

# Assessment of Vascular Injuries and Reconstruction

*Iraj Baghi,1,2,\* Mohammad Rasool Herfatkar,2 Leila Shokrgozar,2 Zahra Poor-Rasuli,2 and Fatemeh Aghajani<sup>3</sup>*

1Guilan Road Trauma Research Center, Poursina Hospital, Guilan University of Medical Sciences, Rasht, IR Iran

2Department of General Surgery, Faculty of Medicine, Poursina Hospital, Guilan University of Medical Sciences, Rasht, IR Iran

3General Physician, Guilan Road Trauma Research Center, Poursina Hospital, Guilan University of Medical Sciences, Rasht, IR Iran

*\*Corresponding author:* Iraj Baghi, Department of General Surgery, Faculty of Medicine, Poursina Hospital, Guilan University of Medical Sciences, P. O. Box: 4193713194, Rasht, IR Iran. Tel: +98-9111325798, E-mail: ir\_baghi\_44@yahoo.com

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## Abstract

**Background:** Trauma is the third leading cause of death. In this regard, vascular injury plays a leading role in of morbidity and mortality rates.

**Objectives:** The present study aimed to assess the prevalence of vascular injuries and results of vascular reconstruction at a referral hospital in northern Iran.

**Patients and Methods:** A retrospective observational study assessed 88 consecutive patients with vascular injury admitted to Poursina Hospital, Rasht in northern Iran, from October 2007 to October 2009. All study information was collected retrospectively from hospital charts.

**Results:** Most of the affected patients (87/88) were male with a mean age of  $29.12 \pm 11.20$  years. The mechanism of injury in 39.8% was blunt trauma and

penetrating trauma in the rest. Of the 53 injured by penetrating trauma (60.2%), the most common cause was stabbing (94.3%). The most common cause of blunt trauma was road traffic accidents (93.1%). The most common mechanism for vascular injuries in upper extremities was penetrating trauma (86.0%) and in lower extremities was blunt trauma (60.0%). Fasciotomy was performed in 16 patients (18.2%) mostly in the lower extremities. Major amputation was required in 10% of the patients. In upper extremities, the most common type of revascularization was end to end anastomosis, followed by inter-position graft. The most common type of reconstruction in the lower extremity was bypass graft. All patients who underwent major amputation were admitted to the center with a delay of more than 6 hours after injury.

**Conclusions:** Major vascular injuries in our center occurred in young men, frequently because of stab wounds. Popliteal injuries mostly caused by motor vehicle accidents was the second most common arterial injury, followed by combined ulnar and radial injuries. Vascular reconstruction in the first hours after trauma may prevent many unnecessary and preventable amputation procedures.

**Keywords:** Trauma, Amputation, Fasciotomy, Popliteal Injuries, Vascular Injuries