ABILITY WITH THE VALIDATED RAF FLYING APTITUDE TEST SURGICAL ABILITY AND A COMPARISON OF LAPAROSCOPIC SIMULATOR ASIT MEDICAL STUDENT PRIZE: 0761: THE EFFECT OF LATERALITY ON INTRAOPERATIVE nerve block. Furthermore, it is also superior in minimising postoperative fi

Intraoperative in

risks painful neuroma formation and the incomplete recovery of the resected nerve. Alternative repair strategies do exist with variable degrees of success. Therefore, a novel fully-degummed 'silk worm' fibrin based Spiderex® nerve tube has been developed.

Methods: 12 female Sprague-Dawley rats, Surgical excision of grafts after 8 weeks, Tissue processing, Immuno-histochemistry, Confocal microscopy and Quantitative analysis.

Results: Axonal regeneration using the Spiderex® tube, in the mid-graft section was comparable to that in the autologous graft (p < 0.05) mid-section with greater regeneration in the distal-section of the nerve (p < 0.01). Overall Schwann cell support was greater in the Spiderex® nerve tube (p < 0.05) as compared to the autologous graft. Macrophone responses were similar at the distal-ends in both the Spiderex® tube and autologous graft treated nerves (p > 0.05) but higher at the Spiderex® tube, at mid-graft level compared to the autologous graft mid-section (p < 0.05).

Conclusion: The novel Spiderex® silk conduit is a suitable alternative for clinical use. Sacrificing animals beyond 8 weeks may demonstrate superior nerve regenerative potential of Spiderex® tubes. Translation to functional recovery will be explored further in future studies.

SARS ACADEMIC AND RESEARCH PRIZE: 0073: SARS/ASIT ACADEMIC & RESEARCH SURGERY PRIZE WINNER: AN IN VIVO STUDY OF BIOACTIVE MULTILAYERED SCAFFOLDS FOR REGENERATION AND REPAIR OF OSTEOCONDROMAL DEFECTS

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Aim: This study aims to assess the regenerative capacity of ChondroColl (WO2010/084481) in a large animal model. ChondroColl is a novel multilayered scaffold developed in our lab to treat osteochondral defects in the knee joint.

Method: In vivo assessment was carried out creating a bilateral 6mmx6mm defect in the medial femoral and lateral trochlear ridge per joint of a caprine model. Both defects in one joint were implanted with ChondroColl, while the defects in the other joint were left empty, acting as controls. Initially in a 6 week pilot study was carried out. This was followed by a long term study at 3 months, 6 months and 1 year. The repair was assessed by micro CT analysis and histological staining of the samples.

Results: The 6 week and 3 month study showed good scaffold retention and repair of subchondral bone and generation of hyaline like cartilage. The 6 month and 1 year study are ongoing.

Conclusion: Positive results to date show that ChondroColl to be a promising method for cartilage repair and regeneration. It negates the need for other biological agents such as genes, stem cells and growth factors by stimulating the native tissues repair mechanism from the surrounding bone and cartilage.

SARS ACADEMIC AND RESEARCH PRIZE: 0617: BLOCKING EXPRESSION OF THE TUMOUR SUPPRESSOR GENE, P63 INHIBITS IN-VIVO CARCINOGENESIS IN PROSTATE CANCER

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Introduction: Tumour protein p63 is a member of the p53 family of transcription factors. In normal prostate, p63 is expressed solely in the basal epithelial cells and has been associated with both gland development.

Methods: Using a short hairpin RNA (shRNA) system, p63 expression was knocked down in PC3 cells to obtain stable PC3 TP63- cells clones. Elimination of p63 expression was measured by qRT-PCR. To test the effects on tumour induction, two groups of immuno-compromised male mice (six weeks old, n=10) were injected subcutaneously into both flanks with increasing numbers (range 15-1.5x10^3) of PC3 TP63 or PC3-2V cells (expressing a non-functional, scrambled ShRNA).

Results: PC3 TP63-cells were viable but had a greatly reduced lifespan in vitro. The PC3 TP63- injected mice only developed tumours after a significant delay compared to the PC3-2V group which formed tumours at the same rate as untransfected PC3 cells (around 21 days).

Conclusions: Knock down of p63 expression confirmed that a minor proportion of basal cells in PC3 possess the tumour initiation capacity.