ABSTRACTS OF CARDIOLOGY

Edited by J. L. Lovibond in collaboration with Abstracts of World Medicine


The authors present a study of the results of pericardectomy for chronic cardiac compression in 61 patients (48 of them men).

Dyspnoea, ascites, and oedema were the primary complaints, and had been present, on an average, for 1 to 2 years. Distention of the neck veins was universal. Of the patients, 14 had auricular fibrillation. All had primary T wave changes in the electrocardiogram. Marked diminution of cardiac pulsation was found on radiological examination in all cases. Pleural effusion occurred in 49 of the patients.

In 26 cases calcified pericardium was obvious at operation, and in 12 cases signs of active infection of the pericardium, oedema, tubercles, or pus were seen. There were 11 deaths, and case histories of these patients are given. The condition of 6 patients was not improved and a further operation was necessary. Results regarded as excellent were obtained in 38 cases. Many cases showed a drop in venous pressure almost immediately after operation; and there was an increase in the stroke volume, most marked in the early post-operative period.

The authors finally discuss the aetiology of chronic constrictive pericarditis as revealed by their cases. In all of them a thick, adherent scar was found, in 2 concentrated in localized bands. Calcification was present in 50%. In 18 patients the cause was tuberculosis, and 35 cases were classified as being of unknown aetiology.

F. B. Cockett

The Heart and the Thyroid: with Particular Reference to 

This is a good article in which the use of radioactive iodine (\(^{131}\)I) in the treatment of heart disease is described in detail. With this treatment the therapeutic effect is said to be achieved through the production of hypothyroidism, which appears 6 to 26 weeks after giving the \(^{131}\)I, its onset coinciding with great clinical improvement.

It is recommended that the treatment be reserved for severe cases of heart disease and those in which the condition is not rapidly progressive; it should be combined with the usual medical measures. Enough thyroid is given to allow the maximum beneficial effect of the lowered metabolic level on the heart and the minimum of discomfort arising from the hypothyroid state.

Of 26 patients with severe and intractable angina pectoris given treatment with \(^{131}\)I worthwhile results were obtained in 19. In 9 of these 19 patients the angina practically disappeared, and 4 of them have been able to return to work. Treatment with \(^{131}\)I was also given to 13 patients with congestive heart failure, worthwhile improvement being obtained in 6 of them.

G. S. Crockett


The angiocardiogram of the normal heart is discussed. In mitral stenosis the superior vena cava and right auricle may be slightly increased in size, while the right ventricle is nearly always larger than normal; the pulmonary conus is enlarged in its transverse diameter and appears convex instead of rectangular. Thus the normal U shape is lost and in addition opacification may persist for as long as 8 seconds. The branches of the pulmonary artery are irregular, tortuous, and fragmented and the pulmonary veins dilated and well-marked; the dye may persist in the pulmonary vessels until the end of the examination. The left auricle is the size of an orange or larger and is intensely and persistently opacified; the left ventricle can be seen as a small, poorly filled shadow below it. Opacification may persist in the left side of the heart for up to 20 seconds after the injection of the dye.

The authors believe that they can distinguish mitral incompetence by two features: (1) the left auricle and left ventricle are equally opacified; and (2) the left ventricle is larger than normal. The abnormalities in the pulmonary vascular tree, together with persistent opacification and the delayed visualization of the left auricle, suggest pulmonary hypertension. A. Paton


In a simple and practical manner, with lucid diagrammatic illustrations, the author describes the principles, procedure and interpretation of radioscopic examination. Approximately one half of this well produced, but expensive small book is concerned with the heart and chest; the remainder deals with the radioscopy of the gastrointestinal tract. An authoritative clinical approach flavours its pages, which portray with considerable clarity the fundamental value of this useful diagnostic method both in health and in disease.

