucidate the problem further, the author studied the clinical history of 2,929 patients receiving specific preventive or therapeutic measures for venous thrombosis. In 1,332 cases, bilateral superficial femoral vein interruption was performed for the treatment of thrombosis and of this number 6 succumbed to further emboli. In 950 patients falling into the older age groups, prophylactic superficial femoral vein interruption was performed, and of these, 4 died from pulmonary embolism. In 647 patients diemarol was administered within forty-eight hours after the operative procedure, and in this group the percentage of thrombosis was reduced by 80 per cent as compared to the control series.

The author concludes that superficial femoral vein interruption when properly carried out is a safe procedure, but it does not entirely eliminate subsequent infarction, and, furthermore, it fails to protect a few patients from fatal embolism. Early treatment of thrombophlebitis by either anticoagulants, repeated paravertebral sympathetic blocks, or superficial femoral vein interruption hastyins the recovery from the disease and reduces disabling sequelae.

ABRAMSON


Vasospasm associated with deep thrombophlebitis may be severe enough to simulate arterial occlusion; in some instances it may even produce gangrene. In one type known as pseudoembolic phlebitis, the onset of the deep thrombophlebitis is marked by sudden exerting pain, first located in the calf or groin, but eventually involving the whole limb. At the same time discoloration of the limb appears, taking the form of a deeply violaceous or cyanotic hue, with purpuric areas or petechial-like lesions scattered over the extremity. Swelling is generally quite marked, and associated with its onset, cutaneous blebs and even bullae may appear. At the same time pulsations in the arteries of the extremities become diminished and may even disappear, and there is a reduction in cutaneous temperature of the limb. Clinical manifestations of circulatory collapse often accompany or immediately follow the onset of the condition, and death may occur subsequently. In another type, actual gangrene of a part of the extremity may follow the deep thrombophlebitis; or the sequence of events may be reversed, with the arterial manifestations appearing first and signs of involvement of the venous system later. The prognosis in these cases is not good, death having occurred in approximately half the reported cases.

Therapy under such conditions is generally not too successful. Vasodilating procedures, such as the use of acetycholine, Papaverine, or paravertebral sympathetic blocks, are generally of only temporary benefit. Nor has operative intervention in the form of exposure of the femoral vessels, thrombectomy and periarterial sympathectomy been found to be very efficacious. A conservative attitude should be taken toward amputation, which should be postponed until the full extent of the eventual loss of tissue has become apparent.

Two factors, arterial spasm and massive venous obstruction, have been postulated as responsible for the striking arterial manifestations in the severe types of venous thrombosis. To the authors, the second possibility appears to be more plausible. Obstruction of the venous return in an extremity, provided that it is of sufficient extent, can cause a great reduction in the arterial blood flow. However, in addition to being practically complete, the blockage must take place suddenly in order to produce enough anoxia of tissue to result in gangrene. This may conceivably initiate an immediate and severe degree of vasospasm which further tends to aggravate the ischemic process. Fortunately, because of the richness and abundance of the collateral venous channels generally present, gangrene is only very infrequently a part of the clinical picture of deep thrombophlebitis.

ABRAMSON


The author studied 6 cases of recurrent cerebral thrombosis in hypertensive patients. The average
age at onset was 40 years. The average age at death was 52.6 years. The average span of life was 11.4 years after the onset of hypertensive symptoms. The average systolic blood pressure was 223 mm. of mercury. The average diastolic pressure was 123 mm. of mercury. Neurologic or mental symptoms or both were the initial manifestations in all cases. The vascular disease primarily affected the arteriolar system; involvement was maximal in the brain. In only 2 cases was the arteriolar disease in the renal parenchyma as diffuse and as severe as in the brain. In 3 cases, arteriolar disease in the kidneys was far advanced, but either less diffuse or associated with less microscopic parenchymal change than in the brain. The arterioles of the heart were but moderately sclerotic in 4 cases and practically devoid of arteriosclerotic changes in 2 cases. The coronary arteries and their terminal branches were spared to a surprising degree. The factors common to all the cases reported were hypertension, vasospasm, arteriolar sclerosis (cerebral and renal chiefly) and cerebral ischemia and edema.

**Bellet**


On the basis of a study of 2 cases, the authors present a clinical syndrome which they believe indicates the existence of an ascending thrombophlebitis in the inferior vena cava. The manifestations include pain and tenderness in the lumbar region and the loin and hyperesthesia in the distribution of the lumbar nerve; these are due to involvement of the lumbar veins or the collateral veins by the spread of the thrombophlebitis. According to the authors, ligation of the inferior vena cava is indicated in the treatment of this condition.

