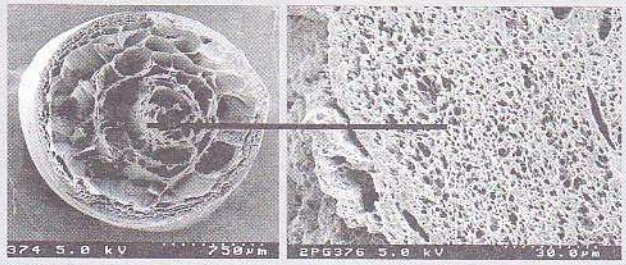

FIG. 4. Porous tubular scaffolds for nerve regeneration.

mer with a hard segment content of 60%, and 16 wt-% for the polymer with a hard segment content of 70%. Stable suspensions of nanosize hydroxyapatite HA could be obtained by using suitable high-viscosity, high-boiling point solvents (TABLE I).

Injectable hybrid materials can be produced by dissolving new biocompatible polyurethanes of varying elasticity in the suspensions of nanosize hydroxyapatite crystals in such solvents. The total amount of HA that can be loaded into the polyurethane solution depends on the stability of the HA suspension, i.e. the quality of the solvent. The hybrid materials solidify in an aqueous environment as a result of solvent replacement by water. Solidification is accompanied by the development of porous structure of varying pore size and geometry (FIG. 2).

Due to highly porous structure, the mechanical properties of the PU materials and the PU - HA hybrids are far from those required for the treatment of osteoporotic bone (FIG. 3).

Mechanical properties can be enhanced by reducing the pore-to-volume ratio in the hybrid, increasing the hard segment content in the polyurethane, and/or increasing the HA load in the hybrid. The injectable materials based on polyurethane solutions and nanosize hydroxyapatite may have limited applications in vertebroplasty due to the amount of solvent required to permit injection of the material. These solutions are, however, excellent systems for the preparation of porous scaffolds for tissue repair and regeneration (FIG.4).

Conclusions

Injectable polyurethane and polyurethane - nanosize calcium phosphate cements for vertebroplasty should be based on systems consisting of two or more monomers that are premixed before injection and solidify in the vertebrae as a result of a catalytic process.

EXPERIMANTAL WAY TO DETERMINE EFFICIENTY OF ACUPUNCTURE AND ANALOGOUS TREATMENT IN ALLOGENIC RHINOPLASTY

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Aesthetic surgery of innate and acquired nose pathology takes 58,90% of the total amount of aesthetic operations made in cranio-maxillofacial area. Grate attention in plastic surgery is pied to the stimulation of reparative and compensatory processes which are turned to the quickest rehabilitation of connective body structures, as well as in rhinoplasty.

Aim

of this abstract deals with making of experimental model for determining efficiency of acupuncture and analogous treatment application in allogenic rhinoplasty.

Materials and methods

Experiment was performed on 36 rabbits "Chinchilla". Line slit of nasal bone, moving under periosteum of first sterilized ear allogenic transplant taken from an other animal were performed under intravenous anesthesia of thiopentali-natrium (0,2 mg/kg) and local infiltration anesthesia (Novocaini 0,5% - 5 ml). Allogenic transplant was sterilized and conserved first with water Sol. Farmalini 0,5% within 3 days. The wound was closed in layers with atraumatic needle and materials (vicrilum). Animals were divided into 3 groups. Acupuncture stimulation of the acupoint GI4 was applied for the animals of the 1-st group. Local acupoints in the nose bone region were stimulated for the animals of the 2-nd group. Acupoint GI14 was irritated as well as local acupoints closed to the region of postoperative wound for the animals of the 3-rd group. Acupuncture treatment course have been lasted 10 days. Strong brake method has been applied for acupuncture irritation.

Results

Tissue infiltration in postoperative scar region of the 3-rd group animals was authentically less expressed five days postoperatively in respect of 1 and 2 groups ($p<0,01$ and $p<0,01$ correspondingly). That gives to take conclusion that to make experimental model of determining efficiency of acupuncture and analogous treatment application in allogenic rhinoplasty it is advisable to use acupuncture treatment model applied for the 3-rd group animals.