J. L. Lovibond

An individual collection of some 120 excellently reproduced X-ray films of some of the commoner cardiac abnormalities annotated with explanatory texts of reasonable brevity. The author adopts the method of comparing suitable cases with plaster casts of the heart and with kymograms. Myocardial failure, valvular disease, pericardial, aortic and peripheral arterial conditions are dealt with but congenital disorders are not included, and there is no index. J. L. Lovibond


Of 1000 consecutive patients seen in consultation practice, three-fourths of whom lived in New York City, 382 were found on fluoroscopic and electrocardiographic examination to be suffering from functional “disturbance” of the heart (which term is preferred to “disease”). Of the patients, 289 were men and 93 were women, the majority being under 50 years of age, whereas the majority of patients with arteriosclerotic heart disease are over 50.

Pain or pressure in the chest was the commonest symptom and was found in 64 per cent of cases, occurring alone in 171 patients, and in conjunction with other functional disturbances in 72 others. Occasionally the pain was indistinguishable from that of coronary disease. Paroxysmal tachycardia was found in 50 patients, premature beats in 18, neurocirculatory asthenia in 48, anxiety neurosis in 13, hypertension in 17, and murmurs in 12. A group of 53 patients was classified as “miscellaneous.” Chest pain was present in 42 per cent of the patients with paroxysmal tachycardia, which was sinoaorcular in type. The functional murmurs were all systolic in time. There was no instance of ventricular tachycardia or of a Grade 3 murmur. “Sighing” was often mistaken by the patients for shortness of breath.

The treatment of these functional disturbances of the heart is often unsuccessful, but it is hoped that recognition of their frequent occurrence will lead to research into their causes with a view to their prevention or cure. R. R. Wilcox


From the Universities of California and Minnesota the authors give an account of the clinical features of 23 cases of pulmonary stenosis without cyanosis, in 20 of which the diagnosis was confirmed, by cardiac catheterization in 17 cases and by surgical exploration in 3. The 12 male and 11 female patients ranged in age from 20 months to 29 years, but 15 of them were under 15 years of age. Most of these patients appear to be normal at birth and a heart murmur is usually found some time later at a routine examination. Development is normal, but about half the patients develop dyspnea of some degree by the age of 15. The degree of stenosis determines the disability and prognosis, and death results from either heart failure or subacute bacterial endocarditis. Isolated pulmonary stenosis is a relatively common cardiac defect.

In the cases here presented cyanosis was absent in all. Electrocardiography showed evidence of right ventricular hypertrophy in 18 of the patients. The results of catheterization are summarized. All the cases were considered to be of the valvular type of stenosis, and 11 patients were treated by pulmonary valvotomy; of these one died, but the remainder appeared to have benefited from surgery. J. W. Brown


An analysis of 100 abnormal electrocardiograms obtained from patients with pulmonary tuberculosis showed that in four cases only were the abnormalities indicative of myocardial damage, being apparently due to mediastinal shift and rotation in the remainder. Although the unipolar leads provided no evidence of myocardial damage that was not discernible in standard leads, they were of value in clarifying abnormalities in the standard leads and in providing evidence of mediastinal shift and rotation in cases in which the standard leads appeared normal. Attention is drawn to mediastinal displacement as a cause of R S–T deviation, which should not, therefore, be regarded as pathognomonic of myocardial damage. One pattern which occurred particularly frequently in cases with mediastinal displacement consisted of an inverted P wave, an R wave, and an inverted T wave in aVL, being found in 22 records; this was totally independent of the pattern of aVR which was often of the QS or R S type. In none of the 22 cases in which this aVL pattern was found was there any clinical evidence of cardiovascular disease.

William A. R. Thomson


From the University of Pennsylvania the authors report a study of the effects of pronestyl gluconate and hydrochloride given intramuscularly in single and multiple doses to normal subjects and to patients with congestive heart failure or ectopic rhythms.