**Abramson**


Peripheral venous thrombosis and pulmonary embolism are not parallel phenomena. In 202 consecutive patients who died of miscellaneous causes, excluding liver disease, the incidence at necropsy of cardiac or venous thrombosis was 33 per cent, whereas pulmonary embolism occurred in 14 per cent of the total number. The latter complication predominated in the older age group. On the other hand, in 97 cases of fatal portal cirrhosis, no pulmonary emboli were found, even though the incidence of cardiac and peripheral venous thrombosis in these 97 cases of liver disease was not significantly different from that of the miscellaneous group. Hypocoagulability of the blood cannot explain this difference since decreased coagulability is just as often observed in aged patients as in patients with cirrho-


Three cases of embolization with material from atheromata are reported. The first of these represented the chronic or healed phase of such embolization, the origin being eroded atheromata of the aorta. The second represented an instance of embolization by material from an atheroma in the right coronary artery associated with myocardial scars. In the third case there was embolization with material from an unusually large arteriosclerotic valve ring. To the authors' knowledge, no similar case has been reported.

The authors believe that embolization with atheromatous material is more common than generally assumed. The pathologist usually sees the late or healed form. The acute phase of the process may represent itself as a panarteritis with many eosinophils, necessitating serial sections for the elucidation of its true nature. Foreign body giant cell formation and intimal thickening are later phases of this process. Scares, for example, in the kidneys, may be caused by these emboli and microscopic scarring of the myocardium may have a similar origin.

**Durant**


A study was undertaken to analyze and illustrate the mechanism of production and the prevention of thrombosis and embolism. For this purpose a simple artificial circulatory system was set up and filled with freshly heparinized blood. The side arm was packed with a wick through which controlled amounts of tissue extract could be added. It was found that thrombus formation was initiated at the base of the side arm where the circulating blood came in contact with the tissue extract, the growth of the thrombus being in the direction of blood flow. The production of the clot depended upon the rate of blood flow and the rate at which tissue extract was introduced. When the circulation was rapid, even large amounts of tissue extract were ineffective in producing a thrombus. On the other hand, with a slow blood flow, the introduction of a small amount of tissue extract was sufficient to cause clotting. It was pointed out that heparin owes its value in the prevention of intravascular clotting to its power to neutralize thromboplastin.

**Abramson**

The massing of blood platelets as an adherent plug is the primary event in thrombosis. The platelet plug (white thrombus) is the principal means of attachment of the blood clot (red thrombus) until the latter is organized by invading fibroblasts. Clot retraction before organization favors the detachment of emboli. Endothelial “wettability” and platelet adhesiveness are the principal governing factors in thrombosis. Experiments are described demonstrating relative nonwettability in unopened blood vessels and the progressive development of wettability under conditions which probably favor thrombosis.

An increase in the number and adhesiveness of platelets results from the action of thrombocytosis, a lipid of body fat, which is probably liberated by direct trauma, by proteolytic or lipolytic ferments activated by tissue breakdown of any type or after the ingestion of dietary fat of animal origin. Thrombocytopenia, a lipid of the spleen which suppresses platelet formation and adhesiveness, is probably the physiologic antagonist of thrombocytosis. Thus, its use is suggested in the prophylaxis of thrombosis. Thrombocytosis has been found useful in the therapy of purpura.

A new method of measuring platelet adhesiveness to wet-table surfaces is described in which citrated blood is filtered through a wick of glass wool. By this test, platelet adhesiveness is found particularly high and persistent in cancer. Similar findings occur in polycythemia vera, idiopathic thrombocytopenia and related conditions, which probably represent primary disorders of the bone marrow rather than a response to thrombocytosis. Heparin sodium tends to lower platelet adhesiveness and probably retards lysis. Dicumarol has much less effect.

The observations suggest that deficient splenic function may be one of the factors which predispose to thrombosis. Conversely, normal splenic function may include protection of the circulatory tree against thrombosis.

**BERNSTEIN**


The authors attempted a statistical analysis of patients who died of pulmonary embolism and in whom vein ligation had been performed. They concluded that a five-year, large scale program of femoral vein interruption had failed to alter the mortality figures for pulmonary embolism, as compared with earlier, similar periods during which this procedure was not carried out. However, because of the many conditions which defied statistical analysis, no final conclusion could be reached regarding the value of the program.

