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Normal Intraventricular Conduction and Intraventricular Block Occurring in Adjoining Complexes.

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The comparative permanence of electrocardiographic abnormalities, especially bundle branch block, once established is an admitted maxim. The more promising possibility of the transient nature of such disturbances is usually not considered. In experimental work on conduction in the heart of the dog, Wilson and I[1] were impressed by the fact that relatively light pressure exerted over one of the main branches of the His' bundle would produce bundle branch block from which there was complete recovery within a few minutes and a return to an absolutely normal intraventricular conduction time which was recorded.

Lewis had observed a patient with transient bundle branch block as early as 1913. There have been 9 other instances recorded in the literature which at one examination presented defective conduction while at another later examination the normal intraventricular conduction was recorded and vice versa. In none of these instances, however, was there any record of a transition of a sudden nature. In fact, in most of them there is a suggestion of a gradual transition. This condition is not so uncommon since 5 similar cases have come under my observation.

Three additional cases of unusual interest and importance were encountered. These were extraordinarily unique in that the sudden transitions were recorded electrocardiographically. In each one of these instances the transition was within one beat and was from complete bundle branch block to absolutely normal intraventricular conduction. These observations constitute clinical corroboration of our experimental findings and of the pathological findings of Cohn and Lewis.[2] There seems to be evidence sufficient that temporary mechanisms and functional changes in the conductive system in the diseased human heart as well as in the normal dog heart may induce bundle branch block.

These 3 cases with the transition between bundle branch block and normal intraventricular conduction taking place within one beat

[1] Wilson, F. N., and Herrmann, G. R., *Heart* (London), 1921, viii, 229.

[2] Cohn, A. E., and Lewis, T., *Trans. N. Y. Path. Soc.*, 1914, xiv, 207.

seem to be proof positive that the disturbance was not of an organic nature, at any rate not totally so. It is quite conceivable that pathological changes may be present in the region of the bundle and primary branches which would require very little additional change for the precipitation of block. Under such conditions, however, one should expect to find slight transition periods and increasing block. A mechanical factor could quite conceivably add the necessary additional sudden and temporary factor. That there is a mechanical factor playing a part is substantiated by the fact that the periods of normal conduction in these patients were induced by respiratory maneuvers. The Müller's or Valsalva experiments, either of which were accompanied by the sudden conspicuous changes in intraventricular conduction, were apparently concurrent with the cardiac dilatation.

The clinical value of the observations lies in the realization of the fact that the serious prognostic significance of permanently organically produced bundle branch block is not to be applied until the possibility of a temporary disturbance is ruled out. Furthermore, as generally recognized, patients with bundle branch block are known to die suddenly at the slightest provocation, especially during a minor therapeutic or surgical procedure. Any blood pressure may be enough to press the already over exerting heart to a point of causing ventricular fibrillation and exitus. During the periods of normal conduction these patients are relatively good surgical risks. In one of our patients the discovery of the transient nature of the condition led us to follow her carefully electrocardiographically and to subject her to 2 successful surgical operations, a Cesarean and a later sterilization, during periods in which she was not blocking, without precipitating any evidence of undue cardiac embarrassment.

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Subarachnoid Spinal Adhesions: An Attempt Experimentally to Produce and Prevent Their Recurrence.

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Subarachnoid spinal adhesions may at times produce clinical symptoms. Such a case has been observed by us in which following a laminectomy for paraplegia numerous adhesions of the spinal subarachnoid space were found. These adhesions were divided, but