USE OF HYALURONIC ACID IN PERIODONTAL DISEASE

S. CANTORE, A. BALLINI, G.M. NARDI1, S. TETÈ2, F. MASTRANGELO2, L. PERILLO3 and F. R. GRASSI

Department of Dental Sciences and Surgery, Aldo Moro University of Bari, Bari; 1Department of Dental Sciences, University of Rome La Sapienza, Rome; 2Department of Oral Sciences, University G. D’Annunzio, Chieti; 3Second University of Naples, Naples, Italy

Received February 13, 2008- Accepted February 11, 2009

Guided tissue regeneration is achieved thanks to a surgical technique aimed at creating a new attachment to correct bone defects by triggering mechanisms responsible for the physiological repair of the damaged tissue. Various authors have demonstrated that in periodontal surgery, guided tissue regeneration obtained using biomaterials is a reliable and effective method that does not require use of a membrane. The aim of this work is to assess the efficacy of the polymer derived from esterified hyaluronic acid (EHA) as a coadjuvant of grafting processes using autologous bone obtained from the intra-oral site in treating infrabone defects without the aid of a membrane. A controlled clinical experiment was conducted on 10 patients with periodontal defects (5 males and 5 females, all non-smokers and in good health), with a mean age of 42 years and a mean infra-bone defect depth of 8.3 mm as revealed by intra-operative probes. All patients underwent non-surgical periodontal treatment to reduce the FMPS and FMBS indexes to zero. Each graft was characterized by 0.5 cc of autologous bone taken from intra-oral sites, two bundles of EHA fibres, and a few drops of physiological solution. 24 months after surgery, clinical and radiographic re-evaluations showed satisfactory filling. In conclusion, the esterified hyaluronic acid fibres allow the re-creation of an ideal microenvironment for tissue regeneration and thus foster faster repair and healing processes.

ASSESSMENT OF OUTCOME IN PATIENTS UNDERGOING THE AVON PATELLOFEMORAL KNEE REPLACEMENT

A.F. MCGRATH, N. TUMIA1, T. MORRIS2, W. M. LEDINGHAM1, T. R. SCOTLAND3 and K. KUMAR1

Royal National Orthopaedic Hospital, Stanmore, Middlesex; 1Aberdeen Royal Infirmary, Aberdeen; 2MRC Clinical Trials Unit, London; 3Woodend Hospital, Aberdeen, United Kingdom

Received November 5, 2008 - Accepted February 27, 2009

This study aimed to assess the outcome of the first 42 consecutive Avon patellofemoral knee replacements in 38 patients performed by 4 consultant surgeons, each with a special interest in knee arthroplasty, between 2002 and 2006. There were 30 females and 8 males with a mean age of 63. Range of follow-up was from 25 months to 6 years (mean 42 months). Outcome was measured using the SF-36 questionnaire, Oxford Knee and the Bartlett Patella Score. Significant improvement was seen at 2 and 5 years following surgery (p<0.01). There was 1 revision to total knee replacement. A statistically significant difference in outcome was noted in those with and without comorbidities.
AO TYPE C3 DISTAL RADIUS FRACTURES: OPEN REDUCTION AND INTERNAL FIXATION WITH Volar LOCKING PLATES

G. LAURI, P.G. ZAMPETTI, M. CHITI¹ and R. BUZZI²

Department of Hand Surgery and Microsurgery, C.T.O; ¹Don Carlo Gnocchi Foundation IRCCS; ²Orthopedic Clinic, University of Florence, C.T.O. Florence, Italy

Received July 12, 2010 – Accepted November 8, 2010

Comminuted intra-articular fractures of the distal radius (AO type 23-C3) are difficult injuries which require surgical treatment. The purpose of this prospective study was to determine the clinical and radiographic outcome in a series of 34 cases. They were treated with a volar Henry’s approach and a 2.4 mm distal radius locking plate (Synthes). Wrist mobilization was started at 2 weeks. The patients were reviewed with an average follow-up of 21 months (range: 13-35). We recorded residual pain, range of motion, grip strength and activity level. The DASH questionnaire and the Green and O’Brien scoring system were administered. Radiographic measurements included articular steps and gaps, volar tilt, radial inclination and degenerative changes. Average pain at follow-up (range 0-10 points) was 0.9 points at rest and 1.7 during activities. The average DASH score was 13.4 points. Thirtyone (91%) patients resumed the preinjury occupation and one had to change his job because of the fracture. Range of motion of the injured wrist averaged 93% of the normal side and grip strength was 88%. There were 16 (47%) excellent, 11 (32%) good and 7 (21%) fair results. Nine (26%) reductions were considered unsatisfactory because of residual dorsal tilt (7 cases, 21%), radial inclination <15° (1 case, 3%) and articular step >2 mm (2 cases, 6%). Moderate to severe post traumatic arthritis was found in 6 (18%) cases. Flexor tendonitis was found in 5 (15%) cases and required implant removal in 2. In conclusion, type C3 fractures of the distal radius are challenging injuries. Most of these were successfully reduced with the single volar approach. A volar locked plate was effective to stabilize fracture fragments and allow early motion which prevented post operative stiffness. Overall 79% of the cases were satisfactory.

