

European Survey regarding indications and contraindications for replantation of the upper limb

1 – The most important informations before the transfer of the patient to the unit in case of secondary referral are :

Age (68,75 %)

Affected Side (65,63 %)

Level (68,65 %)

Associated Traumas (68,65%)

No consensus for: Time Of Accident, Type Of Injury, Local Temperature, Bacterial Or Chemical Contamination / Physical damage, Blood And X-Ray Examination, Associated Diseases, Ischemia Time, Patient's motivation, Psychological Statu, All of them.

2 – The required informations should be provided before transfer if possible but it is not mandatory (71,88 %)

No consensus for: Yes, Mandatory before accepting the patient, No, it will not change acceptance of the patient.

3 – An hypothermic (with refrigerated amputated segment) ischemia period: >6h for macro-replantations (segments containing muscles) and >12h for micro-replantations

is not an absolute contraindication for micro-replantation (75,00 %) and is not an absolute contraindication for macro-replantation (65,63 %)

4 – A normothermic (with amputated segment at room temperature) ischemia period: > 4h for macro-replantations (segments containing muscles) > 12h for micro-replantations is not an absolute contraindication for macro-replantation (65,63 %)

No consensus for: is an absolute contraindication for micro-replantation, is a relative contraindication for: micro-replantation, is a relative contraindication for: macro-replantation, is not a contraindication for micro-replantation, is not a contraindication for macro-replantation.

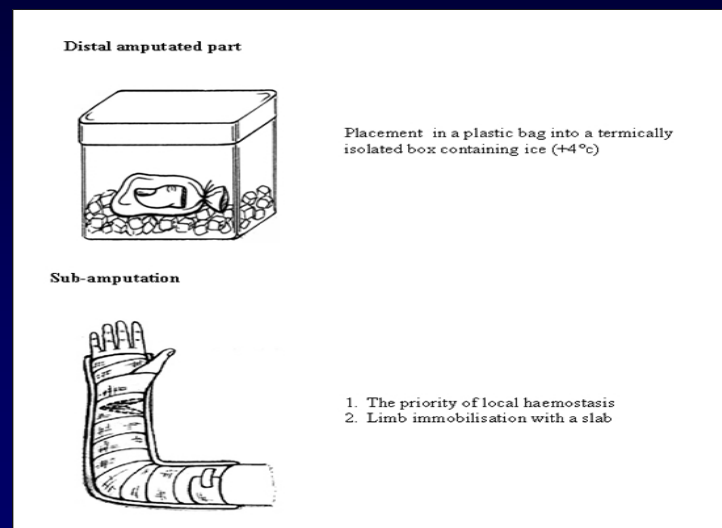
5 – Only polytrauma (ISS>15) and organ transplanted patients are relative general contraindications to replantation (68,75 %)

No consensus for: Head Injury (commotive trauma or bad G.C.S.), Age > 70years, Self inflicted injury, Psychiatric disorders, Smoking (not to be considered the occasional smokers), Alcohol overuse, Diabetes.

6 - Multiple level injuries (with multiple vascular lesions) (65,63 %), avulsions (with traction lesions of several structures: nerves, vessels, tendons, etc.) (68,65 %) and prolonged ischemia time (>4hours in macroreplantation - >12 hours for microreplantation (68,75 %) are relative local contraindication to replantation .

No consensus for: Crushing (with extensive tissue damage precluding revascularization with a direct suture), High bacterial contamination, Physical lesion -chemical contamination (frozen burned limbs, contaminated by chemical agen).

7 – The following guide-lines regarding the preservation and transportation of amputated segments are important (75,00 %)



8 - Single digit replantation (except thumb): (from MP to P2)

No consensus for: Is replantation of a single digit indicated?

9 - Distal (distal to FDS insertion) replantation (except thumb):

No consensus for: Is distal replantation indicated?

10 - Multiple digits (>2 fingers) replantations

No consensus for: Do you believe that for this type of replantation a special organisation is required ? (double equipe?)

11 - The thumb should always be replanted (84,38 %)

12 - Age > 70 years (78,13 %), smoking (71,88 %) and a distal amputation (68,75 %) are not contraindications to thumb replantation (68,75%) .

No consensus for: Polytrauma (ISS > 15), Crushing, Avulsion.

13 - Very proximal level of injury (proximal to the elbow) (71,88 %), transarticular amputations (78,13 %) and amputations through neuromuscular junction (68,75 %) are not local contraindications for major limb replantation.

No consensus for: Multiple level, Type of injury : crush, avulsion.

14 - A standardized protocol of adjuvant medical therapy in replantation is useful (81,25 %) and should include heparin (65,63 %) and acetylsalicylic acid (78,13 %)

No consensus for: Low-molecular weight dextran, Sympathetic blocks, Vasodilators.

15 – Leeches as non medical adjuvant therapy in microreplantations are useful (75%) .

No consensus for: Decongesting incisions, Nail-bed incisions.

16 – The useful indicators to assess the final results after replantation surgery are:

Semmes Weinstein sensibility test (68,75 %), Motor function of the reinnervated muscles (78,13 %), Articular range of motion (active and passive) (75,00 %), Pinch and Jamar test (68,75 %) , DASH or other objective / subjective evaluation (71,88 %)

No consensus for: Weber sensibility test, Cold intolerance, All of them.

17 – The complications to be used as parameters to value indications to replantation are :

% of survival (75,00 %) and poor motor and sensory function (65,63 %)

No consensus for: % of infections, % of intolerance, % of non union, All of them.

18 – The best classifications to assess functional results in upper limb replantations are :

Jones 1982 (65,63 %) and Blomen 1988 (65,63 %)

No consensus for: Chen 1978, Berger 1980, Tamai 1982/1983, Milroy 1991.