Surgical maneuver for ventricular septal defect exposure during congenital heart surgery through the right transverse axillary minithoracotomy

Oleksandr Babliak, Volodymyr Demianenko, Anton Marchenko, Dmytro Babliak
Diagnostic and Treatment Center For Children And Adults Of The Dobrobut Medical Network, Kyiv, Ukraine

OBJECTIVE: Right transverse axillary minithoracotomy is not conventionally used for ventricular septal defect (VSD) repair because of complicated VSD exposure and need of temporary tricuspid valve leaflet detachment to facilitate VSD exposure. Recently our team developed a new surgical maneuver, not described before, which markedly facilitates perimembranous VSD exposure without need for tricuspid valve leaflet detachment.

SURGICAL TECHNIQUE: Abovementioned VSD exposure maneuver was used in 17 patients with age range from 2 months to 11 years and body weight from 4 to 47 kg. The length of the incision varied from 3 to 4.5 cm over the 4th ICS within the anterior and posterior axillary lines. Central cardiopulmonary bypass cannulation and antegrade blood cardioplegia were performed in all patients (Fig.1). Bended/angled instruments were used throughout the procedure to facilitate the surgeon's view. Pericardial sutures and tricuspid valve chords suspending were used as general exposure maneuvers. Special surgical maneuver aimed at changing the general plane of the ventricular septum was used (Fig.2). It consisted of one intraventricular exposing suture. Sufficient exposure of perimembranous VSD was obtained in all patients and was comparable to what is usually obtained through the median sternotomy (Fig.3).

CONCLUSIONS: With the use of the new maneuver all perimembranous VSD could be safely exposed and repaired with the conventional suturing technique through the right transverse axillary minithoracotomy starting from the 2 months of age.

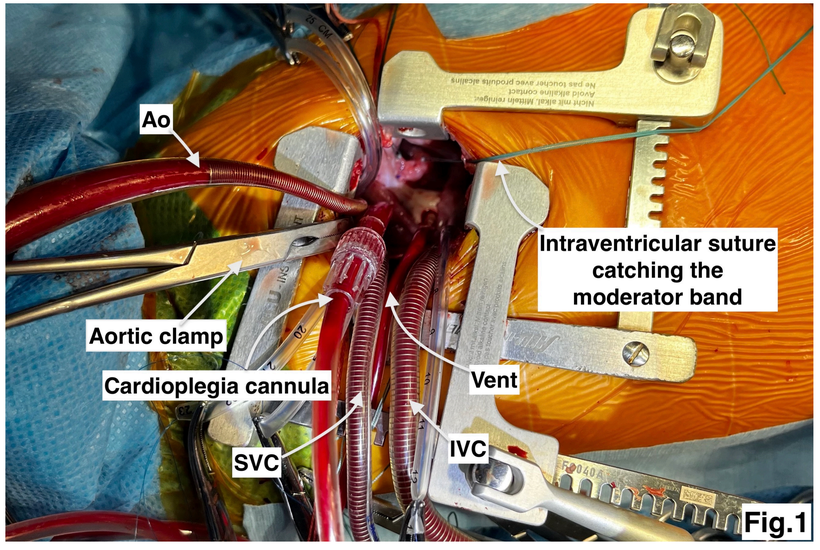


Fig.1

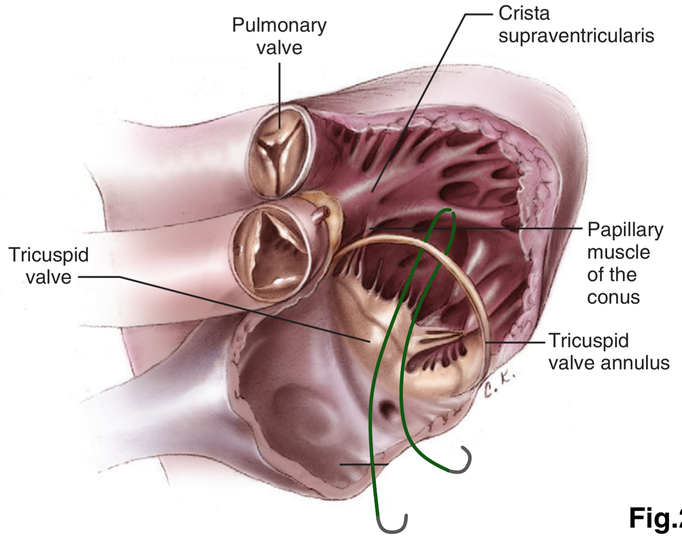


Fig.2

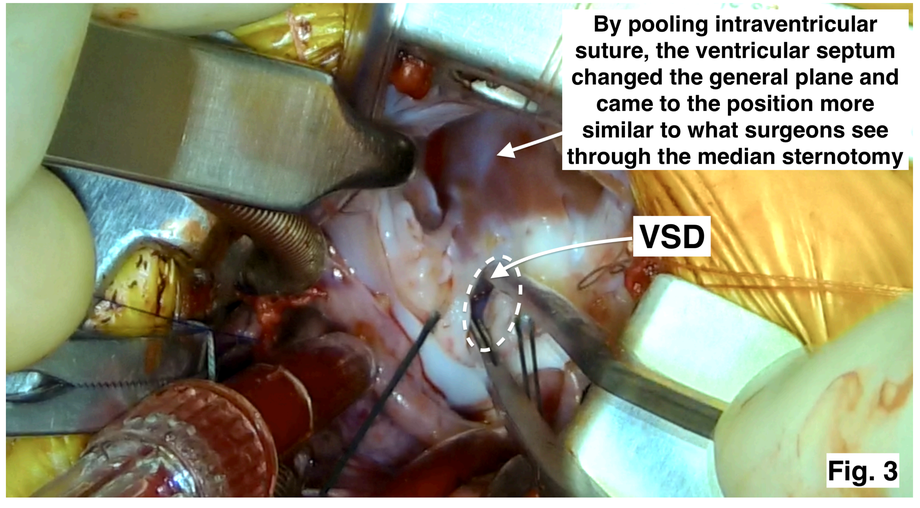


Fig. 3