**ABRAMSON**

**Intermittent Venous Occlusion. Lancet 2: 157, (July 23) 1949.**

This editorial points out that no physiologic evidence has appeared to indicate that the clinical procedure of intermittently applying venous occlusion pressures to a limb produces an immediate vasodilating effect upon the vessels locally. However, since clinical studies indicate that some beneficial effects follow its long continued use, and since no harm ensues from such a program except in the presence of moist gangrene, the method appears to be worthy of further trial.


Spontaneous aneurysm is present more frequently in the popliteal artery than in any other vessel of the body except the thoracic aorta. Although syphilis plays an important role in the etiology of aneurysms, the author was able to show in his series that arteriosclerosis is well as responsible for this type of lesion, particularly in the case of patients falling into the older age groups. His report deals with the surgical treatment of 14 cases of the arteriosclerotic type of popliteal aneurysm.

In 11 of the patients, the aneurysm developed spontaneously, while in the remaining 3 it followed trauma. In most instances pain in the popliteal space was the predominant symptom; arterial pulsations were detectable in all the aneurysms.

In all cases a preliminary sympathectomy was performed, and followed by an aneurysmectomy seven to eleven days later. In no instance did gangrene of the extremity occur after removal of the aneurysm. One patient in the series died after sympathectomy. Both procedures were not done at the same time because of the danger of surgical shock, with the possibility of a drop in arterial pressure producing irreversible vascular changes in the involved limb and gangrene.

The author concludes that a patient presenting an arteriosclerotic popliteal aneurysm, irrespective of age, should be considered a candidate for its surgical removal, unless his cardiac condition contraindicates such treatment, or unless the aneurysm has become thrombosed spontaneously and produced gangrene of the extremity. Preliminary sympathectomy appears to be of value in maintaining the circulation of the limb.

**ABRAMSON**

**Coller, F. A., Campbell, K. N., Harris, B. M., and Berry, R. E. L.: The Early Results of Sympathectomy in Far-Advanced Arteriosclerotic Peripheral Vascular Disease. Surgery 26: 30 (July), 1949.**

The authors attempted to evaluate the therapeu-
tic effects of sympathectomy in far-advanced arteriosclerotic peripheral vascular disease on the basis of a study of 63 patients in whom this operation had been performed on one or both lower extremities. Twenty-one individuals in the series also had diabetes mellitus.

About half the patients who experienced rest pain were relieved of this symptom; others showed some alleviation of the pain. Of the 13 patients who were not helped, 11 subsequently had to have amputations. Most of the patients complaining of cold feet were helped by the operation. Some benefit was experienced with regard to intermittent claudication in 27 of 31 cases, but no patient obtained unlimited walking distance. Ulceration of the skin healed rapidly after sympathectomy in approximately half the cases. The remainder received little if any benefit from the operation. Gangrene was arrested in 28 of 40 patients, while in 11, amputation still had to be performed. There was one death in the series.

Since the maximum benefits of operation frequently were observed as long as one year after operation, the authors were of the opinion that the elimination of vasospasm by the procedure could not alone account for the beneficial effects and that the possibility of a hypertrophy of the collateral arterial network had also to be considered. However, it must be pointed out that 19 patients stopped smoking after operation and that in 18 of these good results were obtained, thus suggesting that abstinence from smoking might also have played a role.

Among the untoward effects from the operation were rapid onset of gangrene in 2 cases, postoperative neuralgia which lasted for less than two weeks, and in 5 patients, a delayed swelling of the sympathectomized limb.

ABRAMSON


There are a number of different complications which may follow injury to major arteries and their concomitant veins, the most common being spasm of the involved vessel or of the entire arterial bed. This may last for hours or even days, and as a result of the associated arterial insufficiency, serious and irreversible changes may occur in the skin, nerves, muscles and joints of the limb. Repeated paravertebral sympathetic blocks may overcome the peripheral vasoconstriction. Another complication of injury to arteries is hemorrhage. This must be controlled immediately not only because of the loss of blood which takes place but also because an ample supply of blood to the parts beyond the point of injury must be maintained or serious changes are certain to follow. When a major artery is merely confused and the coats of the vessel are not ruptured, the damage to the intima may be sufficient to cause local intravascular clotting of the blood and subsequently extension into, and thrombosis of, the collateral arterial circulation. Arterial and arteriovenous aneurysms may also follow damage to a major vessel.

ABRAMSON


The author presents a case report of a female patient who developed marked spasm of both the internal and external iliac arteries on one side, associated with severe vaginal bleeding, late in pregnancy. A sympathectomy was followed by a slow return of pulsations and reappearance of normal function in the extremity. The shock state, together with the pressure of a distended uterus against the vessels, was considered to be responsible for the arterial spasm in the limb.

