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Email of Submitter	spankaj680@gmail.com
Name of Author	Dr.Pankaj Sahu
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Co-Author	Dr. Niranjana Kumar Gunjan, Dr. Nikhil Mehta , Dr. Mayank Kishore Chand
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Aortic rupture due to blunt force trauma

Dr. Pankaj Sahu¹, Dr. Pushendra Singh², Dr. Niranjana Kumar Gunjan³, Dr. Nikhil Mehta⁴, Dr. Mayank Kishore Chand⁵

1. Postgraduate Student, 2. Professor & Hod, 3. Associate Professor, 4. Assistant Professor, 5. Postgraduate Student

Department of Forensic Medicine & Toxicology, VCSGGIMS&R SRIKOT Srinagar, U.K

Introduction- Aortic rupture as a result of trauma is one of the most important life-threatening conditions. Traumatic aortic rupture is the second leading cause of death amongst victims of blunt chest trauma in motor vehicle accidents. Usually fatalities occur at the scene of accident (85% cases).

Case details- A 62-year old man with history of road traffic accident was brought for autopsy examination in mortuary. As per history revealed by the police and relatives, the deceased was retired army officer and was driving a car.

Autopsy finding: On opening the pericardial cavity, approximately 500ml of blood tinged fluid was seen. Complete transection was found in the arch of aorta in a transverse fashion with all three layers involvement. Multiple lacerations of variable sizes were present over the liver and peritoneal cavity was filled with approximately 2000 ml of liquid and clotted blood. Organs were pale in appearance. The cause of death in this case was opined as hemorrhagic shock, secondary to blunt force trauma to the chest and abdomen.

Discussion: Aortic rupture is seen in approximately 15% of fatalities involving motor vehicle accidents and amongst those cases, 85% of victims collapsed within few minutes of incident. All aortic segments are prone to rupture following sudden blunt trauma. In various studies it is found that 92% of aortic rupture occur at isthmus followed by arch of aorta (4%) followed by ascending aorta (3%).

Keyword –Road traffic accidents, thoracic aorta, traumatic aorta rupture, rib fracture.