It was found that pronestyl given by intramuscular injection was satisfactorily absorbed, a peak serum level of the drug being obtained in 15 minutes to 1 hour. This is a quicker rate of absorption than is obtained by oral use of the drug, but slower than when it is given intravenously. The toxic effects which may occur with intravenous administration, such as severe hypotension, are, however, absent with intramuscular injection, although there may be a slight fall in blood pressure.
ABSTRACTS

In the doses adopted, which ranged from 0.5 to 1.0 g. given as a single dose or in multiple doses, there was some evidence that cumulative effects may occur with repeated injection of the larger amount. In most of the patients with arrhythmia the optimal level of serum concentration of pronestyl appeared to be about 0.5 mg. per 100 ml. The drug was found to be of value in ventricular tachycardia, nodal tachycardia, and some cases of auricular tachycardia; it also reduced the frequency of, or abolished, ectopic beats. The authors state that if a therapeutic effect is to occur at all, it is usually manifest within half an hour of intramuscular injection. The treatment may convert some cases of flutter to a normal rhythm, but is without influence on auricular fibrillation. James W. Brown


From an analysis of the records of 510 patients who died from mitral stenosis in the Peter Bent Brigham Hospital, Boston, between 1913 and 1946 and the records of 164 patients with mitral stenosis who attended the out-patient department between 1940 and 1942, the authors found that 65 patients had survived 9 or more years after the onset of objective evidence of congestive heart failure or permanent auricular fibrillation. The average interval from onset of rheumatic fever to onset of congestive failure or auricular fibrillation was 23 years and 25 years respectively. The authors consider that in general about 10 to 13% of all patients with mitral stenosis survive 9 or more years after onset.

Tricuspid stenosis, which occurs in only 10% of all cases of rheumatic heart disease, was present in 15 of the 65 cases in this series. Hypertension was noted in 32 patients (the authors believe, with others, that hypertension has a protective role in these cases, but the present investigation did not afford any opportunity to prove this). In some of the cases neither of these conditions was present, but the patients were "long-survivors." The authors state that the possibility of such survival must be borne in mind when selecting patients for valvotomy. R. S. Stevens


In a study of 34 cases of mitral stenosis treated surgically it was found that while in some cases some or all of the electrocardiographic signs of mitral stenosis disappeared after valvotomy, in others the tracing remained virtually unchanged. However, it was demonstrated that signs of right ventricular hypertrophy and strain persisted only in those cases in which postoperative cardiac catheterization suggested that there was no improvement in the hemodynamics of the heart over the preoperative condition. G. Schoenewald


A study was made of the electrocardiographic changes occurring in 24 patients after valvotomy for mitral stenosis at the Polyclinic, Rome. The disappearance of signs of right axis deviation and right ventricular strain was found to run parallel with clinical improvement. G. Schoenewald


With the introduction of surgical techniques for the relief of mitral disease the differentiation between predominant stenosis and predominant regurgitation has greatly increased in importance, and the authors here re-examine the principles on which that differentiation must be based. In pure mitral stenosis there is distension of the left auricle with a left ventricle of normal size, a typical "stenotic" murmur, an increase in pressure in the left auricle and the pulmonary veins in auricular systole, and a slow circulation through the lungs. In pure mitral regurgitation the left auricle and left ventricle are both enlarged, there is a loud systolic murmur, a systolic pressure wave is found in the left auricle and the pulmonary veins, and although pulmonary circulation is not necessarily delayed, blood may accumulate in the left side of the heart. To distinguish between the two it is necessary therefore to determine the size of the left ventricle, the character of the murmurs, the volume of the left auricle, the changes of pressure in the pulmonary veins, and the way in which the blood passes through the pulmonary circulation and the left heart. The diagnostic methods available include palpation of the apex beat, auscultation, electrocardiography, radiography, angiography, angiodynamics, electrokymography, and cardiac catheterization with the recording of pulmonary capillary venous (p.c.v.) pressure tracings.

The relative value of these procedures has been tested in 25 cases of mitral disease referred to the authors for possible surgical treatment, the conclusions arrived at by each method being compared with the findings either at operation or at necropsy. In this way the accuracy of the information obtained was assessed, enabling the procedures used to be placed in the following order of diagnostic value: auscultation, radiography, angiography, and electrokymography, unipolar chest electrocardiogram (ECG), palpation of the apex beat, electrical axis in the standard ECG, and p.c.v. tracings. The ECG was found to give only minor help, signs of right axis deviation indicating some complication, but the finding of a normal axis being of no significance.

