

Migration of chemoport catheter to the right ventricle: A catastrophic rare complication

Sir,

A totally implantable venous device (TIVD), or chemoport, has revolutionized the delivery of chemotherapeutic agents in cancer patients by preventing multiple pricks and it also minimizes the risk of thrombophlebitis by chemotherapy cycles. Though TIVD has a good safety profile, catheter fracture and migration into cardiac chambers can occur in approximately 0.1–1% of the patients.^[1] Foreign bodies in the heart are symptomatic in 56% of the patients. Around 20% of them have presented within the first 24 h while 30% of the patients have presented years after the penetration of the foreign body.^[2] The clinical presentation differs from resistance to irrigation, localized pain or swelling, chest pain to lethal arrhythmia. Cardiac perforation, thrombosis, dysrhythmias, endocarditis are dreaded complications that require removal of the catheter urgently either through the endovascular or surgical route.^[3]

A 3-year-old female child having B-cell acute lymphocytic leukemia presented with a history of severe chest pain and fever for 2 days. She had undergone a chemoport insertion 25 days back. The chest X-ray revealed that the chemoport catheter had dislodged and migrated into the right ventricle [Figure 1].

The child was posted for endovascular retrieval of the catheter under general anesthesia (GA). During the procedure, the

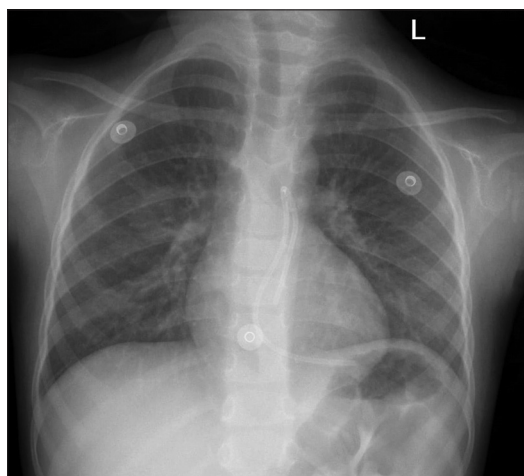


Figure 1: Preoperative chest X-ray of the child showing the fractured chemoport in the right ventricle.

catheter got surpassed into the pulmonary artery and could not be retrieved. The patient was shifted to the cardiothoracic operation theater (OT) on controlled mechanical ventilation.

In OT, American Society of Anesthesiologists standard and invasive blood pressure monitoring were continued. GA was maintained with sevoflurane and atracurium. The central venous catheter was accessed by the right internal jugular vein. The position of the migrated catheter was confirmed by a transesophageal (TEE) probe [Figure 2a]. One end of the catheter was present in the right ventricle while another end lied in the main pulmonary artery [Figure 2b]. With a backup preparation of emergency cardiopulmonary bypass (CPB), surgery was initiated. The pulmonary artery was exposed by midline sternotomy. The clamps were applied on the superior vena cava (SVC) and inferior vena cava (IVC) to stop venous return to the heart and the catheter was removed via a small incision on the pulmonary artery. The incision site was rapidly sutured and the clamp was released. The clamp on to clamp off time was 90 s. The blood pressure during the clamping was maintained with the vasopressor and inotropic agents. The complete removal of the migrated catheter was confirmed with TEE. The child was extubated after recovery. She was discharged on the fifth postoperative day.

A majority of foreign bodies reached the heart by migration (88%) and the right heart chamber is the one occupied more often. The disconnection of the catheter from the chamber and migration to the right atrium, IVC, and SVC is also reported.^[4] But serial migration of a chemoport catheter into the right ventricle and pulmonary artery has not been reported so far.

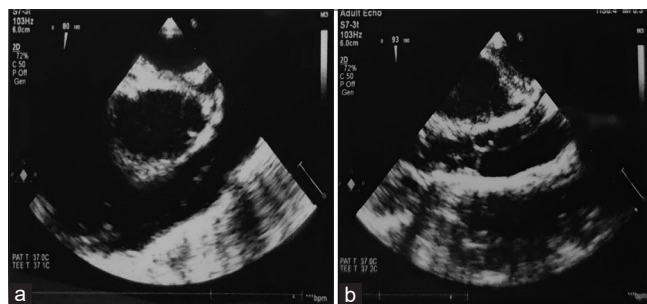


Figure 2: (a and b): TEE image showing the catheter through the right ventricular outflow tract into the pulmonary artery.

The anesthetic concerns are pertinent to further dislodgement of the catheter during induction of anesthesia, arrhythmias, embolism, and perforation of the heart chamber during removal of foreign body. The preparedness for rapid blood transfusion and for emergent CPB in case of life-threatening bleeding is the key for the management of such cases and can be challenging for an anesthetist.

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Conflicts of interest

There are no conflicts of interest.

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