FLAP TRANSFERS IN UPPER LIMB RECONSTRUCTION AFTER SEVERE TRAUMA

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THE DAILY PROBLEM

INTRODUCTION

- HAND AND UPPER LIMB TRAUMATIC INJURIES ARE COMMON PRESENTING PATHOLOGY IN THE EMERGENCY DEPARTMENT.
- EXTENSIVE TRAUMA PATIENTS’ APPROACH IS STANDARDIZED AND INTERNATIONALLY ACCEPTED GUIDELINES ARE FOLLOWED.
- THE CARE FOR THE TRAUMATIC INJURY IS SECONDARY TO THE PATIENT’S GENERAL STATUS STABILIZATION.
- AFTER DEBRIDEMENT, LESIONS INVENTORY IS MADE AND PRIORITY IS ESTABLISHED ACCORDING TO THEIR GRAVITY.
- FLAP SURGERY IS A UNIVERSE STRATEGY IN SOFT TISSUE RECONSTRUCTION.
- EXTENSIVE SOFT TISSUE DEFECTS, ESPECIALLY OVER EXPOSED BONES, JOINTS, TENDONS, VESSELS AND NERVES, NEED IMMEDIATE COVERAGE WITH WELL-VASCULARIZED TISSUES, DESPITE THE OBVIOUS REASON FOR SAVING CRITICAL ANATOMICAL STRUCTURE IS THE ONLY WAY TO MAXIMIZE THE CHANCES FOR FUNCTIONAL RECOVERY.
- ONE-STAGE RECONSTRUCTION, EVEN FOR COMPLEX DEFECTS, IS POSSIBLE DUE TO FLAPS VERSATILITY.

OUR DAILY SOLUTIONS – BASIC FLAPS

Case 1 – CRUSH INJURY

CAN ACCIDENT
ARRIVAL WITH 16HOURS DELAY
PERIPHERAL TO D5 ON HUMERAL VESSELS DEFECT WITHOUT RADIAL / ULNAR PULSE
INTENSE CONTAMINATION WITH MUD & STRAWS
HOUDY – BOAT BLEEDING

1 - HUMERAL DEFECT RECONSTRUCTION
DISCUSSIONS

- UPPER LIMB TRAUMA IS A COMMON PATHOLOGY PRESENTING IN THE EMERGENCY DEPARTMENT. EXTENSIVE DEFECTS WITH MULTIPLE TISSUE LOSS HAVE THE POTENTIAL TO IRREVERSIBLY AFFECT FUNCTION.

- WHENEVER BONES, JOINTS, TENDONS, VESSELS, NERVES, OR FUNCTIONAL AREAS ARE EXPOSED, FLAP SURGERY IS INDICATED. COVERAGE PROMOTES TISSUE SURVIVAL AND HELPS FUNCTIONAL RECOVERY IN THIS REGARD. THE COVERAGE IS ALSO A FUNCTIONAL RECONSTRUCTION.

- MUSCLE AND FASCIOCUTANEOUS FLAPS HAVE DEBATABLE, EQUAL VALUE IN SOFT TISSUE COVERAGE. BUT IN OUR HANDS, MUSCLE FLAPS, DUE TO HIGHER PLASTICITY AND VERSTIBILY, ARE BETTER CHOICE.

- ALONG WITH COVERAGE, THEY CAN FUNCTIONALLY RECONSTRUCT A LOST MUSCLE. FOR SAME REASONS, GEMETUM IS ANOTHER FAVORABLE CHOICE. HIGH MOLDING CAPACITY HELP FILLING THE DEAD SPACES AND RECONSTRUCT GLIDING SURFACES FOR THE TENDONS AND THEREFORE, PROMOTE FUNCTION.

DISCUSSIONS - OUR USUAL RESULTS

- BOTH MUSCLES AND GEMETUM ARE HIGHLY VASCULARIZED TISSUES AND CAN HELP MARGINALLY ISCHEMIC TRAUMATIC AREAS.

- THEREFORE THE GOALS - COVERAGE AND FUNCTIONAL RECONSTRUCTION ARE ACHIEVED SIMULTANEOSLY: 2 FLAP-2 FUNCTIONS.

- EVEN INITIALLY WAS A DRAWBACK - LARGE RESOURCES CONSUMPTION - IT WAS PROVED TO BE COST-EFFECTIVE SURGERY.

- PATIENTS SATISFACTION IS REWARDING AND THEIR RETURN INTO SOCIETY DECREASES THE SOCIAL COSTS.

- THE 3 CASES PRESENTED ARE GOOD EXAMPLES FOR HOW RECONSTRUCTIVE MICROSURGERY CAN RESTORE OPTIMAL FORM AND FUNCTION.

CONCLUSIONS

- MUSCLE FLAPS AND GEMETUM ARE VERSATILE CHOICES FOR RECONSTRUCTION, ADDRESSING MULTIPLE ISSUES OF TISSUE REQUIREMENTS AND ACHIEVING ALSO FUNCTIONAL RECONSTRUCTION BESIDES THE COVERAGE.

- RECONSTRUCTIVE FLAP SURGERY IN UPPER LIMB SEVERE TRAUMA, WITH EXTENSIVE OR COMPLEX DEPTS, IS THE RULE AND NOT THE EXCEPTION.

- MICROSURGICAL RECONSTRUCTION IS THE BEST OPTIONS IN SELECTED CASES. IT CAN ACHIEVE PATIENT’S SATISFACTION, INCREASED LIFE-QUALITY AND SMALLER COSTS FOR THE SOCIETY.

- SINCE THE AESTHETIC AND FUNCTIONAL RESULTS AFTER TRAUMA BECAME OF A LESS CONCERN BOTH FOR THE SURGEONS AND THE PATIENTS, ONE SHOULD FOCUS ON DNR AND DONOR AREA MORTBILITY.

- THE BEST AVAILABLE OPTION IS INTRODUCTION OF MINIMALLY INVASIVE TECHNIQUES IN FLAP HARVESTING, WHICH SHOULD HAVE AT LEAST SIMILAR RESULTS REGARDING PATIENTS' FUNCTIONAL OUTCOME, REHABILITATION, COMFORT AND HOSPITALIZATION.

- SHOULD IMPROVE THE DONOR-SITE OUTCOME.