

Others

[MEP-45]

Traumatic Blowout Injury-Related Gerbode Defect and Aortic Dissection

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The Gerbode defect is a defect between the left ventricle and the right atrium and can be congenital or acquired. It is known that structural heart diseases may occur secondary to mechanical damage/trauma. The Gerbode defect, sinus Valsalva injuries, and tricuspid valve damage are the most frequently reported acquired heart diseases due to vehicle accidents or mechanical traumas. Herein, we shared the first case of ventricular septal defect (VSD), aortic dissection, Gerbode defect, and severe tricuspid valve damage secondary to trauma caused by a truck tire explosion and its transcatheter/surgical management. A 13-year-old male patient, who was standing next to a truck when he suddenly fell to the ground after feeling severe chest pain due to the pressure effect of a high-pressure truck tire explosion, was referred to our hospital. The patient had a history of thoracic endovascular aortic repair due to VSD and aortic dissection in the descending thoracic aorta. The echocardiographic evaluation revealed right atrium enlargement, perimembranous VSD extending to the inlet region, 8-mm direct Gerbode defect causing a shunt between the left ventricle and the right atrium, and defects of up to 5 mm in size on the tricuspid valve septal leaflet causing severe tricuspid insufficiency. The patient underwent surgery for VSD closure. Two separate patches were used for VSD closure (one for the Gerbode-type defect and the second one for the perimembranous-type defect). There were no defects on the tricuspid valve; therefore, two separate patches were used for closure. Cardiac traumas may be examined under two groups: penetrating cardiac traumas and blunt cardiac traumas. The most common abnormality following a blunt cardiac trauma is asymptomatic myocardial contusion.

Keywords: Blunt chest trauma, gerbode defect, truck tire explosion, ventricular septal defect.

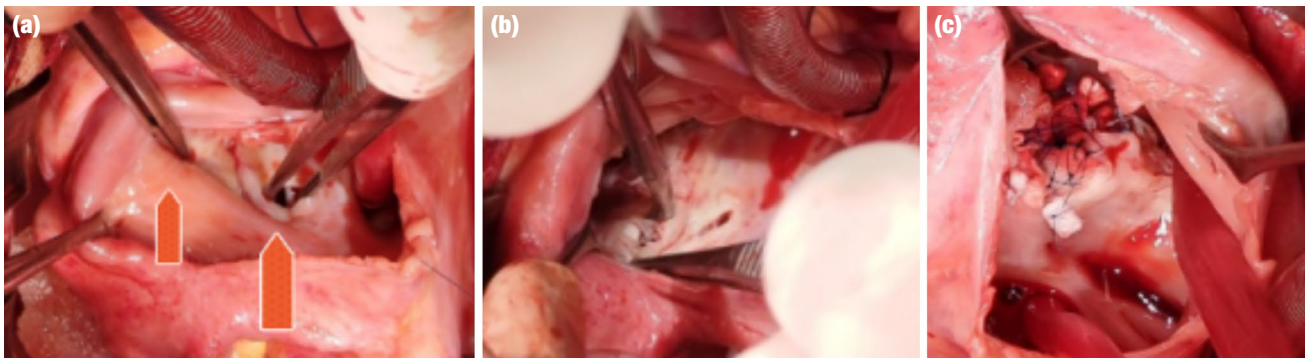


Figure 1. (a) Two separate VSDs, (b) Gerbode-type VSD closure, (c) Perimembranous VSD closure.

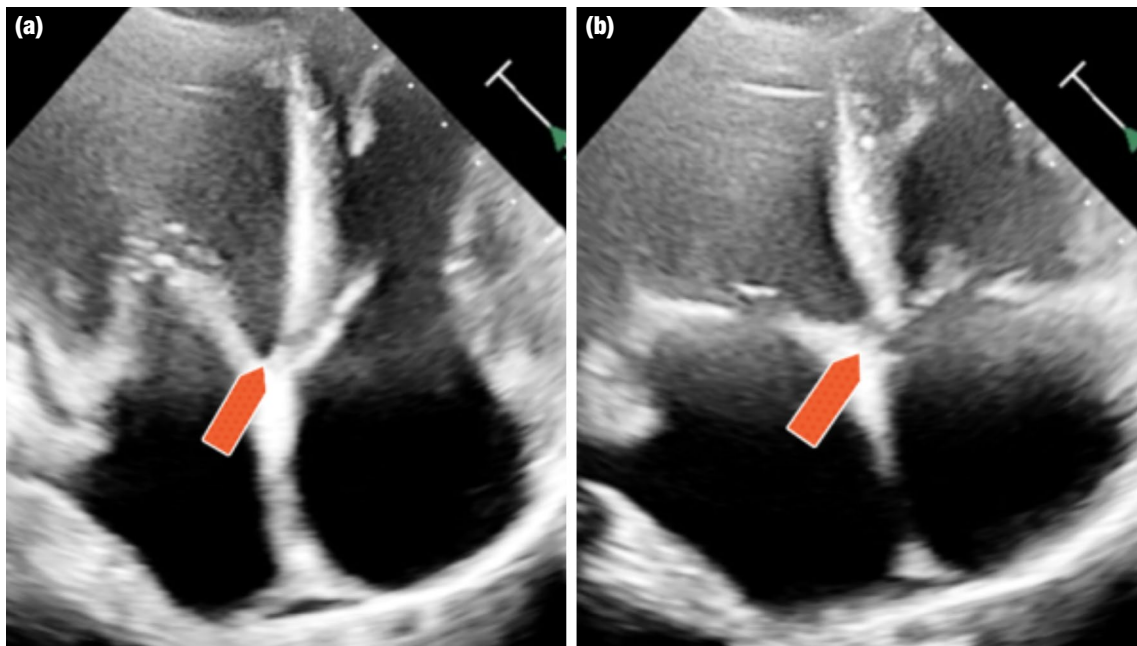


Figure 2. (a) Perimembranous VSD, (b) Gerbode-type defect.

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