Review of Pedicled Groin and Thoracoepigastric Flaps in War-Related Extremity Trauma

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BACKGROUND: War-related trauma can present substantial reconstructive challenges. The use of local tissue for extremity reconstruction is often impossible secondary to the large zone of injury associated with blast injuries. However, the torso is general protected by modern body armor. The purpose of this study is to investigate our experiences and outcomes of two stage pedicle flap procedures for complex upper extremity reconstruction in the war wounded.

METHODS: This is a multi-institution retrospective consecutive case series review of all injured military personnel treated with flap coverage for complex extremity trauma from 2003 through 2012 within the National Capital Area (NCC). Data collected includes injury severity score (ISS), concomitant injuries, and treatment course. Outcomes measured includes flap and extremity complications such as infection, hematoma, and flap failure.

RESULTS: From 2003 through 2012, 28 delayed pedicle groin and thoracoepigastric flaps were performed for upper extremity reconstruction after war-related injuries. All of the patients were male, age 19-35, with an average injury severity score of 20.1. Thirty percent of patients had a proximal vascular injury in the extremity reconstructed. Patients had a median of 6 (range 2-29) procedures performed on the affected extremity prior to flap transfer and 4 (range 1-27) performed after flap transfer. The total flap complication rate was 39%. The most common complication was partial necrosis (14%), followed by flap infection (11%). The flap failure rate was 7% (n=2), requiring additional flap transfer (free anterolateral thigh and pedicled lateral arm). There were no amputations in the group. The flap complication and failure rate were similar to the entire war-wounded extremity reconstruction cohort previously reported, 39 versus 27% and 7 versus 10%, respectively.[1] Patients were followed for an average of 741 days.

CONCULSION: Soft tissue coverage for complex extremity war-related trauma results has been highly successful with relatively low complication rates. In the critically injured war wounded patient, pedicle and free flaps have similar outcomes.[2] However, when local tissue for pedicle flaps is not available, delayed reconstruction with groin or epigastric flaps is a good option that offers tissue from a protected region of the body and reliable blood supply with a low risk of failure.

REFERNCES:

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