As the character of the murmurs proved the most helpful diagnostic index, the authors suggest that greater attention be paid to the subject of their evaluation. It is in patients with systolic murmurs of Grades II and III (Levine) that further investigation is necessary to determine whether there is significant mitral regurgitation or not. Arthur Willcox
Surgical Treatment of Aortic Stenosis.  C. P. Bailey,  
H. P. Redondo Ramirez, and H. B. Larzeler.  J.  

Aortic stenosis is usually the result of rheumatic fever  
or arteriosclerotic changes in the root of the aorta.  In  
the former case the commissures of the valve cusps fuse  
and the orifice is reduced to a small opening which, with  
fibrosis, becomes a rigid ring, so that both stenosis and  
regurgitation are present.  There is a tendency for the  
fusion of the anterolateral cusps to be more marked than  
elsewhere, and the aortic valve is often transformed into  
a bicuspid mechanism with a rigid and large anterior  
part and a smaller, more mobile, posterior flap.  Severe  
aortic stenosis is associated with a poor coronary blood  
supply, gross enlargement of the left ventricle, and  
serious strain on the myocardium.

Surgical treatment of the condition was first attempted  
by Tuffier in 1913, who dilated a stenosed valve with a  
finger by invading the loose anterior aortic wall.  The  
present authors, first tried to treat the conditions by  
incising the stenosed valve; this was inevitably followed  
by some degree of regurgitation, which was poorly  
tolerated and even led to sudden death on one occasion.  
Their efforts were then directed towards dilatation, in  
the hope that the commissures might be split open and  
part of the valve action restored.  An umbrella-like  
dilator passed through the ventricular wall was used in  
11 cases, the dilator being guided into the stenosis and  
then opened.  There were 2 deaths in hospital and 2  
subsequent deaths, but improvement was noted in the  
remainder.

More recently an improved expanding dilator has been  
used which is threaded over a guide wire previously  
passed through the stricture, the incision into the  
ventricle being controlled by a purse-string suture.  While  
it is essential to establish an adequate passage-way,  
it is necessary to avoid excessive dilatation which might  
not only lead to increased regurgitation, but might even  
rupture the aortic wall.  An opening of half the normal  
size will give complete clinical relief, the orifice in severe  
cases of aortic stenosis being usually about 10% of normal  
before treatment.

The new instrument has been used successfully in 9  
cases, 6 patients having undergone the combined  
operation and 3 others aortic dilatation only.

T. Holmes Sellors

The Indications for and the Results of Commissurotomy for  
Mitrail Stenosis.  R. P. Glover, T. J. E. O'Neill,  
25, 55-77, 1953.

This article is based on the results of 256 operations for  
mitrail stenosis in which there were 14 operative deaths, a  
mortality of 5.4%.  Of the 242 survivors, 164 were  
followed up for at least 6 months, and are analysed in  
detail.

In selecting cases for operation it is essential that  
mitrail stenosis be the predominant lesion in producing  
the disability, but minimal mitral regurgitation is not  
a contraindication to surgery, nor is insignificant aortic  
valve disease.  In many patients with auscultatory  
evidence of mitral insufficiency no regurgitant jet could  
be felt at operation.  Enlargement of the left ventricle  
tends to contraindicate operation, and enlargement of  
all chambers does so absolutely.  Auricular fibrillation  
is no bar unless the rate is uncontrolled.  A high pressure  
in the pulmonary artery is usually associated with severe  
symptoms, with left atrial, right ventricular, and  
pulmonary arterial enlargement, and with right axis deviation  
in the electrocardiogram.  In general, when estimations  
were made by cardiac catheterization before and after  
operation, there was a subsequent fall of pressure,  
averaging 15 mm. Hg after one month, with a further  
fall later, and paralleling symptomatic relief.  The  
electrocardiogram assists diagnosis; left axis deviation  
contraindicates surgery.

