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# 异甘草酸镁对急性重症胰腺炎患者血清 CAM-1、SIL-2R、IL-2 水平及肝肾功能的影响 *

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**摘要 目的：**探讨异甘草酸镁对急性重症胰腺炎患者血清胞间粘附分子 -1(CAM-1)、可溶性白细胞介素 -2 受体(SIL-2R)、白细胞介素 -2(IL-2)水平及肝肾功能的影响。**方法：**选择 2014 年 3 月 ~2016 年 9 月于我院接受治疗的 86 例急性重症胰腺炎患者，按随机数字表法分为对照组与实验组，每组 43 例。对照组选用常规治疗，实验组在常规治疗基础上加以异甘草酸镁治疗，两组均持续治疗 14 天。比较两组的临床疗效，治疗前后血清 CAM-1、SIL-2R、IL-2、谷草转氨酶、谷丙转氨酶、尿素氮、血肌酐水平的变化及不良反应的发生情况。**结果：**治疗后，实验组总有效率为 90.69%，显著高于对照组(P<0.05)；两组血清 CAM-1、SIL-2R、IL-2、谷草转氨酶、谷丙转氨酶、尿素氮、血肌酐水平均较治疗前显著降低，且实验组以上指标均明显低于对照组(P<0.05)。两组不良反应发生情况比较差异无统计学意义 (P>0.05)。**结论：**与常规治疗相比，异甘草酸镁可显著提高急性重症胰腺炎的临床效果，降低血清 CAM-1、SIL-2R、IL-2 水平，保护肝肾功能。

**关键词：**急性重症胰腺炎；异甘草酸镁；胞问粘附分子 -1；可溶性白细胞介素 -2 受体；白细胞介素 -2

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# Effect of Magnesium Isoglycyrrhizinate on the Serum Levels of CAM-1, SIL-2 R and IL-2, Liver and Kidney Function of Patients with Severe Acute Pancreatitis*

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**ABSTRACT Objective:** To investigate the effect of magnesium isoglycyrrhizinate on the serum levels of Cell adhesion molecule-1 (CAM-1), soluble interleukin-2 receptor (SIL-2 R), interleukin-2 (IL-2) levels, liver and kidney function of patients with severe acute pancreatitis. **Methods:** 86 cases of patients with acute severe pancreatitis from March 2014 to September 2016 in our hospital were divided into the control group and the experimental group according to random number table method, with 43 cases in each group. The control group was given conventional treatment, while the experimental group was given magnesium isoglycyrrhizate based on the control group, both groups were treated for 14 days. The curative effect, changes of serum levels of CAM-1, SIL-2 R and IL-2, aspertate aminotransferase, cereal third transaminase, urea nitrogen, serum creatinine before and after the treatment and the incidence of adverse reactions were compared between two groups. **Results:** After treatment, the total effective rate of experimental group was 90.69%, which was higher than that of the control group (P<0.05); the serum levels of CAM-1,SIL-2 R and IL-2, aspertate aminotransferase, cereal third transaminase, urea nitrogen, serum creatinine of two group were significantly reduced than those before treatment, which were all significantly lower in the experimental group than those of the control group (P<0.05). there was no difference in the occurrence of adverse reactions between the two groups (P>0.05). **Conclusion:** Magnesium isoglycyrrhizate was more effective for severe acute pancreatitis than conventional treatment alone, which could decrease the serum levels of CAM-1, SIL-2 R and IL-2 and protect the liver and kidney function.

**Key words:** Acute severe pancreatitis; Magnesium isoglycyrrhizinate; Cell adhesion molecule-1; Soluble interleukin-2 receptor; Interleukin-2

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## 前言

重症急性胰腺炎病情较为险恶,且有较高的病死率,主要是因暴饮暴食、酗酒等所致,能够诱导腹痛、高热、休克、呼吸异常等改变,同时可使肾脏、肝脏、呼吸及神经系统等功能受累,以肝肾功能障碍表现最为明显,未经及时治疗者甚至可危及患者的生命[1,2]。尽早诊断重症胰腺炎并选用合理的疗法是并发症减少及死亡率降低的关键,多项研究证实[3,4]急性重症胰腺炎经常规治疗虽可一定程度的缓解临床症状,但难以得到良好的效果。

