Practical Pediatric Cardiology

Case-Based Management of Potential Pitfalls

Alan G. Magee
Jan Till · Anna N. Seale
Editors

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We would like to dedicate this book to the children and their parents who place their trust in us. Although we are only human, it is our duty to appraise and evaluate our experiences so that we can provide the best possible care.

Preface

In an era when most essential information about the morphology, diagnosis, management and prognosis of heart disease in children and adolescents is so easily available on the Internet, is there any longer a place for textbooks? So rapid has been the progress in almost all aspects of medicine that most books are out of date by the time they are published. The results of drug trials or the efficacy of new devices is instantly available to health professionals, patients and families as soon as they appear in one of the many journals available online. Classical teaching from traditional or reference textbooks can be found in an instant.

With this background, the publishers and editors have bravely taken on the challenge of delivering a new book devoted to 'pifalls' in diagnosis and management of heart disease in the young. The editors Jan Till, Alan Magee and Anna Seale are not only personal friends and current or former colleagues for whom I have the greatest respect and admiration but also relatively young paediatric cardiologists; yet, they have a wealth of experience of success and failures in the treatment of children.

They have gathered together personal reminiscences about adverse events or diagnostic challenges from clinicians working in many paediatric cardiology centres. Each of their accounts provides lessons and insights of potential value to all of us. These types of personal descriptions devoted to a single medical specialty are not easily found online. And at a time when there is so much emphasis on informed consent, duty of candour and clinical risk this is a book which should have a place on the bookshelf of all health professionals involved in cardiology. Read it, reflect on your own clinical practice and take the opportunity to learn from the experiences of others.

London, July 2015 Michael Rigby

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Chapter 1
It's Enough to Make You Anxious

Merlin Ranald McMillan, Jan Till, and Ferran Roses

Abstract The case of a 14-year-old boy with a 3-year history of palpitations and shortness of breath is described. His symptoms were thought to be due to anxiety, and he underwent inpatient psychiatric therapy. Eventually an ECG was performed as part of a screening programme and was recognised to be abnormal. Subsequent investigations confirmed permanent junctional reciprocating tachycardia. The child underwent radiofrequency ablation and was cured.

Keywords Palpitations • Anxiety • Tachycardia • Radiofrequency ablation • Persistent junctional reciprocating tachycardia

Case Description

A 14-year-old boy was referred to an electrophysiologist with a 3-year history of episodes of shortness of breath, palpitations and anxiety. Initially these were thought to be related to asthma; however, symptoms were not relieved by use of beta agonists. Eventually he was referred to psychiatric services and received treatment as

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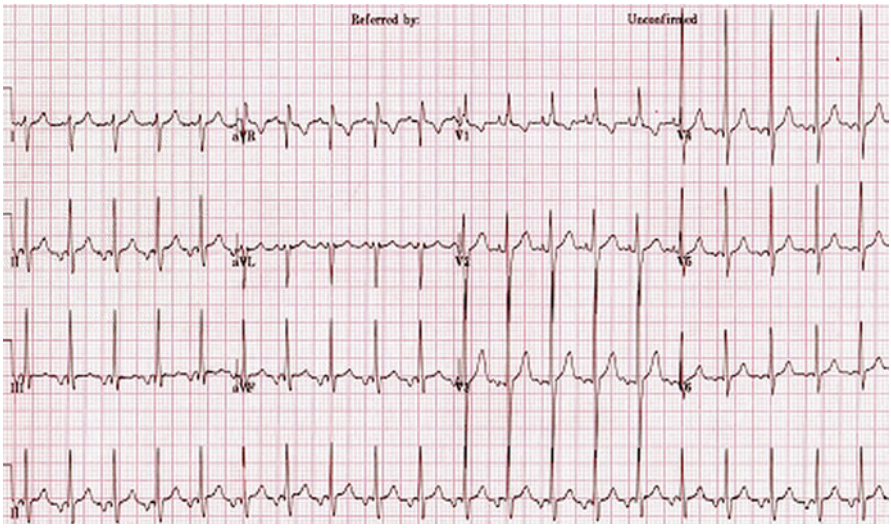

Fig. 1.1 An ECG at rest showing a narrow complex tachycardia of rate. Although the P wave appears immediately before the QRS, the rhythm is not sinus as the P wave axis is inverted (negative in lead II, III and aVF)

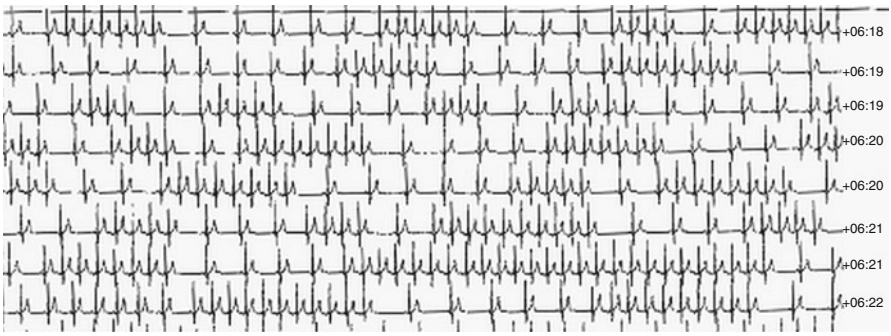

Fig. 1.2 Section of 24-h tape displaying the persistent nature of this tachycardia

an inpatient for anxiety and panic attacks, undergoing psychological therapies to provide coping strategies, which brought some symptomatic improvement.

These episodes did not prevent physical activity, and he continued playing football for a local team and training several hours a week. Only one episode necessitated stopping activity. There was no history of syncope or collapse. When taking deep breaths he used to feel a large "kick" in his chest. These symptoms continued for 3 years when at the age of 14 years he attended screening by the charity Cardiac Risk in the Young. His ECG was found to be abnormal and believing this may be an atrial tachycardia, he was referred to a paediatric electrophysiologist (Fig. 1.1).

His 24-h tape confirmed a persistent tachycardia, continually starting and stopping throughout the 24 h, and vagal manoeuvres performed during the tape reproduced the sensation of a "kick" in his chest and showed termination of tachycardia (Figs. 1.2 and 1.3). The differential diagnosis was atrial tachycardia or permanent