

论文

C / C+HA骨植入材料对杂交波尔山羊生理生化机能的影响

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摘要:

碳 / 碳复合材料+羟基磷灰石涂层(C / C+HA)骨植入材料具有与人体骨组织十分接近的弹性模量和优良的表面生物活性,是一种具有重要临床应用价值的骨替换材料.采用杂交波尔山羊作为动物实验模型,开展了C / C+HA复合材料骨内植入实验,并从呼吸、心跳、消化、血液和免疫等方面考察了该植入材料对实验动物生理、生化指标的影响,进而探讨了该材料的生物安全性.结果表明:在植入手术后61d的观察期内,虽然实验动物出现轻度贫血和消化吸收功能下降,但未发现C / C+HA复合材料引起的热源性反应、急性感染和免疫功能下降,说明该材料具有较好的生物安全性.

关键词: C / C+HA复合材料 山羊 生理指标 生化指标

The effect of C / C+HA bone repairing material to the physiological and biochemical response of the crossed Boer Goat

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Abstract:

Carbon / carbon composite material with hydroxyapatite coating (C / C+HA) bone-implant materials has elastic modulus, which is highly close to human bone tissue and of excellent surface biological activity, and has great value of clinical application as a kind of bone replacement material. This study adopted the crossed Boer Goat as the animal experimental model, developed the experiment of C / C+HA composites implanted into bone, and investigated the effect of this implant material on the physiological and biochemical index of the test animal in breathing, heartbeat, digestion, blood and immunity, etc. The results show that although the test animals appeared mildly anemia and their digestion and absorption declined, heat source reaction, acute infection and immunity function decrease were not observed during the 61-day observation period after the implant surgery. It indicates that this material has preferable biological safety.

Keywords: Carbon / Carbon+hydroxyapatite composite materials goat physiological index biochemical index

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