SURGICAL MANAGEMENT OF WAR INJURIES AND ITS IMPORTANTCE IN PREVENTION AND DECREASING DISABLITIES

Before discussing the subject of surgery and disability, it seems logical to touch on some points in connection.
It is a well known fact that prevention is better thousand times from actual remedies. This is also applicable in war.
Examples of prevention measures are:

1. Wearing of a helmet.
2. Anti-burn overall wearing.
3. Wearing of body armour.
4. Preventive measure against cold exposure.
5. Insect and animal bites control.
6. Training to get rid or fool a shooter.
7. Training to be safe during air raid and in retreat and combat.

These and hundreds of advices and manoeuvres can be taught to soldiers for their protection, these can be collected from persons who have been subjected to such experiences with high observation talents, also from technical troops at the front, to be studied closely only and ONLY to be given to the soldiers in continuous teaching programme.
The outcome should be a decrease in number of casualties in severity of injury, thus a decrease of extent of disability.
Surgical interference nominally means operation, which implies: a procedure of exploring part of body tissue or organ in special room under special environment by a surgical team.

> "Sorting" is one such procedures, its importance is seen in these examples: Haemorrhage from wound in a limb that needs firm pressure bandage or a tourniquet, should have a first evacuation priority to reach a definitive surgical hospital, otherwise delay might lead to amputation.
> Or: an extensive wound in a limb with muscle damage, the more time lag till reaching a theatre, the more chance of developing more tissue and muscle damage and even gas gangrene.

Sorting should be a continue process done in every medical post along the way of evacuation, and in the definitive surgical hospital where sorting for priority for theatre admission is done by a well experienced surgeon.

The surgical procedures therefore can be divided into 3 distinct categories:

1. Procedures done in field medical posts and units down to nearest hospital.
2. Procedures done in a definitive surgical hospital or theatre.
3. Procedures done in a specialised hospital or centres.

CATEGORY ONE:

In which the aim is to insure the survival of the wounded. When such aim is reached, it is not anymore problematic, the care is conveyed to make every effort possible to overcome development of any complications and thus disability, during evacuation on arrival at the first aid station or further down, the followings should be done:

1. Insure adequate airway.
2. Control of haemorrhage. At some time remove explosive ammunition from clothing with thorough evaluation of the case while maintaining respiratory cardio vascular functions.
3. Control of shock.
4. Application of dressings and splints.
5. Infection control.
6. Pain relief.
7. I.V. fluid.
8. Proper filling the field medical card.
9. Prompt and proper evacuation.

The details of such procedures are well known, but stress on the surgical points importance is not without benefit.
For an unconscious patient with impending respiratory obstruction an oropharyngeal or endotracheal tube is the best remedy ,while tracheostomy is the last resort.
A sucking chest wound, immediate seal by an airtight occlusive dressing.
A flail chest needs strapping the segment only with sandbags support.
If time allows chest tube is the ideal procedure for chest injuries.
I.V. fluid line should be put.

Internal bleeding can be controlled only by surgery so during evacuation, I.V. fluid is given to keep patient alive.
External bleeding often can be stopped by direct firm dressing, or clamping bleeding vessel under direct vision, blind clamping is not permissible. Tourniquet is rarely needed, it saves life but it endangers the limbs.
Spinal cord injuries are evacuated in supine position, only to be moved “all in one piece” with sand bags support at side of body.
Cotton thick pads applied to the sides of the head in cases of suspected neck injury.

CATEGORY TWO:

The principles of definitive surgical procedures are well known, bearing in mind two facts, the first is that the injured will have the best chance regarding repair of his injury in this hospital thus reducing extent of disability the second is that foreign bodies in wounds result in great disability if not attended promptly, while the time lag of evacuation and definitive treatment is another factor.
The soft tissue injury the treatment comprise thorough debridement during which the wound exposure should be sufficient to reach the depth of the wound and its side extension, and remove all foreign bodies, excise all dead tissue with haemostasis irrigate the wound with saline and leaving the wound open for delayed primary suture.

Skin is closed in:

- Face wounds.
- Sucking chest wounds.
- Head injuries wounds.

When a major vessel injury is doubted exploration is done.
In case of arterial damage and loos
Autogenous vein graft to be used if primary repair is not possible and primary prosthetic vascular substitute is to be avoided.
Avoidance of internal fixation of fractures and fixation with a plaster slab may be applied.
Soft tissue healing has a priority to problem of bone or nerves. In abdominal injuries laparotomy is mandatory with a midline incision.
For large bowel injury, the safest procedure is to do resection and doubled barrelled colostomy with a skin bridge between them.

Escharotomy is done when circumferential full thickness burn of a limb with eschar impairing circulation to distal unburned part.

CATEGORY THREE:
That is procedure done in specialised hospital or units centres will comprise:
Further care of wounded that are evacuated from definitive hospital together with those of soft tissue injury for delayed primary closure which comprise the bulk of the war casualties.
It is here that a great surgical effort sometimes with ingenious new ways and attempts is done and devoted to decrease the extent of the disability both for function and cosmetic look.
Specialist team are set to tackle problems of paraplegics and faciomaxillary problems.
Care of burned patient with their problems.
Peripheral nerve palsy, gives a great disability to both upper and lower limbs, surgical repair should be done in optimum time by a neurosurgeon.
Tendon transplant, joint arthrodesis can give remedy for disability in many cases of nerve injury.
Myocutaneous flaps play part in decreasing disability of certain types of injury with loss of soft and muscular tissue.
Amputation revision is done to suit proper prosthesis.
Secondary chest and vascular surgery is needed in many other cases.
Eye and ear surgery is done mainly in these centres.
Details of such operations and others are the function of sub-specialists and special surgical teams, and I leave that for them to present their experience.

REFERNCES:

- Emergency War Surgery, United States Government Printing Office, 1975.
- High Velocity Missile Wounds, Owen Smith, Edward Arnold, 1981.
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