

# **Bilateral Bundle Branch Block (BBBB) - 2009**

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We observe Bilateral Bundle Branch Block (BBBB) interruption of cardiac impulses through both bundle branches, clinically indistinguishable from third degree (complete) heart block.

Is register in the same patient paroxysmal alternating atrioventricular block and bilateral bundle branch block manifested by periods of both RBBB and LBBB and pauses.

This pattern appeared to reflect a lesion involving concomitantly the distal His bundle and proximal bundle branches.

In the total group of patients studied by Wu et al (1), wrote in Circulation that clinical course is primarily determined by the severity of heart disease and not by occurrence of A-V block.

The conduction defect in the majority of patients is surprisingly benign. On the other hand, mechanisms postulated for alternating bundle branch block are

incomplete- and cycle-length-dependent-block in both the right and left bundle branches.

A patient with severe longstanding cardiac conduction disease who developed alternating bundle branch block during treatment for

advanced ischemic heart disease and malignant ventricular arrhythmia was presented by Gold and From (2). In this patient alternation was induced by PACs as well as spontaneous and pacemaker induced PVCs.

RBBB which followed a PACs resulted from the longer refractory period of the RBB.

The maintenance of RBBB at long cycle lengths was presumed to be due to continuous retrograde reentry. This was terminated when a pause following a premature beat allowed functional recovery of the RBB.

This patient died suddenly at home with a functioning pacemaker, demonstrating the high risk of death from ventricular dysrhythmia in the post MI patient with a new conduction defect.

Ogura et al (3) describe a 66-year-old woman who had an alternating bundle branch block consisting of coexisting occurrence of RBBB and LBBB combined with Mobitz type II AC block.

A prolonged PQ interval was associated with the RBBB pattern whereas it was not apparent in the LBBB pattern. EPS revealed that the LBBB pattern was combined with a double His bundle potential (Splitz HIS).

On the other hand, the RBBB pattern was combined with a markedly prolonged HV interval with a low voltage monophasic His bundle potential, which the authors speculated was the former part of the split His bundle potential seen during the LBBB pattern.

A combination of the longitudinal dissociation in the His bundle and the gap phenomenon at the intra-Hisian block portion may account for this dromotropic disorder (3).

ACC/AHA GUIDELINE in this case first permanent pacing because we have an equivalent to chronic bifascicular and trifascicular block (level of evidence Class 1B).

## References

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3. Ogura Y, Kato J, Ogawa Y, Shiokoshi T, Kitaoka T, Suzuki T, Kawamura Y, Tanabe Y, Sato N, Hasebe N, Kikuchi K. A case of alternating bundle branch block in combination with intra-Hisian block. *Int Heart J*. 2005 Jul; 46:737-44.