Sick sinus syndrome in childhood

Sir,
Recent studies of adults with sinoatrial disorder (sick sinus syndrome) suggest that it is a relatively benign condition and that when early death occurs it is usually the result of associated heart disease.\(^1\)\(^-\)\(^3\) In contrast, Ector and Van der Hauwaert (Br Heart J 1980; 44: 684–91) conclude that, in children, sick sinus syndrome is a danger in its own right. From the data they supply, it is impossible to exclude associated potentially lethal heart disease in either their fatal or near-fatal cases. If their contention is correct, two important questions follow. Why should children behave differently from adults? At what age does sinoatrial disorder become relatively "safe"?

On a different topic, I am surprised by the authors' statement that ventricular tachycardia has not been documented in series of adults with sick sinus syndrome. While this is true of some of the early reports, including the 46 patients described from this department,\(^4\) several subsequent studies include a proportion of patients with ventricular tachycardia. For example, this arrhythmia was found in the sick sinus syndrome in three out of 13 patients in one series\(^5\) and in 10 out of 90 patients in another.\(^6\)

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References

This letter was shown to Drs Ector and Van der Hauwaert who reply as follows:

Sir,
In children, potentially lethal heart disease, with the exception of intermittent serious arrhythmia, can fairly easily be diagnosed or excluded. All patients in our study were followed for several years and none had or developed clinical evidence of structural cardiac disease. It is noteworthy that, since the publication of our paper, similar cases of “isolated” sinoatrial disease have been reported in young boys\(^1\) and that for the first time an anatomical substrate of this syndrome has been described.\(^2\)

On the basis of the small number of patients reported with this syndrome, we are reluctant to conclude that children behave differently from adults. The impression that their clinical course is more serious may in fact reflect criteria of selection. In our study and most previous reports only symptomatic children with severe bradycardia were included. Borderline cases were excluded in view of the ill-defined territory between normal and pathological cardiac rhythm. Indeed, 24 hour recordings have shown great variability of heart rate and rhythm in healthy newborns,\(^3\) children,\(^4\) and adolescents.\(^5\) By excluding some less severe, but in all probability pathological, cases, most reports are biased toward an unfavourable prognosis. Along the same line of thought we would expect sinoatrial disease not to become “relatively safe” at a later age. On the contrary, we anticipate that a number of mild and asymptomatic forms of this condition will gradually worsen in adolescence or adulthood. Only long-term follow-up of borderline cases will elucidate the natural history of this condition.

Our statement that ventricular tachycardia was not documented in adults, was based on three large and widely cited series. An exhaustive survey of all previous reports of sick sinus syndrome in adults was obviously beyond the scope of our study. We were not surprised to learn that ventricular arrhythmia is found to occur occasionally in adults.

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References