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Effects of the toxic extract of burn eschars on mitochondrial transmembrane potential

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Abstract The effects of the toxic extract, D_1, of burn eschars on the mitochondrial transmembrane potential were observed in rats. It was found that the addition of D_1 to the mitochondrial suspension resulted in a continuous decrease of the transmembrane potential and an increase of the non-specific permeability of the inner membrane. Since the protons produced by the electron mediation chain can be reversely permeated the supply of protons is insuffiecient and the normal transmembrane potential can not be maintained and consequently the decoupling of oxidative phosphorylation occurs.

Key words burn eschar; mitochondrion; transmembrane potential; rat

用股薄肌肌皮瓣修复会阴部深度电烧伤一例报告

Repair of a perineal severe electrical burn with gracilis musculocutaneous flap

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应用股薄肌肌皮瓣修复1例会阴部严重电烧伤,获得满意效果。现报道如下。

1 临床资料

病例,男,23岁,工人。1994年1月24日工作中被1万V高压电烧伤,伤后43 h入院。会阴部、下腹部、左大腿根部、双手及前臂严重烧伤,皮肤焦化坏死,阴囊皮肤和左侧睾丸烧毁,右侧睾丸缩至右腹股沟,尿道海绵体前段坏死外露,耻骨联合、耻骨左下支骨质和阴茎海绵体部分坏死。

2 手术方法

先行会阴部清创,将右睾丸及残留阴茎海绵体埋置于右腹股沟皮下;用左阔筋膜张肌肌皮瓣修复左大腿根部前侧创面,保护股动脉及股静脉;下腹部及左大腿内侧创面用游离皮片覆盖;最后会阴部遗留创面大小为130 mm×70 mm。于右大腿内侧设计并切取股薄肌肌皮瓣,梭形,长200 mm,宽100 mm,于上1/3处找到血管蒂,游离血管蒂约50 mm,切断股薄肌近端内侧1/2后,将肌皮瓣向上内旋覆盖会阴部创面,缝线固定,供瓣区植中厚皮。术后第2天肌皮瓣稍红肿,第4天开始逐渐消退,肌皮瓣血运和感觉均良好,创面封闭。

3 讨论

本例为严重的会阴部电烧伤,临床上较罕见,其损伤范围大,除会阴部外,还包括左大腿侧段前侧、内侧及下腹部,加之为了保存残留的阴茎海绵体及右睾丸,需将其埋置于右腹股沟皮下,所以要修复会阴部(130 mm×70 mm)创面有一定难度。尽管股薄肌肌皮瓣在修复会阴部创面中较为常用,但是本病例只能利用右侧股薄肌肌皮瓣,按常规设计宽度仅为60 mm[1],尚不能封闭其创面。我们根据Giordano[2]的研究,认为股薄肌筋膜及皮肤具有良好的血供,设计了右股薄肌肌皮瓣宽度为100 mm,未发现血运障碍,成功地封闭了会阴部创面,取得了满意的预期结果。这种超宽度的股薄肌肌皮瓣的应用,可为严重会阴部或其他邻近部位损伤及肿瘤切除后大块缺损的早期修复提供新的途径。

关键词 电烧伤;股薄肌皮瓣;会阴部
中图法分类号 R644

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