STAGED LENGTHENING IN ACHONDROPLASTIC DWARFS.
27 YEARS OF CLINICAL AND SURGICAL EXPERIENCE

G. PERETTI, W. ALBISETTI, O. DE BARTOLOMEO, A. MEMEO, G. M. PERETTI and F. VERDONI

Department of Surgical, Reconstructive and Diagnostic Sciences, Section of Orthopedics, Traumatology, Rheumatology and Rehabilitation, University of Milan, Milan, Italy

Received July 22, 2010 - Accepted September 8, 2010

Achondroplasia is a genetic disorder characterized by disproportional short limbs with several lower and upper extremity deformities. The purpose of our therapy has always been to correct limb deformities, to lengthen limbs improving their function and to contribute in forming a body with correct proportions between body and lower limbs. In this paper we will come to a definite conclusion about our original protocol of the so-called “staged lengthening” that we started at the beginning of 1982 and that now includes over 100 achondroplastic children. After more than 27 years we have decided to control the clinical results, to evaluate the increase of the lower and upper limbs function and to make a final consideration about the satisfaction of these patients, after such a long period of operations, physiotherapy and pain. After having controlled all complications after the operation of so many patients we have reached the conclusion that the method is well tolerated, it offers the chance to achieve a satisfactory correction of deformities, improves the limbs and body function and gives psychological support to these children. We conclude that “staged lengthening” of limbs is a valid surgical procedure for achondroplastic children, improving function and quality of life.
DISTAL FEMORAL REPLACEMENT COMPLICATED BY DEEP INFECTION BY LEISHMANIA DONOVANI.

A.F. MCGRATH, K KATEVU, P. OFFORI-ATA¹ and J.P. MCGRATH²

Bone Tumour Unit, Royal National Orthopaedic Hospital, Stanmore, Middlesex; Hemel Hempstead General Hospital, Hemel Hempstead, United Kingdom¹; Navan, Co Meath, Ireland and Marendera Hospital, Mashonaland East, Zimbabwe²

Received January 12, 2009 – Accepted March 24, 2009

Deep infection, local recurrence of tumour, implant and mechanical failure are the major complications of tumour resection and limb sparing surgery with endoprostheses (1-2). Deep infection may require either revision surgery or amputation. Staphylococcus and streptococcus are the commonest implicated pathogens in the United Kingdom, however our increasing numbers of patients previously resident overseas, in this case an Indian migrant worker resident in Zimbabwe, is likely to correspond to an increase in atypical micro-organisms, especially in the immuno-compromised patient. We report the case of a 26 year old male with a distal femoral osteosarcoma treated with surgical resection and massive endoprosthesis complicated by deep infection by leishmaniasis. 8 weeks following surgery he deteriorated, becoming systemically unwell, developed pancytopaenia and organomegaly. Ultrasound guided biopsy demonstrated Leishman-Donovan bodies, pathonomonic for Leishmaniasis. Despite chemotherapy and antimicrobials our patient died of disease progression complicated by sepsis and multi-organ failure 7 months post-operatively. We conclude that immunosuppression secondary to malignancy and neo-adjuvant therapy may predispose to infection or reactivation with rare opportunistic infections such as Leishmaniasis. Early identification of infecting organism is essential in providing appropriate antimicrobial agents.

A DEDICATED SYSTEM FOR MOVEMENT ANALYSIS

G. PLACIDI and A. CACCHIO¹

INFM, Department of Health Sciences, University of L’Aquila, L’Aquila; ¹Department of Physical Medicine and Rehabilitation, University of Roma “La Sapienza”, Rome, Italy

Received November 9, 2009- Accepted October 21, 2010

Objectification of human movement in healthy and pathological conditions is currently desirable in many fields such as rehabilitation, orthopaedics, kinesiology and sports science. Although many systems have been developed for movement analysis their complexity greatly reduces their routine application, particularly in the clinical setting. This paper describes a new movement analysis system, based on image analysis and software object recognition. This system tracks and reconstructs the 3D pose and movements of a body region by using images acquired by 4 webcams and then by using image processing and computer vision techniques. As an example we describe the system applied to the recording of hand and finger pose and movements. However, following the same logical approach, it is possible to use it for other specific systems (such as shoulder, elbow, knee, ankle).
THE USE OF DIGITIZED RADIOGRAPHS IN DETERMINING THE CONSISTENCY OF THE AO AND NEER CLASSIFICATIONS OF FRACTURES OF THE PROXIMAL HUMERUS

A.F. McGRATH, A. TORRIE1, I. R. STEVENSON, I. MCFADYEN1 and A. J. JOHNSTONE2

Royal National Orthopaedic Hospital, Stanmore; 1Orthopaedics and Trauma, Gloucestershire Royal Hospital, Gloucester, Gloucestershire; Royal National Orthopaedic Hospital, Stanmore; 1Trauma and Orthopaedics, Gloucestershire Royal Hospital, Gloucester, Gloucestershire; 2Trauma and Orthopaedics, Robert Gordons University, Aberdeen, United Kingdom

Received November 5, 2008 – Accepted July 14, 2009

For any system used to classify fractures, a high level of intraobserver reproducibility and interobserver reliability is desirable. We compare the consistency of the AO and Neer classifications of fractures of the proximal humerus with an assessment of the digitized radiographs of 100 fractures by 10 orthopedic surgeons and 5 radiologists using the General Electric Picture Archiving and Communications System (PACS), allowing manipulation of the image. This process was repeated 1 month later. Intraobserver reproducibility and interobserver reliability was moderate for both the AO and Neer systems. In each case reproducibility using the AO/ASIF system was slightly greater. The assessor’s level of experience and specialty affected accuracy. The ability to electronically manipulate images does not appear to improve reliability compared to the use of traditional hard copies, and their sole use in describing these injuries and comparing similarly classified fractures from different centers is not recommended.