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Histological characterization of reconstructed hair follicles*

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Abstract Objective: To observe dermal-epidermal interactions between the epithelium and mesenchyme of the human hair follicle. Methods: Using organotypic culture model, we combined different subpopulation keratinocytes with dermal papilla cells, dermal sheath cells and fibroblasts to reconstruct hair follicles and epidermis. Results: Keratinocytes from interfollicular epidermis and three pigments of hair follicle reconstructed epidermis when cultured on fibroblast-populated collagen gel. The epidermis reconstructed by the superior follicle cells was thicker while that by bulb cells was thinner. The superior and inferior follicle cells reconstituted a hair follicle structure when grew on dermal sheath cell-populated gel. Conclusion: This is the first report presenting that dermal sheath cells still induce the formation of hair follicle *in vitro* and the superior and inferior follicle cells can differentiate to bulb matrical cells under induction of dermal sheath cells, which strongly supports the bulge-activation hypothesis.

Key words hair follicle; stem cell; culture; dermal equivalent

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二尖瓣置换术后腹主动脉血栓栓塞一例报告

A case of mitral valve replacement accompanied thromboemboli in the aorta abdominalis

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患者女性, 28岁,因劳力性心悸、气促 16年,加重伴双下肢水肿 2个月入院。诊断为风湿性二尖瓣狭窄伴关闭不全、主动脉瓣轻度关闭不全、心房纤颤、心功能III级。于 1996年 4月 15日行二尖瓣置换术、三尖瓣环缩术。术前心脏彩超及术中探查均未发现左房血栓。手术顺利,术后第 2天拔除心包及纵隔引流管并开始口服华法令,第 3天凝血酶原时间调整至对照的 1.5倍,第 4天患者用力解大便后突感双下肢剧痛、麻木。查体: 双下肢皮肤苍白、温度较上肢低,双侧股动脉及足背动脉搏动消失。急诊行腹主动脉造影,发现第 3腰椎以下腹主动脉不显影,诊断为腹主动脉血栓栓塞。于当晚急诊行腹主动脉切开取栓术,在第 3腰椎平面腹主动脉及左髂总动脉开口处分别取出 2.0 cm× 1.2 cm, 2.1 cm× 0.5 cm血栓各一枚,术毕患者双下肢疼痛消失、温度正常,双侧股动脉及足背动脉搏动恢复,取栓术后 25 d痊愈出院。取出血栓送病理检查(病理号 961913),证实其诊断符合腹主动脉、左髂总动脉混合血栓改变。

讨论

血栓栓塞是心脏瓣膜置换术后的严重并发症,处理不及时可引起栓塞器官梗死或肢体坏死,严重者危及患者的生命。有报道心脏瓣膜置换术后血栓栓塞多发生在术后较晚的时期,多因服用抗凝剂不及时或剂量偏小而产生,二尖瓣置换较主动脉瓣置换的血栓栓塞发生率高[1,2]。瓣膜置换术后 4 d发生血栓栓塞很少见。本例二尖瓣置换术后第 4天发生腹主动脉与左侧髂总动脉血栓栓塞,其原因未能明确,可能与左房内小的附壁血栓在用力后发生脱落有关。血栓栓塞一经发生应立即依据临床表现、选择性血管造影等明确栓塞部位,为治疗提供依据,较大的血栓栓塞内科溶栓效果不确实,应首选手术治疗。本例患者经血管造影后急诊行血栓摘除术,取得了较好的疗效。

关键词 二尖瓣置换术;血栓栓塞

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