

BACKGROUND: Minimally invasive procedures in cardiac surgery are gaining popularity in the last two decades. Among them vertical infra-axillary mini thoracotomy approach is least accepted and results are commonly unknown. Our aim to study immediate results of this approach introduction into clinical practice of one center.

METHODS: Since January 2021 we have used vertical infra-axillary mini thoracotomy in 45 patients. From 45 patients in 28 cases were mitral valve surgery (14 isolated mitral valve surgery and 8 mitral valve and tricuspid valve surgeries, 6 cases were with left atrial thrombectomy), 8 cases with isolated ASD repair (in 4 cases with tricuspid valve repair) and 4 patients had repair of PAPVC. Crystalloid cardioplegia was given through aortic root and we used transthoracic Chitwood clamp for aortic cross clamping (III intercostal space). Surgical incision was approximately 6.0cm +/- 1.0cm in mid-axillary line on the IV intercostal space. Cardiopulmonary bypass was established via small incision common femoral artery and vein. In patients who was needed to open right atrium of the heart we used percutaneous internal jugular vein cannulation. **RESULTS:** Average procedure duration was 220,2 ± 10,8 min (120-280 min). Average duration of bypass time was 108,4±10,9 min (56-145 min). Ventilation time in ICU averaged 247,5±22.2 min (120-360 min). Average drainage loss in ICU was 383,3 ±57,9 ml (200-600 ml). There was no hospital mortality. One patient was re-opened due to bleeding from same thoracotomy wound side.

CONCLUSIONS: Vertical infra-axillary mini thoracotomy approach gives good access to the right atrium, left atrium, mitral and tricuspid valves. So this approach can be used successfully as a standard sternotomy approach. But overall operation duration, bypass and cross clamp time is slightly longer than standard sternotomy approach. Morbidity and mortality in this approach is same as a standard sternotomy. At the end we can say vertical infra-axillary mini thoracotomy approach is safe and results are non-inferior than standard sternotomy and it gives superior cosmetic results and shorter rehabilitation time.