

TREATMENT OF POSTTRAUMATIC INFECTED BONE DEFECTS BY THE INDUCED MEMBRANE TECHNIQUE- CASE REPORT

Roman POPESCU¹

Emil George HARITINIAN²

Anca BOCA³

Daniel GEAMĂNU⁴

Adrian CIOBANU⁵

Mihai Viorel POPESCU⁶

OBJECTIVES: THE MASQUELET TECHNIQUE (INDUCTION OF BIOMEMBRANE) IS AN EFFECTIVE METHOD OF BONE RECONSTRUCTION IN LARGE SEGMENTAL DEFECTS.

METHODS: WE PRESENT A DIFFICULT CASE OF A 20 YEAR-OLD PATIENT, WITH RIGHT FEMUR OPEN COMMUNUTED DIAPHYSEAL FRACTURE, INFECTED WHICH REQUIRED REPEATED INTERVENTIONS: TEMPORARY CEMENT SPACER FOLLOWED BY STAGED BONE GRAFTING- (AUTOGRAFT AND ALLOGRAFT) AND FINALLY FIXED WITH AN LCP PLATE.

INITIALLY THE PATIENT WAS OPERATED IN ANOTHER ORTHOPAEDIC HOSPITAL FOR BILATERAL DIAPHYSEAL FEMUR FRACTURE.

ON THE LEFT SIDE A STATIC LOCKING OF INTRAMEDULLARY NAILING WAS CHOSEN WITH FAVORABLE EVOLUTION.

ON THE OTHER SIDE, AT FIRST A THOROUGH WOUND DEBRIDEMENT WAS MADE, THEN AN EXTERNAL FIXATOR WAS INSTALLED FOLLOWED BY LOCKED INTRAMEDULLARY NAILING.

IN EVOLUTION THE WOUND BECAME INFECTED WITH STAPHYLOCOCCUS, ENTEROBACTER, AND KLEBSIELLA. THE INFECTION WAS TREATED BY NAIL EXTRACTION, SUSTAINED ANTIBIOTIC THERAPY AND EXTERNAL FIXATION.

AT THAT MOMENT THE PATIENT WAS REFERRED TO OUR CENTRE.

RESULTS WE ARE IN FRONT OF AN INFECTED MAJOR SEGMENTAL BONE DEFECT (12 CM) OF THE RIGHT FEMUR AND THE FIRST APPROACH WAS TO

¹ Foisor Hospital of Orthopaedics, Trauma and Osteoarticular TB

² Foisor Hospital of Orthopaedics, Trauma and Osteoarticular TB

³ Dr Ioan Cantacuzino Hospital, Bucharest

⁴ Foisor Hospital of Orthopaedics, Trauma and Osteoarticular TB

⁵ Foisor Hospital of Orthopaedics, Trauma and Osteoarticular TB

⁶ Foisor Hospital of Orthopaedics, Trauma and Osteoarticular TB

INSERT AN ANTIBIOTIC CEMENT SPACER (VANCOMYCIN) ACCORDING TO MASQUELET METHOD AND TO USE AN SINGLE PLANE EXTERNAL FIXATOR. SIX MONTHS LATER, AFTER THE BIOMEMBRANE WAS INDUCED, WE WERE ABLE TO PERFORM THE OSTEOPLASTY WITH AUTOGRAFT AND ALLOGRAFT. THE EXTERNAL FIXATOR WAS EXTRACTED THREE MONTHS LATER FOLLOWED BY LCP PLATE OSTEOSYNTHESIS
A GOOD FUNCTIONAL OUTCOME (EVALUATED BY SF 36) WAS OBTAINED SEVEN MONTHS AFTER THE LAST INTERVENTION.

CONCLUSION:THE USE OF THE MASQUELET TECHNIQUE ENSURED AN ANATOMICAL RECONSTRUCTION AND A SATISFYING FINAL FUNCTIONAL OUTCOME.

KEYWORDS: SEGMENTAL BONE DEFECT, MASQUELET, INDUCTION OF BIOMEMBRANE.