

Intracardiac Thrombus Presenting as Superior Venacava Syndrome and Heart Failure in Newborn

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Abstract

Indwelling catheters serve as nidus for thrombosis and neonatal thrombotic events are reported in low birth weight neonates with history of umbilical catheter or peripherally inserted central catheter. The knowledge of natural history of thrombotic events is not known in newborns. Management options includes "wait and watch" policy (expected management), medical treatment with low molecular weight heparin (LMWH) or surgery. We report a case of late preterm complicating with superior vena cava thrombosis extending to tricuspid valves and complete recovery of thrombus without anticoagulation therapy.

Keywords: Thrombosis; Umbilical Catheter; Wait and Watch.

Introduction

Neonatal thrombotic events are reported in low birth weight (LBW) neonates with history of umbilical catheter (UC) [1] or peripherally inserted central catheter (PICC) [2] line prior to or at the time of detection of events. The knowledge of natural history of thrombotic events is not known in newborns. It clinically may present as life threatening situation like renal failure, superior vena cava syndrome, heart failure and systemic and pulmonary embolism. Standard management protocols are not available for neonatal thrombosis, majority of recommendation in the literature are based on uncontrolled studies, small case series. Management options includes "wait and watch" policy (expected management), medical treatment with low molecular weight heparin (LMWH) or surgery [3,4]. We report a case of LBW late preterm complicating with superior vena cava thrombosis extending to tricuspid valves and complete recovery of thrombosis without anticoagulation therapy.

Case Report

Late preterm baby who required bag and mask ventilation for spontaneous respiration, was admitted in ICU and management was started as per post resuscitation care protocol and 5 French NGT was put in umbilical vein at admission. Sepsis screen was negative at the time of admission. 3rd day baby had sepsis screen positive, thrombocytopenia and hypocalcaemia. Antibiotics were started and hypocalcaemia was corrected. Baby was showing the signs of improvement, feeding was started; catheter was removed and shifted to step down on 10th day. 25th postnatal day baby's condition deteriorated, developed oedema of upper half of body, muffled heart sounds, prolong CRT and hepatomegaly. Echocardiography was done, revealed multi fenestrated fossa ovalis ASD (L>R) with intracardiac thrombus in right atrium originating from superior vena cava and extending upto tricuspid valve (Fig. 1 and 2). Cardiac MRI was done showing the possibility of atrial myxoma, fibroma and clot or vegetation. Blood culture was sent, antibiotics were upgraded and coagulation

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profile was done. PT 20.8 sec (12.2), aPTT 65.8 sec (30-40) and INR 1.75, sepsis screen was positive, blood culture was negative. Coagulation profile normalised on 35th day and repeat Echo was done, revealed complete clearing of thrombus with good ventricular function.



Fig. 1: Four Chamber Apical View showing Extension of intracardiac thrombus to tricuspid valve



Fig. 2: Bicaval Subcostal view showing origin of thrombus from superior vena cava

Conclusions

Indwelling catheters serve as nidus for septic thromboemboli, before starting anticoagulation therapy, underlying sepsis induced coagulopathy should be ruled out. Wait and watch approach is also beneficial in newborns with normal cardiac function.

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