**Title: High-Pressure Injection Injury, More than Meets the Eye**

**Introduction**

High-pressure injection injuries are uncommon but hide extensive deep wounds. The high pressure allows materials, such as oil, paints, and chemical solvents, to enter the underlying fascial planes and tendon sheaths.

**Case** **Discussion**

A 50-year-old right-hand dominant mechanic presented one hour post-trauma after a malfunctioning hydraulic pump injected high-pressure air into his forearm. The injury resulted in a 10cm x 6cm laceration wound over the flexor and medial aspect of the mid-forearm with muscle and tendon exposed, nonpalpable right-hand radial pulse, loss of sensation over the ulnar nerve distribution, and limited range of motion of the wrist and finger flexors and finger abduction. A computed tomographic angiogram (CTA) was performed, which found long segment occlusion of the right distal radial and ulnar arteries, extensive subcutaneous emphysema, but no bone fractures. Intra-operative findings during wound exploration and debridement include multiple transections of tendon, nerve, and ulnar artery with significant thrombosis. Subsequently, intravenous heparin was started with an improvement of the perfusion of the digits. He was discharged with a thermoplastic splint over the right upper limb, daily gel jelonet dressing, and antibiotics.

**Discussion**

Thrombus formation due to stasis, disruption of laminar flow, and release of procoagulant factors are significant factors in artery reconstruction failure. Thus, using anticoagulation in traumatic vessel thrombosis is associated with a better prognosis and reduced risk of amputation.Delayed operative management beyond six hours increases the risk of compartment syndrome and amputation, especially injury caused by high-viscosity substances, such as hydraulic oil or industrial grease. Furthermore, organic solvents, such as petrol or turpentine, cause chemical reactions leading to tissue necrosis and a higher incidence of amputation. Fortunately, the injection of nontoxic substances such as air or water is associated with better outcomes.

**Conclusion**

High-pressure injection injury should prompt a higher risk of suspicion of deep structural injuries. Tissue damage may be caused by the mechanical force of high-pressure injection or the chemical composition of the injected materials. Hence, in history taking, the location of the injury and the type of the injected material should be ascertained as it is one of the prognostic factors for wound healing.

keyword: high-pressure injury, occupational risk