**PVC INDUCED CARDIOMYOPATHY: RISK ASSESSMENT**

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**Background**: Premature Ventricular Contractions (PVC) induced cardiomyopathy is a recently documented disorder distinguished from other myopathies by its reversibility following control of the arrhythmia. This outcome is facilitated by early diagnosis and the etiological issues have not been completely defined or universally accepted. It is accepted that the PVC burden, while a major factor, is not the only causative issue. This study examined risk factors including ectopic QRS duration and coupling interval.

**Methods:** Patients with clinical signs of heart failure and an elevated beta natriuretic peptide (BNP) received a Holter monitor. Those with a PVC burden above 7,000/24 hours were deemed the “at risk group” (A) and were compared to those with <7,000 PVC’s (B). The QRS duration and coupling interval where measured.

**Results:** There was a clear difference between groups A and B. Group A had a BNP of 7,876 compared to Group B of 3,974. Similarly, ectopic beats compared 8,196 (A) to 3,019 (B). QRS duration (ms) measured 131 (96-194) compared to 96 (96-102). The coupling interval (ms) for Group A was 406 (400-412) and was markedly different from B’s 760 (700-820). Therefore the study demonstrated a longer QRS duration and a shorter coupling interval in the > 7,000 ectopic Group A, indicating greater risk.

**Discussion:** Animal studies have shown progressive fibrosis at the apex of the heart. Investigation of fibrosis in humans is under study. The diagnostic importance of the coupling interval has also been demonstrated in animals but remains controversial in humans. Our study suggests it is a significant contributing factor.

**Conclusion:** PVC induced cardiomyopathy is reversible if diagnosed early and ectopic beats suppressed. A PVC burden of greater than 7,000/day is the principle etiological factor but the risk is progressively increased by a reduced coupling interval and a widened ectopic QRS.