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## Hypocalcemia and Tachycardia Induced Cardiomyopathy

Kourti, *et al.* [1] have highlighted important aspects of tachycardia induced cardiomyopathy and cardiogenic shock in their letter. We wish to share our experience in handling a child with tachycardia induced cardiomyopathy and cardiogenic shock resulting from hypocalcemia.

We describe a 4-month-old infant, who presented to pediatric emergency in cardiogenic shock and supraventricular tachycardia. He presented with cold and mottled peripheries, cyanosed and in hypotensive shock. He was given a saline bolus at 10 mL/kg over 30 minutes and started on IV adrenaline. ECG revealed SVT which was reverted to normal rhythm with the use of second dose of IV adenosine at 0.2 mg/kg. Transthoracic echocardiography revealed a dilated left ventricle with hypokinesia with markedly reduced left ventricular ejection fraction of 22%, without any congenital cardiac defects. Troponin T was negative by card test and serum CPK-MB levels were also normal. His ionized calcium was low (0.2 mmol/L). Serum magnesium levels were normal. Child was started on Inotropes (Milrinone and dobutamine) and calcium chloride was given to correct his hypocalcemia. Adrenaline was tapered off followed by dobutamine and milrinone. No antiarrhythmics were

given as maintenance therapy. His calcium levels improved to 1.1 mmol/L and gradually his LVEF improved to 60%. At discharge, child was asymptomatic and hemodynamically stable.

In managing these patients, electrolytes like calcium and magnesium are important part of work-up, apart from those described by the authors. Both hypocalcemia and hypomagnesemia have been reported as causes of arrhythmias in children as well adults [2,3]. Since this child had two such episodes, he also needs to undergo electrophysiological study to look for any conduction pathway defect, which is rare but a important cause to look for in patients with repeated arrhythmias.

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## Specific Learning Disability – The Road to Disability Act

We would like to thank Dr Unni [1] for highlighting his concerns regarding specific learning disability (SLD) and bringing such an important yet not so common issue into limelight. The greatest hurdle lies in identifying these children so that only the deserving child gets the benefit if SLD forms part of Disability Act. The developed countries were early to recognize and quick to act on such issues. India is a vast multilingual country. It is not possible to apply any Western tool directly to our children

due to different social and educational structure and the norms will vary. The SLD battery test developed and validated by National Institute of Mental Health and Neurosciences (NIMHANS) [2], does not have proper norms. Moreover the tool does not cover the cognitive aspect. We need a foolproof tool to find the prevalence of SLD in public and private schools. First generation learners should be excluded or else the prevalence will be high as environment plays an important factor in the development of the child.

For disability benefit or relaxation in education board norms, who will certify children with SLD? This

certificate should come from a team of personnel and should have a uniform system throughout the country. With similar issues in mind, we have teamed up with psychologist and special educators for a study to develop a pediatrician-friendly checklist for SLD to screen children in clinics. Department of Science and Technology, West Bengal showed interest and advised us to extend our work to English, Hindi and Bengali language. We are associated with a project funded by WB Government entitled "Development of a diagnostic tool for clinical assessment of specific learning disability and prevalence of specific learning disability in English, Hindi and Bengali medium primary school-going children in West Bengal". The pilot work is ongoing and hopefully, in a couple of years, will be able to generate a diagnostic tool with norms appropriate for India.

Cognitive development is conceptualized as one of the important issues to identify SLD. The problem needs to be addressed at the mass level all parts of the country. Only then can we come to a unanimous decision as to the specific tool and intervention.

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## Vitamin D Supplementation for Tuberculosis

I read with great interest the recently published randomised control trial (RCT) on vitamin D supplementation for severe pneumonia [1]. I would like to add that owing to the ability of vitamin D to inhibit *M.tuberculosis* in macrophages by inducing autophagy [2], its role in control of tuberculosis is also being investigated. Similar to pneumonia, observational studies indicate that vitamin D deficient patients are more likely to be affected with tuberculosis. Three RCT's on the role of vitamin D in tuberculosis [3-5] have been conducted with considerable differences in results. The Denmark study [4], did not find any improvement in clinical outcome or mortality with the use of vitamin D as a supplement in a dose of 100,000 IU at 0,5 and 8 months. All these studies have been conducted in adults. Moreover, they have a small sample size and are underpowered. None of them have been conducted in India. The genotype of vitamin D receptors and consequently the metabolism also might differ in India compared to that of Europeans, these studies were carried out. This is important when viewed in the light of the study by Martineau, *et al.* [3], which found that a dose as high as 2.5 mg vitamin D hastened the sputum culture conversion exclusively in the subgroup of the population

which had *tt* genotype of the TaqI vitamin D receptor polymorphism.

Role of vitamin D supplementation needs to be studied in Indian children with tuberculosis.

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