At operation the valve orifice was usually 0.5 to 1 cm.  
in diameter.  A small cut in the anterolateral commissure  
was followed by gentle digital pressure, a further  
cut being made if necessary.  Often a small cut was also  
made in the postero-medial commissure, but extensive  
division on this side led to serious regurgitation, and  
recently no division has been made where the anterolateral  
division produced an adequate orifice.  When thrombus was present the knife was not introduced.  Nearly half the valves were calcified, particularly in the  
medial part of the anterior cusp; this did not of itself  
prevent a good result.  In nearly one-quarter of the  
patients there was evidence of thrombosis in the appendage,  
but few of these had had emboli.

Of the 164 patients, 125 were improved, 80 being  
classed as "excellent," and enjoying normal activities  
without limitation; 20 were not improved, but many of  
these had regurgitation before operation.  Among those  
followed up there were 10 operative deaths (5 from  
technical faults), and 9 late deaths, all but one occurring  
in patients in Stage V, that is, in the extreme terminal  
state.  It is suggested that the ideal patient for operation  
has isolated mitral stenosis and is beginning to have symptoms  
of cardiopulmonary dysfunction.

In the discussion following the paper, Bailey described  
precautions taken to avoid cerebral embolism, consisting  
of temporary occlusion of the left common carotid  
artery by a tape passed round it in the mediastinum,  
and of the innominate artery by a bulldog clamp across  
its origin.

M. Meredith Brown

Follow-Up Studies on the First 1,000 Patients Operated on  
for Pulmonary Stenosis or Atresia.  Results Up to  
Cardiologia (Basel), 21, 541-551, 1952; Ann. intern.  
Med., 38, 1-8, Jan., 1953.

This report is concerned with 1000 patients who have  
been operated on since November, 1944, by Blalock and  
his associates by systemic-pulmonary vascular anastomo- 
sis, and who have been followed up (except for 6%  
who could not be traced) for at least 18 months, and in  
the earlier cases for over 7 years.

"Good" results—defined as marked decrease of  
cyanosis, rise of arterial oxygen saturation, and subjective  
 improvement—were obtained in 773, and "fair" results  
—improvement, but with persistent cyanosis and polycythemia—in 39, while 31 were unimproved; 157
of the patients died at or immediately after operation, an immediate mortality rate of 15.7%.

The majority of the patients (857) were diagnosed before operation as having tetralogy of Fallot; the next most frequent diagnoses were tricuspid atresia (62) and pseudotruncus arteriosus (27). It was later shown that in 40 cases the diagnoses made were incorrect; 29 of these patients died at or shortly after operation. Of 5 patients who later were found to have pulmonary stenosis with an intact ventricular septum, all developed right-sided cardiac failure after their operation; in these cases pulmonary valvotomy would have been a better treatment. Patients with Fallot's tetralogy had the lowest immediate mortality (15.7%) and the highest proportion of good results (78%), and in addition they developed cardiac failure after operation less often. If cardiac failure is to be expected, it usually does so within 6 months. In 15 of the patients with Fallot's tetralogy, the aorta over-rides the ventricular septum by more than 50%; all these patients died at operation, or shortly after, from pulmonary congestion. The extent of over-riding cannot be diagnosed accurately. In the cases with Fallot's tetralogy the delayed mortality was 6%, but in those with a good operative result was only 4%, and in a number of these cases death was not due to the cardiac malformation. The vast majority of these patients are able to adjust to the altered circulation. Those who failed to maintain their improvement (16%) either died, or had been awaiting a second operation, but such operations carry a high fatality rate.

The patients with atypical malformations showed results somewhat less favourable but of the same order; and again the prognosis in those with a good result from operation was notably better than in those with only a fair result. The incidence of subacute bacterial endocarditis was low—22 cases with 4 deaths. Half of these cases occurred within 2 months of operation, confirming the authors' opinion that in the early postoperative period these patients are extremely susceptible to bacterial endocarditis, and it is therefore recommended that large prophylactic doses of penicillin be given. The additional anomaly does not, however, subsequently appear to increase the patients' susceptibility to endocarditis.

