Severe Brady-Arrhythmias During Bronchiolitis in Infants Younger Than One Year. A Prospective Holter Study

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Abstract:

Bronchiolitis is a major cause of respiratory illness in infants. Few studies have demonstrated arrhythmia during bronchiolitis, included bradycardia and atrioventricular block, some requiring pacemaker implantation. However, the association between bronchiolitis and cardiac arrhythmias is unclear.

Aim: The purpose of our study was to investigate arrhythmias during bronchiolitis in infants younger than one year

Methods: A single center, prospective cohort study was conducted on infants clinically diagnosed with bronchiolitis. Demographic and clinical questionnaire was performed. Patients were monitored by cardiac Holter overnight during hospitalization. Bradycardia was defined as heart rate <60.

Results: one hundred infan ts were enrolled in the study, most (79%) tested positive to RSV. Arrhythmias were recorded in 18 (18%) infants: Sinus pauses (between 2-13 seconds) in 8 infants and bradycardia down to 60 bpm in another 7 infants. Frequent atrial premature complexes (3%-18% of all beats) in 3 infants. In a follow-up Holter, arrhythmias disappear between one to four months. Analysis of demographic and clinical factors did not reveal any significant risk factors for arrhythmias. No symptoms (including cyanosis, apathy unresponsiveness) or illness severity were predictive to identify arrhythmias.

Conclusion: Our study shows that bronchiolitis is associated with severe bradyarrhythmia, especially sinus pauses and sinus bradycardia. In our study the pathology seems to be resolved. Physicians should be aware of the associated with and reconsider pacemaker implantation after the resolution of the bronchiolitis even in infants with severe bradycardia. Future investigations should focus on possible mechanisms, risk factors and prognosis of this association.