

论著

深低温处理对异种骨-髌腱-骨移植排斥反应的影响

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摘要 目的: 观察深低温处理对异种骨-髌腱-骨(BPB)移植排斥反应的影响。方法: 采用大鼠股部肌袋模型探讨深低温处理对异种BPB移植免疫反应的影响, 通过观察外周血T细胞活化和植入物组织形态学变化情况来判定免疫反应程度。结果: 新鲜未处理异种BPB移植后3 d CD4+/CD8+细胞CD25+表达率即显著升高, 与自体移植组比较有显著差异(P<0.05), 术后14 d达高峰, 且维持该峰值至术后35 d仍无下降; 深低温处理的异种BPB移植后CD4+/CD8+细胞CD25+的表达明显受到抑制, 表达时间推迟, 至术后14 d才有轻度升高, 术后3 d起各时点与未处理组比较, 均P<0.05。组织学检查发现, 深低温处理组骨、腱组织周围见少量淋巴细胞浸润, 但未侵入组织内, 无组织坏死, 腱束结构清楚, 胶原排列规则; 新鲜异种移植组可见大量斑片状淋巴细胞弥漫性浸润骨及胶原组织周围及其中, 可见骨碎片, 腱结构不清, 胶原排列紊乱, 部分切片可见较多的嗜酸性粒细胞和多核巨细胞等炎症细胞。结论: 深低温处理能显著降低异种BPB免疫原性, 抑制排斥反应发生。

关键词 [骨-髌腱-骨](#); [异种移植](#); [排斥反应](#); [白细胞介素2](#); [前交叉韧带](#)

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Effects of deep-frozen treatment on the immune response of bone-patellar tendon-bone xenograft rejection

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Abstract

AIM: To investigate the effects of deep-frozen treatment on the immune response of bone-patellar tendon-bone (BPB) xenograft rejection. METHODS: A muscle pocket model was used to study the immune response of rat to deep-frozen treated BPB xenograft from guinea pig, autograft and fresh xenograft served as controls. The expression of T-cell surface activation antigen CD25 in the peripheral blood and the morphological changes of the implants were used to measure the immune response. RESULTS: The expression of CD25 in CD4+, CD8+ cells greatly increased 3 d after fresh BPB xenograft, the obvious difference to that of autograft (P<0.05) was observed. It reached a peak level 14 d after fresh BPB xenograft and didn't decrease 35 d after transplantation. The expression of CD25 in CD4+, CD8+ cells was greatly inhibited in deep-frozen treated BPB xenograft. Its expression was delayed and just had a small increase 14 d after transplantation. The P values were all less than 0.05 compared to those of fresh xenograft at every time-point after transplantation. Histologic examination showed that there were a few lymphocytes surrounding the bone and tendon tissue in deep-frozen treated BPB xenograft, but the lymphocytes hadn't invaded into the tissues. No tissue necrosis, but a clear tendon structure and regular fibrogen arrangement were observed. There were large amount of fragmentary lymphocytes infiltrating into or surrounding the bone and fibrogen tissues after fresh xenograft, the bone was broken into pieces, the tendon structure was unclear and the fibrogen arrangement was irregular, quite a few of inflammatory cells such as acidophilic granulocytes and macropolycytes were found in some slices. CONCLUSION: Deep-frozen treatment markedly reduces BPB xenograft antigenicity and inhibits the immune rejection.

Key words [Bone-patellar tendon-bone](#) [Xenograft](#) [Rejection](#) [Interleukin-2](#) [Anterior cruciate](#)

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