Respon jaringan tulang setelah implantasi miniplate dan screw magnesium ecap dengan pulasan imunohistokimia pengamatan khusus respon terhadap collagen-1, osteocalcin, alpha smooth muscle actin, cd68 = Bone tissue response post ecap processed magnesium miniplate and screw implantation by immunohistochemical staining specific response observation towards collagen-1, osteocalcin, alpha smooth muscle actin, cd68

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Abstrak

Latar Belakang: Magnesium ECAP mempunyai sifat mekanis yang baik danpengaruh osteoanabolik, namun magnesium memiliki sifat korosif.Imunohistokimia mengidentifikasi respon proses korosi dengan melihat jejakjaringan sekitar.
Metode: Tulang femur dipasang miniplate dan screwdikelompokkan 1-3-5 bulan. Tulang kontrol diambil pada sisi berlawanan. Hasil Imunohistokimia dinilai dengan skoring. Data diuji nonparametrik dengan tingkatkepercayaan 99.
Hasil: Perbedaan bermakna kelompok perlakuan dengankelompok kontrol p=0,000 . Peningkatan pembentukan trabekula dan responosteogenesis. Peningkatan revaskularisasi dan reaksi kluster diferensiasi terhadapgas poket hingga bulan ke-3.
Kesimpulan: Respon jaringan sekitar tertoleransi dengan terjadinya peningkatan osteogenesis, tidak ditemukannya jaringannekrosis, dan penurunan nilai gas poket.
.....Background : ECAP processed magnesium has an excellent mechanicalproperties and osteoanabolic effect. However metal materials are known to havecorrosive nature, and magnesium was no exception. Immunohistochemistry is ableto identify corrosion process response in living organism by looking into its tracesin surrounding tissus.
Methods : The femur bone samples were implanted byECAP processed magnesium miniplate and screw for 1, 3, and 5 months. Theopposing femur was left alone as control samples. Afterwards,immunohistochemical staining results were scored and tested using nonparametrictests with confidence interval of 99.
Results : Significant differences werefound between treatment groups and control groups p=0.000. The increase oftrabeculae formation and osteogenesis responses also revascularisation anddifferentiation clusters to gas voids are observed well into the 3 month samples.
Conclusion : Surrounding tissue responses are tolerated as shown by the increaseof osteogenesis, untraceable necrotic tissues, and the decrease in gas voids score.