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Changes of mitochondrial volume density of the diaphragm in response to chronic hypoxia in rats*

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Abstract The changes of the mitochondrial morphological parameters of the diaphragm in response to chronic hypoxia were observed in rats. It was found that after exposure to hypobaric hypoxia or normobaric hypoxia 8 h per day for one or three months, the mitochondrial volume density of the diaphragm was significantly increased by 9.5%~19.1% ($P < 0.05$~0.01) while other parameters were not significantly changed. The findings suggest that the aerobic oxidative capacity of the diaphragm could be partly improved through an increase of the mitochondrial volume density.

Key words hypoxia; tissue adaptation; diaphragm; mitochondrion

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地塞米松防治根管治疗期间疼痛的前瞻性研究

A prospective study of preventing endodontic interappointment pain with dexamethasone

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病人在根管治疗后、充填前出现的疼痛,称根管治疗期间痛(Endodontic interappointment pain, EIP)。临床上发病率较高,国外文献报道,最高达就诊病人的40%[1]。经光盘检索,国内尚无报道。本文采用前瞻双盲研究方法,观察地塞米松防治EIP的疗效。

1 资料和方法

1.1 研究对象

将50例需作根管治疗,且患牙为单根管前牙,牙髓有活力、临床和X线片显示无明显根尖病变的门诊病人,其中男性23例,女性27例,年龄18岁~55岁,列为研究对象。

1.2 规范操作

所有病人由同一医生操作。常规开髓,行根管治疗。如有明显炎症,则先开髓引流,待急性症状控制后,再行根管治疗。封入甲醛甲酚(FC)纸尖和棉球各一个,一周复诊。

1.3 方法

1.3.1 分组 将列为研究对象50例病人,随机分成两组,实验组(A组)和对照组(B组)各25例。

1.3.2 给药方法 根管治疗后,采用双盲法给药。A组给地塞米松5片(每片0.75 mg),治疗后即服2片,以后每4 h 1片;B组给安慰剂5片,用法同A组。

1.4 疗效观察

疼痛分四级:0级无痛,I级轻微疼痛,II级中度疼痛,III级重度疼痛[2]。记录下病人治疗前及治疗后8、24、48 h的痛级。

2 结果

2.1 疼痛发生率的比较

二组病人治疗前后疼痛发生例数变化见表1

表1 治疗前后疼痛发生例数比较

组别	总例数	疼痛例数			
		治疗前	治疗后8 h	治疗后24 h	治疗后48 h
A组	25	20	7	3	2
B组	24*	19	15	13	7

* B组一例病人因治疗后疼痛剧烈而加服了乙酰螺旋霉素,将其排除。

经χ^2检验,二组病人治疗前疼痛发生率差异无显著性($P > 0.05$),治疗后8、24、48 h差异均有显著性($P < 0.01$)。

2.2 疼痛程度的比较见表2

表2 治疗前后不同时间疼痛程度比较

	0		I		II		III	
	A	B	A	B	A	B	A	B
治疗前	5	5	4	5	6	4	10	10
治疗后								
8 h	18	9	5	7	2	5	0	3
24 h	22	11	2	7	1	4	0	2
48 h	23	17	2	5	0	2	0	0
合计			9	19	3	11	0	5

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Observation on expression of tumor necrosis factor-α receptor in hepatocytic membrane of patients with chronic hepatitis B virus infection *in vitro*

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Abstract The expression of tumor necrosis factor-α receptor (mTNFαR) on the membrane of cultured hepatocytes was observed in 9 patients with chronic hepatitis B virus (HBV) infection and 8 individuals without and the hepatocytes were incubated with lipopolysaccharide (LPS)-activated Kupffer cells to observe the cytocidal effect of TNFα indirectly. It was found that lactic acid dehydrogenase (LDH) level in the supernatant of the hepatocytes from patients with chronic HBV infection incubated with the activated Kupffer cells was remarkably increased and it became much higher when mTNFαR was up-regulated by 2 to 3 fold. But no significant change of LDH level was found in the supernatant of coincubated cells including the hepatocytes from patients without HBV infection and it remained unchanged even when mTNFαR was up-regulated by 2 to 3 fold. Our findings suggest that TNFα can strengthen its toxicity to hepatocytes through high expression of mTNFαR in HBV infection, which is perhaps one of mechanisms of hepatocytic injury in chronic HBV infection.

Key words chronic hepatitis B virus infection; hepatocytic membrane; tumor necrosis factor-α receptor (TNFαR)

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3 讨论

二组病人治疗前疼痛发生率差异无显著性,治疗后 8 24 48 h差异均有显著性。实验组治疗后无重度疼痛发生,而对照组治疗后8 h有3例、24 h有2例重度疼痛病例。提示:地塞米松能有效减少病人根管治疗期间疼痛的发生并减轻其疼痛程度。EIP的发生主要是根管治疗过程中器械、冲洗液、根管内封药等刺激根尖组织,引发急性炎症所致[3]。其发病率与牙髓是否有活力有关[4]。地塞米松是一种有较强抗炎能力的皮质类固醇激素,它能减少炎性介质的蓄积而达到止痛效果,为临床控制EIP发生提供了一种有效方法。本实验仅能提示地塞米松对控制活髓牙 EIP有效,对死髓牙是否有效,尚待进一步研究。对禁用或慎用地塞米松的病人,控制 EIP的方法也需进一步探讨。

关键词 地塞米松;根管疗法;疼痛
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