Letters to Editor

Transcatheter Aortic Valve Replacement (TAVR) in Thalassemic Patients

To the editor,

A 67-year female, known case of beta thalassemia intermedia and rheumatoid arthritis (RA) (since 50 years) was diagnosed to have severe calcific aortic stenosis, valve area of 0.7 cm², gradient 90/60 mm Hg, hypertrophic normal left ventricle without regional wall abnormality. Investigations revealed a sinus rhythm on ECG, hemoglobin 5.7 gm/dl, serum ferritin was 1650 ng/ml, indirect bilirubin 1.7 mg/dl, uric acid 9.6 mg/dl, severe restrictive airway disease, lumbosacral radiogram revealed multiple lobulated paravertebral masses with expansile lytic lesions, possible signs of extramedullary hematopoiesis, a normal renal function, coagulation profile and ultrasound abdomen. She was on oral diuretics, methylprednisolone, hydroxychloroquine, folic acid, amlodipine and deferoxamine. She had a history of blood transfusion one year ago. Airway assessment was normal and she was scheduled for a transcatheter aortic valve replacement (TAVR) under conscious sedation and local analgesia. Pantoprazole and alprozolam were administered orally the night before surgery. Standard ASA monitors were placed and radial arterial and central venous line were inserted aseptically. Dexmedetomidine infusion at 0.5 ug/kg/hour, 50 ug fentanyl citrate, cefoperazone sulbactam for antibiotic prophlaxis and Heparin 100 IU/kg to maintain an activated clotting time of 250-300 seconds were administered. TAVR was carried out via the right femoral artery with core valve of 23 mm. A left bundle branch block developed which reverted to sinus rhythm within one hour of temporary pacemaker support. Transthoracic echocardiography (TTE) did not reveal any paravalvular leak, pericardial tamponade or new regional wall motion abnormality. Heparin was reversed with protamine in a 1:1 dose. Two units of packed red blood cells (PRC) were transfused, was shifted to the ICU with a hemoglobin of 6.5 gm/dl. She was administered dual antiplatelet drugs to be continued for six months. The temporary pacemaker was removed after 24 hours and the patient was ambulated. She was discharged on Day 5 and was well on 1 week follow up.

Though case reports are available in the literature for open heart surgeries in thalassemic patients but TAVR has not been reported till date.

Thalassemic patients undergoing cardiac procedures pose challenges to the cardiac anesthesiologist. They may have organ dysfunction due to haemochromatosis including cardiomyopathy, liver cirrhosis and altered renal profile.[1] Diabetes mellitus, thyroid dysfunction may be encountered in beta thalassemia from anterior pituitary dysfunction due to iron overload. [2] Hypercoagulability is commonly encountered thus perioperative measures to prevent deep venous thrombosis (DVT) need to be taken. Airway assessment is of vital importance as the probability of difficult intubation in the presence of maxillary hypertrophy, nasal bridge depression, dental protrusion is high. [3] Laryngeal mask airway insertion may be challenging due to a high-arched palate. Caution is needed during transfer and positioning of patients because of risk of pathological fractures due to osteoporosis. Health personnel need to avoid exposure to the patient’s blood to prevent infections. Associated RA may be complicated by involvement of other organs lung involvement extending to pulmonary fibrosis, heart failure and cervical spine or temporo-mandibular joint arthritis may lead to a difficult
Letters to Editor

Yatin Mehta, Amrita Guha, Ravinder Sawhney, Rajiv Juneja, Praveen Chandra, Nagendra Chauhan, Naresh Trehan

Medanta The Medicity Sec 38 Gurgaon, Haryana, India

Address for correspondence: Dr Rajiv Juneja, Medanta The Medicity Sec 38 Gurgaon, Haryana, India. E-mail: Juneja@hotmail.com

Submitted: 07-Nov-2020 Revised: 18-May-2021 Accepted: 05-Jun-2021 Published: 21-Jan-2022

REFERENCES

1. Katz R, Goldfarb A, Muggia M, Gimmon Z. Unique features of laparoscopic cholecystectomy in beta thalassemia patients. Surg Endosc Laparosc Percutan Tech 2003;13:318-21.
2. Toumba M, Sergis A, Kanaris C, Skondis N. Endocrine complications in patients with thalassaemia major. Pediatr Endocrinol Rev 2007;5:642-8.
3. Voyagis G, Kyriakis K. Homozygous thalassemia and difficult endotracheal intubation. Am J Hematol 1996;52:125-6.
4. Samanta R, Shoukrey K, Griffiths R. Rheumatoid arthritis and anaesthesia. Anaesthesia 2011;66:1146-59.
5. Wiegerinck EMA, Boerlage-van Dijk K, Koch KT, Yong ZY, Vis MM, Planken RN, et al. Towards minimally invasiveness: Transcatheter aortic valve implantation under local analgesia exclusively. Int J Cardiol 2014;176:1050-2.
6. Rowbottom S, Sudhaman DA. Haemoglobin H disease and cardiac surgery. Anaesthesia 2007;63:1033-4.

How to cite this article: Mehta Y, Guha A, Sawhney R, Juneja R, Chandra P, Chauhan N, et al. Transcatheter aortic Valve Replacement (TAVR) in thalassemic patients. Ann Card Anaesth 2022;25:126-7.