

ABSTRACTS OF CARDIOLOGY

Thrombosis and Embolism of Pulmonary Vessels with Special Reference to Pulmonary Vein Thrombosis. D. M. SPAIN and J. B. MOSES. *Amer. J. med. Sci.*, 212, 707-712, Dec., 1946.

The general incidence of pulmonary emboli or thrombi in a series of 1000 consecutive necropsies (not inclusive of bacterial endocarditis and traumatic cases) was 10.9%. The source of emboli in the lungs is approximately twice as frequent from the systemic veins as from thrombi within the heart. Pulmonary emboli in patients without heart disease frequently do not cause pulmonary infarcts. In 100 consecutive necropsied cases of myocardial infarction, pulmonary emboli were noted 36 times and systemic arterial emboli 25 times. The incidence of pulmonary emboli is much greater in association with recent myocardial infarcts than with healed infarcts. The pulmonary emboli very often contributed to the death of the patient. Pulmonary venous thrombi as a source of systemic arterial emboli occur more frequently than is generally recognized. Pulmonary tuberculosis was the disease most often associated with pulmonary venous thrombi. Infected emboli resulting from pulmonary thrombophlebitis are exceedingly rare.—[Authors' summary.]

Fluctuations of the "Δ" Wave in a Case of the Wolff-Parkinson-White Syndrome. (Fluctuations de l'onde Δ dans un cas d'invasion ventriculaire précoce.) R. PANNIER. *Acta cardiol.*, 1, 37-43, 1946.

A case of the Wolff-Parkinson-White syndrome is described. An electrocardiogram taken between the attacks of paroxysmal tachycardia showed the changes characteristic of the syndrome—namely: (1) The presence of the supplementary "Δ" wave (previously described by Segers, Lequime, and Denolin) in the P-Q interval. An apparent shortening of the P-Q interval and broadening of the QRS complex was commonly produced by the merging of this supplementary wave with the QRS complex. (2) The S-T segment was displaced in leads I and III. These changes were subject to spontaneous fluctuations and could be diminished by deep inspiration by intravenous atropine sulphate (1 mg.), or by acetylcholine (20 mg.), all of which also modified the P wave. Intravenous quinine sulphate (50 mg.) abolished all the abnormal changes but did not affect the P wave.,
B. McArdle

Cardiac Clinics. CXVII. Electrocardiograms Displaying Short P-R Intervals with Prolonged QRS Complexes: An Analysis of Sixty-five Cases. F. A. WILLIUS and H. M. CARRYER. *Proc. Mayo Clin.*, 21, 438-444, Nov. 13, 1946.

The relatively short history of the Wolff-Parkinson-White syndrome is reviewed, and the theory that its mechanism

depends upon short-circuiting through accessory conduction pathways between auricle and ventricle is favoured. During 1945 this electrocardiographic pattern was seen in 65 cases at the Mayo Clinic. There was no evidence of heart disease in 46 (71%). There were 8 cases in the third decade (20 to 29), 17 in the fourth, 22 in the fifth, 12 in the sixth, 4 in the seventh, and 2 in the eighth. Paroxysmal tachycardia occurred in 57%, but 3 of these cases proved to have auricular flutter. The electrocardiogram simulated left bundle-branch block in 26 instances (40%), right in 4 (6%), and was dissimilar to either form in 35 (54%). One death occurred among those without heart disease, in a woman of 26 who died suddenly during an attack of paroxysmal tachycardia. No pathological or experimental evidence bearing on the mechanism of this syndrome is submitted; there is no note concerning the effects of any drug. Paul Wood

Anastomosis of the Aorta to a Pulmonary Artery. Certain Types in Congenital Heart Disease. W. J. POTTS, S. SMITH, and S. GIBSON. *J. Amer. med. Ass.*, 132, 627-631, Nov. 16, 1946.

Attempts have been made in several American centres to relieve anoxia due to pulmonary stenosis and atresia by effecting some form of shunt between systemic and pulmonary arterial systems. Direct anastomosis between the aorta and pulmonary artery had not previously been considered in man since Gross and Hufnagel (*New Eng. J. Med.*, 1945, 233, 287) and Blalock and Park (*Ann. Surg.*, 1944, 119, 445) showed in the experimental animal that the clamping of the aorta long enough to perform anastomosis gave a quite high incidence of paralysis in the hind legs. Blalock and Taussig (*J. Amer. med. Ass.*, 1945, 128, 189) avoided aortic occlusion by performing an anastomosis between the subclavian or innominate artery and the pulmonary artery distal to its atretic segment. The present authors, desirous of effecting a direct anastomosis between the pulmonary artery and aorta, have devised a special clamp that will occlude only one-half of the aortic lumen and will permit aortic circulation to continue through approximately half of the lumen while the anastomosis is carried out to the lower border. Only the lower surface of the aortic arch is occluded by the clamp, and formal lateral anastomosis is performed between the left pulmonary artery and this isolated portion of aorta. The operation has been done in 3 children, one of whom did not survive; the child died apparently of post-operative pulmonary congestion. The condition of the other two children, aged respectively 21 months and 7 years, was substantially improved, and the arterial oxygen tension was elevated to a pronounced degree.

