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Stability of the proliferation model of adult human mesenteric arterial smooth muscle cells*

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Abstract Objective: To investigate the growth characteristics of arterial smooth muscle cells (ASMCs) at the molecular level and the effects of extracorporal vaso-active substances on the proliferation of ASMCs. Methods: After the cultivation of the mature human ASMCs was successfully carried out and the cell class established in our laboratory, the primary culture of the human ASMCs was performed with the methods of patch adhesion and compound enzyme. Then the cells were treated with human insulin-like growth factor 1 (HILGF-1). 10 months later, the 35th passage of the cells was got and then MTT cytotoxic test was conducted with PMA. Results: After the treatment with HILGF-1, the cells grew in peak- and valley-like manners and no changes of the growth characteristics of the cells were found. Conclusion: The methods can shorten the shock period of isolated cells and enhance the stability of the passages of the cells. Therefore, the culture and purification of the cells can be performed simultaneously.

Key words human arterial smooth muscle cell; human insulin-like growth factor 1; atherosclerosis; proliferation

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抗-Ce抗-e引起难配血一例报道

Report of a case of difficulty in blood matching due to the presence of anti-Ce and anti-e

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输血可导致患者产生同种 Rh 抗体,以抗-D 抗-E较常见,但抗-Ce抗-e同时出现则少见。我们1991年在为兄弟单位解决疑难配血时发现1例,现报道如下。

1 病例简介

患者,男性,68岁。1990年9月7日因慢性粒细胞白血病收治入院,先后输新鲜全血900 ml,白细胞血小板混悬液14单位,无不良反应,症状缓解出院。1991年2月20日复发再次入院,输全血3次共计900 ml,每次均有寒战、发热反应,体温在38.6℃~39.2℃,血红蛋白逐次下降,由82 g/L降为68 g/L、60 g/L、53 g/L,巩膜黄染,配血困难,送我院做血型血清学检查。

2 血型血清学检查

血型 O ccDEE M,直接抗球蛋白试验:抗 IgG、抗 C_3均为阴性。抗体鉴定见表1。

表1 患者血清与已知 Rh 血型谱细胞反应结果

谱细胞	盐水法(37℃)	木瓜酶法	抗球蛋白法
CcDEe	0	4+	4+
ccDEE	0	0	0
CCDee	0	4+	4+
ccddee	0	4+	4+
CcDEE*	0	1+	1+
Ccddee	0	4+	4+
自身	0	0	0

*:谱细胞由上海血站提供

吸收释放试验:患者血清加 ccddee细胞吸收后,56℃热放散,放散液加 ccddee细胞,抗球蛋白法 4+,CcDEE细胞 1+。患者血清加 CcDEE细胞吸收后放散,放散液同 CcDEE细胞 1+,同 ccddee细胞 1+。

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推动基因直接注射研究工作的发展和应用。

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Localization and expression of human clotting factor IX cDNA after its direct injection into the skeletal muscle in mice*

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Abstract **Objective**: To observe the location and expression of human clotting factor cDNA after its direct injection into the skeletal muscle in mice. **Methods**: Immunohistochemistry and nucleic hybridization were applied. **Results**: 4 weeks after the injection, the expression of protein and mRNA of the factor were seen and the factor still existed in the local cells. **Conclusion**: The existence and high expression of human clotting factor IX cDNA are still seen at the 4th week after its direct injection into the skeletal muscle.

Key words gene therapy; human clotting factor IX; expression; mouse

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(上接414页)

患者血清效价:患者血清加 ccddee细胞效价木瓜酶法、抗球蛋白法均为64,木瓜酶积分为6分,抗球蛋白法积分为54分。同 CcDEE效价为2,积分为10分。

3 讨论

因输血产生 Rh同种抗体,以抗-D 抗-E较为常见,而抗-Ce 抗-e少见,我们在实验中发现患者除了同自身细胞不凝集外,同 ccDEE细胞也不发生凝集,血清用 ccddee细胞吸收后,放散液同 ccddee细胞发生凝集、同 CcDEE细胞也发生凝集。用 CcDEE细胞吸收后,放散液同 CcDEE细胞及 ccddee细胞均发生凝集,说明患者所产生的抗体有抗-Ce抗体。因为抗-C效价为2,我们用 CcDEE细胞吸收多次都无法吸收掉抗-C,而用1:5稀释血清,可将抗-C稀释,以致与只含 C抗原,不含 e抗原的红细胞不发生凝集,因此我们认为血清中有抗-e抗体。患者所产生的抗-Ce是否同 O型血清中的抗-AB抗体一样,具有两种特异性而结合成不可分割的抗体[1]?文献报道红细胞表面表现 Rh活性物质可能有很多可细分的亚抗原,每个基因或基因复合物决定一系列相关的表面结构,结构中某些部分比其他部分更有可能引起免疫应答。基因 R1(CDe)含有 Ce(rhi)一种顺式产物[2],我们认为是患者在输了含有 CDe顺式产物的抗原,而产生了不可分割的 Ce抗体。实验结果同杨春清[3]抗-Ce 抗-e引起配血不合1例报道相符。抗-Ce效价常不高,但该患者抗-e效价64,我们认为是输有纯合子的 CDe/CDe抗原所致,因为中国人 Rh血型 CCDee抗原占46%,纯合子抗原性较强,而且该患者在第二次住院后仍然用盐水法配血,输血后刺激肌体产生回忆性免疫应答,导致抗体效价上升。因此我们再次强调:为了临床输血安全,达到治疗目的。一定要用酶法、抗球蛋白法等配血方法,以检测不完全抗体。

关键词　抗-Ce;抗-e;疑难配血

中图法分类号　R457.11

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