[This important article contains detailed statistics and analyses of results.]

M. Meredith Brown


The indications for closure of an atrial septal defect are briefly discussed, and a description of the various operations designed to alleviate this defect is given. The authors then describe in detail their technique, in which the "atrial-wall" principle is used to obtain direct access to the interior of the chamber (Gross et al., New Engl. J. Med., 1952, 247, 455). Three methods of closure of the atrial defect have been used: (a) a Hufnagle double disk button, which engages the edges of the gap; (b) suture of a sheet of plastic material to the edges of the defect; (c) direct suture of smaller defects.

Details are given of 7 cases in which the operation has been performed. Three patients treated with the button all died, largely because the disks became dislodged owing to the fact that the rim of the septal defect was not adequate for contact of the disk around its whole circumference. Of the other 4, one was treated by direct suture and did well, the remaining 3 being treated by suture of a nylon membrane over the defect. Of these one died owing to the formation of a thrombus under a redundant piece of the plastic material, but the other 2 were much improved.

J. R. Belcher


In view of the unfavourable course in many cases the question of surgical closure must arise where the defect is thought to be the principal cause of the disability. A number of operations have been devised for closing an opening in the interatrial septum; fascial strips or stout ligatures have been inserted along the line of the septum and tightened, invagination of the atrial wall with suture of this to the edge of the defect has been tried, and plastic prostheses have been introduced. Some of these procedures have been applied clinically, but each has certain disadvantages. The authors have operated in 10 cases, in the first 9 of which Swan's technique of closure by invagination of both atrial appendages was carried out or attempted; there were 6 deaths at or shortly after operation, and in the survivors the results were not thought to be sufficiently satisfactory to justify continuation of this or any similar procedure. A new operation was therefore devised to which the title of "atrio-septo-pexy" is given and which has been performed successfully in one case. The principle of the operation is to suture the wall of the dilated right atrium to the edges of the defect, the procedure being helped, and indeed made possible, by insertion of the left index finger through the right atrial appendage into the defect as a guide in placing the sutures through the atrial wall and the edge of the defect, the wall being then drawn into close approximation to the margin of the defect and completely sealing it. The pre-existing dilatation of the right atrium enables this to be done without producing too narrow a venous inlet. There was complete relief of symptoms with no evidence of any residual shunt after the operation in the case described.

T. Holmes Sellors


The authors have analysed the anatomical features of the cardiac abnormality in 19 cases of Fallot's tetralogy. There were 5 cases of infundibular stenosis only, and one of pure valvular stenosis at the pulmonary orifice. In the remaining 13 cases of the classic tetralogy both infundibulum and valve were stenotic. This stenosis was...
very severe in 3 cases, amounting in one to complete atresia. The authors found that the orifice of the stenosed infundibular chamber may be buried in the papillary muscles and ridges of the wall of the right ventricle, and that its axis may form an angle with that of the pulmonary artery. In about one-third of the cases this chamber constituted a virtual "third ventricle" which would add greatly to operative difficulties. An associated hypoplasia of the pulmonary artery, if present, may prevent a good functional result if pulmonary valvotomy is undertaken.

Among the associated abnormalities present, a right-sided aorta was found in 9 cases, interarterial communication in 7, patent ductus arteriosus in 4, and anomalies of the arteries arising from the arch in 3. A left superior vena cava, opening into the right auricle through the coronary sinus, was present in 3 cases. In one case there was a single coronary trunk, arising from the aorta and soon dividing into 2 branches. D. Weitzman


This is a detailed account of the anatomy of the different types of tricuspid stenosis, together with their clinical, electrocardiographic, radiological, hemodynamic and angiocardiographic features, and finally the place of surgery in this condition. The report is based on 14 personal cases coming to necropsy at the Hôpital des Enfants Malades, Paris, and on 5 further clinical cases, and on hospital records.

