22 ISMICS Innovation, Technologies, and Techniques in Cardiovascular/ V
Warsaw ANNUAL SCIENTIFIC MEETING
16-18 June 2022 Hilton Warsaw City Warsaw POLAND
International Society for Minimally Invasive C
www.ISM

MINIMAL INVASIVE RESECTION OF THE CATHETER-ASSOCIATED RIGHT ATRIUM MASSIVE THROMBUS IN CHRONIC DIALYSIS PATIENT

The International Society for Minimally Invasive Cardiothoracic Surgery

Chelyabinsk Regional Clinical Hospital, Department of cardiac surgery. Chelyabinsk, Russia
Mikhail Nuzhdin, Nikita Nadtochiy, Ilya Melnikov, Sergey Elfimov

OBJECTIVE: THERE ARE NO CONSENSUS GUIDELINES ON THE MANAGEMENT OF CATHETER-RELATED RIGHT ATRIAL THROMBUS. THE OPTIMAL TREATMENT IS STILL CONTROVERSIAL ESPECIALLY IN THE CASES OF LARGE ADHERENT THROMBUS. SURGICAL THROMBECTOMY IS NECESSARY IN UP TO 25% CASES. BEING LEFT UNTREATED SUCH THROMBUS MAY WELL LEAD TO THE LIFE-THREATENING COMPLICATIONS.

METHODS: WE PRESENT A CASE OF A 67-YEAR-OLD MALE WITH END-STAGE RENAL FAILURE WHO WAS FOUND TO HAVE A LARGE RIGHT ATRIAL THROMBUS WITH THE EVIDENCE OF FIRM ADHESION TO THE LATER WALL OF THE RIGHT ATRIUM, PARTIAL OBSTRUCTION OF TRICUSPID VALVE AND SILENT EPISODE OF A RIGHT SEGMENTAL PULMONARY ARTERY EMBOLISM. PATIENT EXHIBITED SIGNS AND SYMPTOMS OF NYHA CLASS III CONGESTIVE HEART FAILURE. INITIAL ANTICOAGULATION STRATEGY WAS FAILED AND SURGICAL THROMBECTOMY WAS PLANNED. THE PRE-OPERATIVE SET-UP INCLUDED TRANSTHORACIC ECHOCARDIOGRAPHY (FIG.1), CONTRAST-ENHANCED COMPUTED TOMOGRAPHY OF THE HEART AND AORTA-ILIAC ARTERIAL SEGMENT. CONSIDERING THE ACCEPTABLE SURGICAL RISK, PATIENT WAS SCHEDULED FOR RIGHT MINI-THORACOTOMY APPROACH.

Fig.1. TTE image.

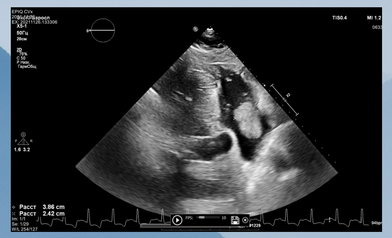
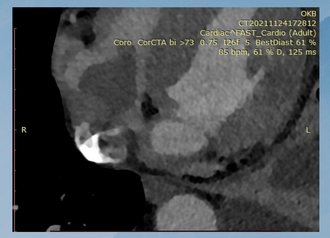


Fig.2. TEE image.



Fig.3. MDCT scan



RESULTS: RIGHT MINI-THORACOTOMY IN THE 4TH INTERCOSTAL SPACE THROUGH THE 6 CM SKIN INCISION (FIG.3) WAS PERFORMED UNDER GENERAL ANESTHESIA AND DOUBLE LUNG VENTILATION. CAMERA PORT WAS INSERTED THROUGH THE 3D INTERCOSTAL SPACE AND SECOND WORKING PORT WAS DONE THROUGH 5TH INTERCOSTAL SPACE. 30 DEGREE ENDOSCOPE WAS USED. CARDIO-PULMONARY BYPASS WAS INITIATED AND MAINTAINED BY MEANS OF FEMORAL VESSELS CANNULATION (19FR ARTERIAL CANNULA AND 25FR MULTI-STAGE VENOUS CANNULA) WITH VACUUM ASSISTANCE. AFTER OPENING THE PERICARDIUM, COMPLETE ADHESION TO THE CARDIAC CHAMBERS AND THE GREAT VESSELS WAS IDENTIFIED AND CAREFUL DISSECTION FROM THE SURROUNDING TISSUES WAS PERFORMED UNDER DIRECT VISION AND VIDEO-ASSISTANCE. INFERIOR VENA CAVA WAS SNARED AND TIED. SUPERIOR VENA CAVA WAS DIRECTLY CANNULATED BY 16FR DRAINAGE, SNARED AND TIED AFTERWARDS. RIGHT ATRIUM WAS OPENED AND COMPLETE REMOVAL OF THE THROMBUS (FIG.4) WAS PERFORMED WITH PARTIAL RESECTION OF ATRIAL TISSUE DUE TO FIRM ADHESION. RIGHT ATRIUM CLOSURE AND DRAINAGE PLACING WERE PERFORMED AND CARDIO-PULMONARY BYPASS WAS TERMINATED. PATIENT WAS EXTUBATED ON THE NEXT DAY AND DEMONSTRATED UNEVENTFUL POSTOPERATIVE PERIOD.

FIG. 4. PREOPERATIVE SET-UP.

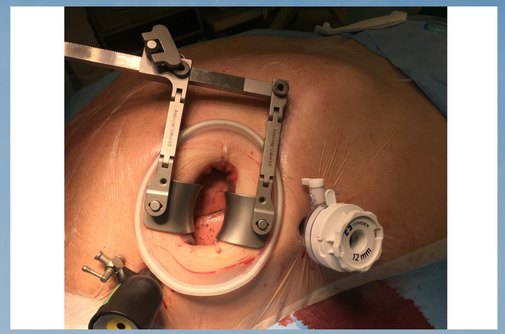


FIG.5. RA TROMBUS.



FIG.6. FINAL VIEW



CONCLUSION: MINIMAL INVASIVE RIGHT MINI-THORACOTOMY WITH VIDEO-ASSISTANCE MAY WELL BE USED EFFECTIVELY AS A CONTEMPORARY SURGICAL APPROACH IN SELECTED PATIENTS WITH CATHETER-RELATED RIGHT ATRIUM THROMBUS.