ABRAMSON


The author investigated the effect of Methohyl by i ontophoresis on a series of 83 patients suffering from arteriosclerosis obliterans, Raynaud's disease, thrombophlebitis or acrocyanosis. Satisfactory or partial improvement was noted in 56 cases, the best results being obtained in the cases of arteriosclerosis obliterans with intermittent claudication and in those with diabetic gangrene. In the patients with Raynaud's disease, Buerger's disease and acrocyanosis, the therapeutic effect was disappointing.

ABRAMSON


The occurrence of severe retinal arterial spasm in the early phase of attacks of migraine may lead to a permanent defect in vision. This type of rare complication was noted by the author in four cases, in each of which retinal arterial occlusion occurred during an attack.

On the basis of such findings and others in the literature, the author expresses the opinion that the symptoms of migraine result from alteration in the calibre of blood vessels in the head and that both intracranial and extracranial vessels take part in the process. During an attack two stages are recognized: (1) the stage of preheadache symptoms, consisting of visual disturbances, paresthesias and aphasia, and considered to be due to functional disturbances of cortical cells secondary to the anoxemia produced by intracranial angiospasm; and (2) the stage of headache produced by an excessive dilatation, particularly of extracranial arteries, which stimulates the pain nerve endings accompanying these vessels.

ABRAMSON

The present studies were undertaken to determine the survival potential of a constant length of small intestine subjected to arterial, venous or combined vascular occlusion in various levels of the small gut. The authors conclude that (1) in experimental vascular occlusion, ligation in continuity is not a dependable method; division is necessary to insure interruption of a given vessel. (2) Interruption of any or all of the mesenteric supply to a 15 cm. segment of the dog’s small intestine results in death of less than half of the animals treated. (3) In the dog complete vascular deprivation of a segment 15 cm. or less in length cannot be accomplished uniformly by interruption of intestinal and arcuate vessels. (4) Contrary to the usual assumption, in this series, venous ligation produced no higher mortality than ligation of any other vessel or combination of vessels. (5) In the dog there appears to be no significant difference between the revascularization potential of different levels of the small intestine. (6) The great revascularizing ability of the canine intestine is strikingly demonstrated by these experiments. The role played by the intramural vessels and their anastomotic connections needs further investigation as does the effect of associated distention of the gut.

Beck


The author presents 29 cases of sudden and unexpected natural death in which the cause of death was spontaneous rupture of a syphilitic aneurysm of the ascending aorta into the pericardial cavity with resultant hemopericardium and cardiac tamponade. The ages of the patients ranged from 17 years to 78 years. Twenty-three men and 6 women, 11 of whom were white persons and 17 of whom were Negroes, were included in the series.

Twenty-seven deaths were due to rupture of the ascending aorta in that part which lies within the pericardial reflection. In 2 cases, death was due to aneurysms which were outside the pericardial reflection but which had eroded into the pericardial cavity. Anatomically, syphilitic aneurysm of the ascending aorta may rupture into the right atrium, the right ventricle, the conus arteriosus, the pulmonary artery, the superior vena cava, the left atrium, the right bronchus, or, as in this series, directly into the pericardial cavity. With rupture into the pericardial sac death is usually sudden, occurring a few minutes after the rupture.

Bernstein

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ANNUAL DINNER

The Annual Dinner of the Association will be held in the Gold Room, Fairmont Hotel, San Francisco, on Saturday, June 24, 1950 at 7:30 P.M. Members are invited to bring their family and friends. Reservations, at a cost of $7.00 each, should be sent to the Association as soon as possible.

WASHINGTON CONFERENCE
ABSTRACT AVAILABLE

An abstract of the proceedings of the National Conference on Diseases of the Heart and Circulation, held in Washington last January 18–20, is now available. A complete edition of all the reports and papers also will be ready shortly. Copies of both of these publications may be obtained by writing to Dr. John W. Ferree, Public Health Director of the Association.

INTERNATIONAL CARDIOLOGICAL CONGRESS IN PARIS

A meeting of the International Cardiological Congress will be held in Paris September 3–9, 1950. All papers read at the meeting will be published in the Archives des maladies du coeur.

Publishers of medical books have been invited to exhibit books on cardiology published
The online version of this article, along with updated information and services, is located on the World Wide Web at:

http://circ.ahajournals.org/content/1/5/1210.citation

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