The essential difference between the various types lies in the 4 different routes by which blood reaches the lungs from the left ventricle. Out of 70 recorded cases it was shown that the blood passed by way of: (1) a ventricular septal defect and the pulmonary artery in 45 cases; (2) a patent ductus arteriosus in 6 cases; (3) via the pulmonary artery, associated with transposition of the great vessels, in 9 cases; or (4) via a patent ductus arteriosus, associated with transposition of the great vessels and pulmonary atresia, in 10 cases. Tricuspid stenosis was found in 17 (2.5%) of 700 cases of congenital heart disease, the majority of cases being seen in the first year of life.

Few patients lived to the age of one year, but a few did survive to adult life. Surgical intervention is recommended for those cases in which there is a deficient pulmonary circulation. Keith Ball


The diagnostic value of angiocardiography in coarctation of the aorta is discussed with reference to a series of 51 cases studied at the University of Naples and at the New York Hospital–Cornell Medical Center. There were 31 male and 20 female patients, and 11 were under the age of 15 years. Excision and end-to-end anastomosis were carried out on 24 of the patients, and in 13 of these cases angiocardiography was repeated after the operation.

The arch of the aorta is often hypoplastic, and runs obliquely backwards and downwards. In the majority of cases the W. of coartation lies below the origin of the left subclavian artery (which is more distal than in the normal subject) and is angulated forwards and downwards by the insertion of the ligamentum arteriosum. The length and diameter of the constricted portion cannot be accurately estimated because of the superimposition, in the projection used, of the portions of aorta above and below it, but post-stenotic dilatation is invariably shown. However, the narrowness of the stricture is not reflected in any delay in the opacification of the post-stenotic portion: in some of the authors' cases the interval between injection and opacification of the descending aorta was the same after operation as before. The aorta below the post-stenotic dilatation appears normal.

The left subclavian artery is dilated, often having the same calibre as the aortic arch, and the internal mammary arteries are also very dilated and tortuous. An almost constant finding is of two vessels running up from the post-stenotic dilatation to link up with the costo-cervical axis: their accurate location by this method helps the surgeon to avoid damaging them. In cases of localized narrowing of the aortic arch without gross interruption of its lumen angiocardiography shows that the remainder of the aorta is normal, and no collaterals are to be seen. The postoperative angiocardiogram shows narrowing of the aorta at the site of anastomosis. The pre-operative dilatation of the great vessels persists and the collateral vessels remain distended and visible, but may be less well opacified than previously owing to the change in blood flow.

Illustrative angiograms are reproduced, and the clinical features of the condition summarized. D. Weitzman


From comparative determinations made in 40 individuals comprising both normal subjects and patients with a variety of clinical conditions, the authors conclude that “the ballistocardiographic measurement of cardiac output gives such erratic results, with so many and such unpredictable errors from case to case, that it should no longer be used in any way whatever as an indication of this function.” A. I. Suchett-Kaye


The authors report the electrocardiographic and ballistocardiographic findings in 191 cases of angina pectoris and 137 cases of healed myocardial infarction studied at Johns Hopkins Hospital, Baltimore, and compare them with those in 369 persons without cardiovascular disease.
Patients with conditions, other than coronary arterial disease, that might affect the findings, were excluded. In all cases a full electrocardiographic investigation was carried out; in some cases Master's two-step effort test was carried out in addition. Ballistocardiographic studies were carried out on a high-frequency bed, in most cases before and after abdominal compression.

The authors conclude that although ballistocardiographic abnormality is commonly found in coronary disease, its frequent occurrence in apparently normal subjects over the age of 50 cannot be assumed to be due to the presence of "silent" coronary disease. The effects of physiological ageing of the heart and circulatory system cannot as yet be evaluated.