[For full details of the operative procedure the original

article should be consulted since the structure of the clamp is of essential importance in the operative procedure.]

Ian Aird

An Electrocardiographic Study of Psychoneurotic Patients.

S. S. WINTON and L. WALLACE. *Psychosom. Med.*, **8**, 332-337, Sept.-Oct., 1946.

The authors point out that so far studies of electrocardiographic abnormalities of psychoneurotic patients have been confined to determining whether a specific pattern exists in cardiac neurosis, but that comparisons with large groups of tracings from normal patients have not been made. During the war large-scale electrocardiographic surveys were carried out among Service personnel and it was seen that similar abnormalities occurred in these groups. The purpose of the authors' investigation of 76 patients under the age of 40 with no organic cardiovascular disorders was to ascertain whether any electrocardiographic characteristics of psychosis or neurosis existed. The chief complaints of the patients were referable to the cardiovascular system, and the most common were palpitation, a præcordial sensation of constriction not necessarily related to effort, dizziness, vertigo, and dyspnoea with excitement or effort. In 4 of the 76 cases the curve was abnormal, in 2 it was probably abnormal, and in 8 cases it was borderline. In the remainder the curves were normal. There was no combination of abnormalities that fitted into any distinct pattern characterizing psychoneurotics, but about 12% presented a right heart strain pattern as suggested by tall P waves, right axis shift, and S-T depression in the limb leads. Flat or inverted T waves in leads I and II occurred about 15 times as frequently in this series as in a large group of young healthy aviators.

S. Oram

The Technique of Creation of an Artificial Ductus Arteriosus in the Treatment of Pulmonic Stenosis.

A. BLALOCK. *J. thorac. Surg.*, **16**, 244-257, June, 1947.

This is a technical account of the author's now classical operation (first reported in 1945) performed at Johns Hopkins Hospital, Baltimore, for the relief of congenital pulmonary stenosis, such as occurs in "blue babies" and is characterized by the tetralogy of Fallot—pulmonary stenosis, an over-riding aorta, ventricular septal defect, and right ventricular hypertrophy. The patients' ages ranged from 2 months to 26 years, but the optimum time for operation is between 3 and 7 years.

The chest is opened on the side opposite to that on which the aorta descends (38 of 144 patients had a right-sided aorta, and were therefore operated upon from the left), so as to gain access to the innominate artery and its branches. The subclavian artery is then freed up to its first large branch, divided between clamps, and turned

down so that its cut end can be anastomosed to the side of the similarly cleared pulmonary artery, which is temporarily clamped. This permits an extensive shunt of inadequately oxygenated systemic blood through the pulmonary circulation, with corresponding relief of anoxic symptoms.

Though the author regards the above procedure as the best, frequent anomalies, both of the systemic and of the pulmonary vessels, are encountered and may necessitate the use of the innominate or carotid artery instead of the subclavian, and of an end-to-end rather than end-to-side anastomosis. Total absence of the left pulmonary artery has been met, but it is emphasized that one systemic trunk or another is always available. The anastomosis is made with No. 00000 silk, in a single layer everting the intima, and interrupted in several places to avoid constriction of the lumen. The special clamps used for the temporary occlusion of the pulmonary artery are described.

The mortality rate among the 144 patients discussed was 22%, and all the survivors were improved. Since this publication the author has operated on a total of 450 children.

Geoffrey Flavell

Clinical Features of Patent Ductus Arteriosus with Special Reference to Cardiac Murmurs.

S. A. LEVINE and A. E. GEREMIA. *Amer. J. med. Sci.*, **213**, 385-394, April, 1947.

The accurate diagnosis of the exact anatomical lesion in congenital cardiac disease has only become of practical importance during the last few years because of the use of specific surgical treatment. The authors analyse 37 cases of patent ductus arteriosus, in which the diagnosis was confirmed at operation. The murmur, having both systolic and diastolic components, varies considerably in loudness from case to case. It is generally loudest in the second, but occasionally in the first or third left interspace. It may be transmitted to the back of the chest. A thrill was present in over half the cases. The pulse pressure decreased from an average of 65 mm., before operation to 45 mm. after operation. There was no typical electrocardiographic pattern. Right axis deviation does not occur. Rare cases exist in which no murmurs, or at least no diastolic murmurs, are audible; a possible explanation of this is that the pressure in the pulmonary artery is as great as that in the aorta and therefore no flow takes place through the ductus. The persistence of a basal diastolic murmur after operation was found to be due either to the recanalization of the ductus or to bacterial endocarditis which had also involved the aortic valve. In puzzling or atypical cases cardiac catheterization is necessary to establish an accurate diagnosis.

Geoffrey McComas