

**CARDIAC CONDUCTION ARTERIES IN INFANTS: EARLY  
ATHEROSCLEROTIC LESIONS OR FIBROMUSCOLAR  
HYPERPLASIA/DYSPLASIA?**

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**Aims** Aim of the present study is to examine in 70 infants dying suddenly the morphologic structure of the cardiac conduction system arteries. **Background** Although early atherosclerotic lesions of the coronary arteries detectable in infants and even in fetuses have been described, little attention has been given to the possible involvement of the cardiac conduction system arteries. **Methods** Among the total of over 120 autopsied cases of infants dying suddenly and unexpectedly referred, after the exclusion of violent causes, to our Institute to perform more accurate and specialized investigations, 70 cases (47 males and 23 females) were selected for this study. The age ranged from 40 days to 243 days (mean  $\pm$  SEM= 101  $\pm$  23.07). A complete autopsy was performed, according to our autopsy protocol. Histological observations were focused on the cardiac conduction system which was examined on serial sections. **Results** In 15 cases (21.43%), early atherosclerotic lesions of the cardiac conduction system were detected, marked by thickening and deposits of amorphous material and mainly lipids in the intima, fragmentation of the elastic fiber system. A significant correlation is evident between these early atherosclerotic lesions and parental cigarette smoking ( $p < 0.05$ , chi-square test). **Conclusions** We suggest that such lesions in infants might be first regarded as early atherosclerotic lesions instead of fibromuscular hyperplasia or dysplasia of the cardiac conduction system arteries. However, a diagnosis of fibromuscular hyperplasia/dysplasia cannot be excluded in some cases.