J. F. Goodwin


In 1942 the author and his colleagues published the results of a 10-year follow-up of 100 consecutive patients with coronary thrombosis (Ann. intern. Med., 17, 681), 66 of the patients being alive at the time of the report. In the present paper the author, working at Atlanta, Georgia, reports his findings after a further 10-year period. At the beginning of 1952, 16 of the original 100 patients were alive, 69 were known to be dead, and 15 were lost to follow-up.

The author states that according to the literature the average duration of life after myocardial infarction is 41.1 months; in his series 60 patients lived longer than this. Of the 35 patients who died between 1941 and 1952, 14 lived well into the second decade after the initial attack. No definite relation was observed between the age of the patient at onset and the survival time. Co-existing hypertension appeared to influence the survival time as did recurrent attacks of myocardial infarction. Of 30 patients followed-up for more than 10 years, 14 had hypertension before the onset of myocardial infarction, and 9 of these died; 13 of the 30 had a second or third attack of myocardial infarction and 9 of these died, whereas in 150 cases of anterior infarction classified according to the same criteria the figures were 42%, 23%, and 35% respectively. The ratio of men to women was 4.6 to 1.

Both the effort test and the recording of leads III and aVF on inspiration (IIIR and aVFR) were helpful in confirming the presence of infarction in cases where the resting pattern was equivocal. Augmented T waves in leads II, III, and aVF in severe posterior infarction, accompanied by elevation of the R–T segment and preceding the development of abnormal Q waves in these leads, was seen in one case, and was associated with an uneventful recovery. The authors point out that this augmentation of the T waves in leads reflecting posterior cardiac potentials should not be confused with the reciprocal augmentation of the T wave in anterior leads, which nearly always occurred in severe posterior infarction; they found that the absence of such reciprocal changes indicated anterior extension of the infarct. The association of increasing anginal pain and signs of extending infarction in a patient with a slight initial attack was considered to be an indication for anticoagulant treatment.

[This excellent paper is well illustrated and should be consulted in the original by those specially interested in the subject.]

J. F. Goodwin


The authors discuss the difficulties which arise in the diagnosis of posterior myocardial infarction of slight degree, and report the results of an investigation carried out at Charing Cross Hospital, London, into 100 consecutive cases of acute posterior infarction observed over a 2-month period. The cases were classified on clinical grounds as slight, moderate, or severe, while the initial electrocardiograms were arbitrarily divided into three groups according to the changes shown in R–T and T in II, III, and aV, those with R–T elevation and monophasic T waves being classified as "acute," those with bowing of the R–T interval and deep T-wave inversion as "subacute," and those with pathological Q waves, isoelectric R–T intervals, and flat T-wave inversion as "chronic." An effort test was employed in cases in which the routine 12-lead tracings were equivocal.

Of the 100 patients, 22 had slight, 21 moderate, and 57 severe degrees of infarction, whereas in 150 cases of anterior infarction classified according to the same criteria the figures were 42%, 23%, and 35% respectively. The ratio of men to women was 4.6 to 1.

The high over-all mortality from acute myocardial infarction has created the impression that the prognosis is serious in every type of attack. It has, however, been reported by several authorities that the mortality resulting from a first attack of myocardial infarction may be as low as 8 to 8.5%, even without anticoagulant therapy. A series of 1047 cases of acute myocardial infarction admitted to three New York hospitals are here analysed in order to determine the prognosis in "uncomplicated" first attacks. The cases were divided into two groups; 558 with one or more unfavourable features (previous attack, intractable pain, extreme or persistent shock, significant enlargement of the heart, gallop rhythm, heart failure, auricular fibrillation or flutter, paroxysmal ventricular tachycardia, intraventricular block, severe diabetes, marked obesity, or any state obviously predisposing the thrombosis), and 489 "good risk" cases with none of these features. The total mortality was 33%, but whereas it was 60% in the former group, it was only 3% in the latter. Moreover, nearly one-half of the deaths in "good risk" cases occurred abruptly and within 48 hours of admission, the subsequent death rate from cardiovascular causes being only 1.2%. It is claimed, therefore, that anticoagulant therapy has no place in the treatment of "good risk" cases.

Paul Wood