CONGENITAL PARTIAL HEART BLOCK

BY

C. T. POTTER AND D. Q. TROUNCE

From the Evelina Hospital for Children, London

Although congenital complete heart block is well recognized and has been fully reviewed, congenital partial heart block appears to be much more unusual. However, a survey shows that several such cases have been described in America, but we have found only four cases recorded from this country. Whipham (1915) reported two, and Fleming and Stevenson (1928) gave an account of an eight-year-old girl with 2 : 1 heart block associated with a ventricular septal defect and probably other congenital cardiac lesions. Wilson and Grant (1926) recorded the case of a fourteen-month-old child with 2 : 1 heart block who post mortem was found to have atresia of the pulmonary artery, a large patent ductus arteriosus, and a common ventricle with only the rudiment of an interventricular septum.

Apart from the rarity of congenital partial heart block, the interest of this case lies in the co-existence of the heart lesion with a second congenital defect—namely, fibrocystic disease of the pancreas.

Case Report

M. L., born February 2, 1949, was the second child of healthy parents. Pregnancy was normal, but the foetal heart rate was noted to be constantly slow at about 60 a minute with an occasional missed beat. The question arose as to whether the bradycardia was due to foetal distress but as the rate remained steady, the pregnancy was allowed to proceed to term. Labour was normal. The birth weight was 6 lb. 2 oz. The infant was healthy at birth, although the heart rate still remained at 60 a minute with every third beat missing. There was no cyanosis. The baby was breast-fed for the first week and thereafter bottle-fed. Initially she made good progress, taking feeds well but gaining weight rather slowly. At the age of six months, she weighed 12 lb. 11 oz. Toward the end of November 1949 (age 9 months) she developed a cough, soon followed by the onset of diarrhoea with loose yellow stools. Three weeks later vomiting was added to these symptoms and she was admitted to hospital. At this time she was a pale wasted baby (weight 13 lb. 2 oz.) and was mildly dehydrated.

No cyanosis or finger clubbing. Cardiovascular system: pulse irregular at 50 a minute; femoral pulses present; heart not enlarged; no thrill palpable; heart sounds normal; systolic murmur generalized over præcordium but maximal towards the apex. Respiratory system, normal apart from scattered rhonchi and rales over both sides. Other systems clinically normal.

The provisional diagnosis was congenital heart block with patent inter-ventricular septum and acute bronchitis, complicated by diarrhoea and vomiting.

Following admission the bronchitis was slow to subside and she continued to pass up to five loose offensive stools daily. On two occasions examination of duodenal juice showed no liquefaction of gelatin by a dilution of fluid of 1 in 6. The clinical findings of loose offensive stools and persistent bronchitis, together with the absence of tryptic activity in the duodenal juice were con-

FIG. 1.—Electrocardiogram standard leads. There is 3 : 1 heart block throughout except the one ventricular response in lead II, that is 2 : 1.

FIG. 2.—Electrocardiogram showing unipolar chest leads V1, V3, and V5. There is 3 : 1 heart block in V1 and V5, and 2 : 1 heart block in V3.

sidered to be sufficient evidence for diagnosing fibrocystic disease of the pancreas. She made slow progress and by time of discharge from hospital in March her weight was 14 lb.

The following investigations relating to her congenital heart block were carried out. X-ray of chest, 22/12/49, no evidence of pulmonary abnormality; the mediastinal shadow is within normal limits. Electrocardiogram, 10/1/50, generally shows 3 : 1 block, changing at times to 2 : 1 block, otherwise the curves are normal (see Fig. 1 and 2): 20/10/50; continues to show a partial heart block with ranging 2 : 1 and 3 : 1 A-V block. The P-R interval is somewhat variable,

being about 0.20 sec. after a single blocked impulse, and 0.16 sec. after two blocked impulses. Ventricular complexes remain normal.

Since discharge from hospital she has remained very well. When last seen in March, 1951, she was free from cough and her stools were formed, although pale. The physical signs remained unchanged.

Summary

Although congenital complete heart block is uncommon, congenital partial heart block is much rarer, and few cases have been reported.

A case of congenital partial heart block with patent inter-ventricular septum in association with fibrocystic disease of the pancreas is described.

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REFERENCES

- Aldrich, C. A. (1927). *Trans. Chicago Pediat. Soc.* Discussion.
Bass, M. H. (1918). *J. Amer. med. Assoc.*, **70**, 287.
Eyster, J. A. E., and Middleton, W. S. (1920). *Amer. J. Dis. Child.*, **19**, 131.
Fleming, G. B. and Stevenson, Mary M. (1928). *Arch. Dis. Child.*, **3**, 221.
Nicholson, G., Shulman, H. I., and Green, D. L. (1929). *Amer. J. Dis. Child.*, **37**, 580.
Shapiro, M. J. (1927). *Minn. Med.*, **10**, 566.
Whipham, T. R. (1915). *Brit. J. Child. Dis.*, **12**, 321.
Wilson, J., and Grant, R. T. (1926). *Heart*, **12**, 295.
Yates, W. M. (1929). *Amer. J. Dis. Child.*, **38**, 112.