

Beyond the usual challenges; a case of incessant papillary muscle VT ablation in an 11.5 kg child

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Abstract

Ablation of papillary muscle ventricular tachycardia (PM-VT) has been associated with unsatisfactory results owing to the complex anatomy & difficulty in maintaining catheter contact and stability. Many more challenges could be faced in pediatrics with small hearts.

Objectives:

To report incessant PM-VT ablation associated with haemodynamic instability in a 2-year-old child.

Keywords: prevalence; population; cardiovascular risk; SCORE scale

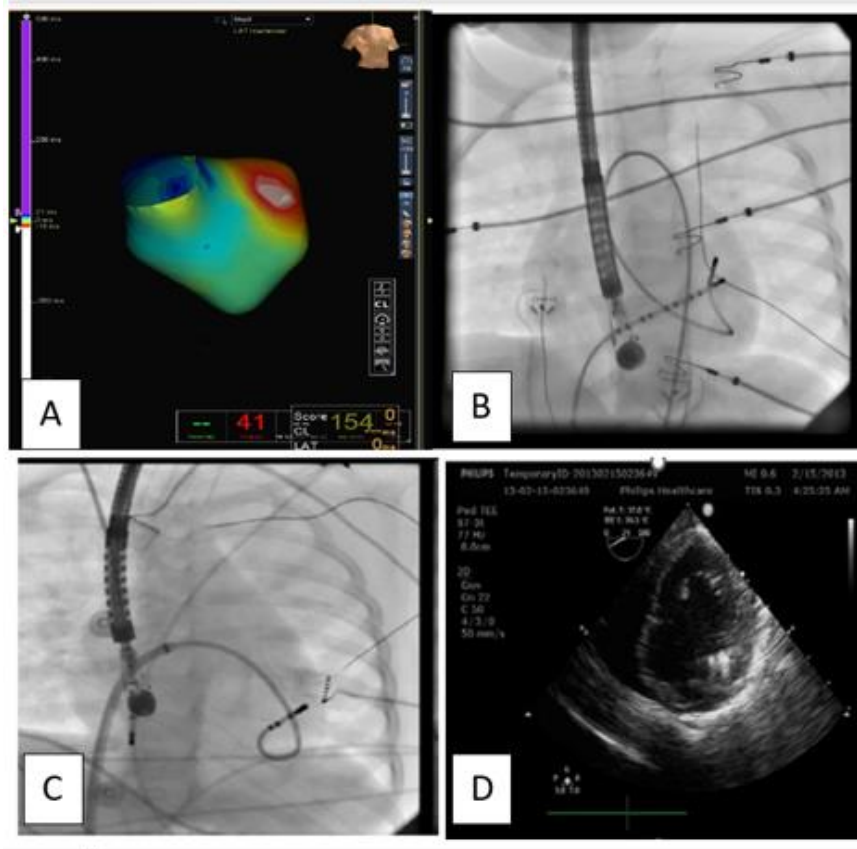
Introduction

A 20-month-old female patient of 11.5 kg was referred to our centre with incessant tachycardia refractory to medical treatment & cardioversion. On presentation, her blood pressure was maintained on IV supports, Echo revealed fair function. After parents counselling, EP study was done & confirmed the diagnosis of VT. Right femoral artery accommodated hardly a 5F sheath hence, 5F dry tip ablation catheter was used for retrograde LV mapping with the guidance of Navix system. (A, B) An early signal was detected at the anterior PM where the tachycardia was mechanically bumped, RF energy was applied there however, power was limited to 15 Watts due to high temperature, yet the VT wasn't inducible. 4 hours later, VT recurred So, we decided to go for the antegrade approach via trSSanseptal puncture using an irrigated tip ablation catheter. (C) Moreover, due to unavailability of ICE, TEE was used for better visualization of PM.(D) RF ablation was applied at 35 watts with immediate termination of the VT. Smooth extubation was done with no recurrence of tachycardia. Nevertheless, the patient started to show

signs of acute lower limb ischemia for which thrombolytic therapy was initiated with good response. However, one day later, hemoglobin drop and increased abdominal girth were observed. Abdominal CT revealed retroperitoneal hematoma. Conservative management was adopted with regressive course of the hematoma. 5 days later, the patient was discharged home safely. The patient had no arrhythmia recurrence over one year follow up.

Conclusion:

Ablation of PM -VT is challenging especially in pediatrics. Access limitation & catheters mobility are the main obstacles, multidisciplinary team collaboration & getting benefits of the available equipments (like TEE) are the keys for success and managing complications in such cases.





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