



18. MANAGEMENT OF AXILLARY ARTERY INJURY

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Introduction. The axillary artery injuries are considered to be an uncommon trauma, accounting for about 15-20% of all vascular injuries of the upper limb. The distinguishing feature of this type of trauma is that it represents less than 5% of all civilian vascular injuries. In a similar context, slightly more than 5% of all arterial injuries are caused by fracture and dislocation of the shoulder. Among the contemporary modalities to repair injuries of axillary artery the specialized literature emphasizes the following surgical approaches: the interposition of different type of grafts (saphenous or basilic veins, as well as prosthetic grafts), direct repair and endovascular treatment using stent grafts.

Aim of study. The objective of this study was to present the role of clinical characteristics and to assess postoperative results of the surgical management of patients with traumatic axillary artery lesions.

Methods and materials. We conducted a retrospective study that includes 9 patients hospitalized at Vascular Surgery Clinic, Institute of Emergency Medicine, Chisinau (Republic of Moldova), from October 2018 to February 2022 with axillary artery lesions. The study cohort was stratified by trauma type, trauma-surgery time, Rutherford's acute limb ischemia classification, coexisting of nerve plexus injury, vascular reconstruction methods, and postoperative clinical evolution. Descriptive statistics were performed on all variables.

Results. The study group included 8 male and one female patient; mean age – 58.7 (ranged 28 – 80 years). In 44.5% (n=4) patients trauma was caused by bone fracture and in 55.5% (n=5) – by shoulder dislocation. Acute ischemia of the upper limb was established in all patients, corresponding to stage I – 33.3% (n=3) or stage II – 66.7% (n=6) according to Rutherford classification. Also, 44.4% (n=4) patients was diagnosed with concomitant nerve plexus injury. Vascular injury was confirmed by imaging exam: computed tomography angiography (n=6) or duplex scan (n=3). In most of cases the time from trauma onset up to vascular reconstruction varied between 9 hours and 70 hours, while in one case – it was about 112 hours, because of late patient's presentation. The rate of primary open surgical approach was 77.8% (n=7). Autologous venous graft interposition was performed in 3 cases, and the primary repair by creating a T-T anastomosis was practiced in 4 observations. The primary endovascular approach was attempted in two patients, but was completed successfully in only one. Another case required interposition of a venous graft. There were no cases of death, amputation or other major complications in the early postoperative period.

Conclusion. The axillary artery trauma may require a varied curative approaches. Regardless of the method used for revascularization, the short-term postoperative clinical results are favorable in most cases.