异甘草酸镁既往临床多应用于病毒性肝炎,不仅能够对肝细胞膜发挥保护作用,同时能够起到抗过敏、抗炎等作用,但其对急性重症胰腺炎的作用并不完全明确[5,6]。国外研究显示[7,8]炎症及细胞因子可于急性胰腺炎发病中起到关键作用,以细胞粘着因子 -1(CAM-1)、白细胞介素 -2(IL-2)及可溶性白细胞介素 -2 受体(SIL-2R)表现最为明显。本研究旨在探讨异甘草酸镁对急性重症胰腺炎患者血清 CAM-1、SIL-2R、IL-2 水平及肝肾功能的影响,以期为异甘草酸镁用于临床治疗急性胰腺炎提供更多的参考依据。

## 1 资料与方法

### 1.1 一般资料

选择 2014 年 3 月 ~2016 年 9 月于我院接受治疗的 86 例急性重症胰腺炎患者。纳入标准:符合急性重症胰腺炎诊断标准[9]:伴急性胰腺炎改变,伴器官衰竭或者并发症;入院时间在发病 24 h 以内;意识清晰;无本研究药物禁忌症。排除标准:既往长时间接受糖皮质激素治疗;脏器功能明显病变;恶性肿瘤;手术指征者。按随机数字表法将所有患者分为对照组与实验组,每组 43 例。对照组年龄 23~67 岁,平均(47.08± 6.23)岁;女 20 例,男 23 例。实验组年龄 22~65 岁,平均(46.21± 6.75)岁;女 21 例,男 22 例。两组基础资料比较差异无统计学意义(P>0.05),具有可比性。

### 1.2 治疗方法

对照组均予以常规基础治疗。实验组在其基础上联合异甘草酸镁治疗,将 100 mg 异甘草酸镁和 250 mL 10%葡萄糖注射液稀释予以患者静脉滴注,qd。两组均持续用药 14 天,期间评估疗效,并统计临床表现缓解时间和安全性。

### 1.3 观察指标

**1.3.1 疗效观察** 用药 5 天内临床体征及症状完全恢复,血常规及血淀粉酶未见异常即痊愈;用药 7 天内临床体征及症状完全恢复,血常规及血淀粉酶未见异常即显效;用药 10 天内临床体征及症状完全恢复, 血常规及血淀粉酶未见异常即好转;用药时间在 10 天以上但上述指标仍未见改善者即无效。痊愈、显效及好转均为总有效[10]。

**1.3.2 血清指标测定** 于用药前后收集患者外周静脉血 2 mL,常规分离血清,将上清液保留。CAM-1、SIL-2R、IL-2 予以放射免疫法进行。

### 1.4 统计学分析

数据处理选用 SPSS18.0 进行,计量资料以($\bar{x}$± s)表示,组间比较用 t 检验,计数资料以[(例)%]表示,组间比较用 $x^2$ 检验,以 P<0.05 为差异具有统计学意义。

## 2 结果

### 2.1 两组临床疗效的比较

治疗后, 实验组总有效率为 90.69%, 较对照组显著升高(74.42%,P<0.05),见表 1。

表 1 两组疗效比的较[例(%)]

Table 1 Comparison the curative effect between two groups[n(%)]

| Items | Control group(n=43) | Experimental group(n=43) |
|---|---|---|
| Cure | 6(13.95) | 12(27.91) |
| Effective | 13(30.23) | 17(39.53) |
| Improve | 13(30.23) | 10(23.26) |
| Invalid | 11(25.57) | 4(9.30) |
| Total effective rate | 32(74.42) | 39(90.69)[a] |

Note: Compared with control group, [a]P<0.05.

### 2.2 两组临床表现缓解时间的比较

实验组临床表现如第一次排便时间、肠鸣音、腹痛、腹胀缓解时间显著短于对照组(P<0.05),见表 2。

表 2 两组临床表现缓解时间比较($\bar{x}$± s)

Table 2 Comparison of the relieve time of clinical symptoms between the two groups($\bar{x}$± s)

| Items | Control group(n=43) | Experimental group(n=43) |
|---|---|---|
| Bowel sounds(h) | 30.27± 3.76 | 15.20± 1.89[a] |
| First defecation(h) | 35.41± 4.32 | 19.46± 2.40[a] |
| Stomach ache(d) | 4.98± 0.63 | 3.51± 0.45[a] |
| Bloating(d) | 5.65± 0.72 | 4.67± 0.59[a] |

Note: Compared with control group, [a]P<0.05.

### 2.3 两组治疗前后血清 CAM-1、SIL-2R、IL-2 水平的比较

治疗前，两组血清 CAM-1、SIL-2R、IL-2 水平比较差异无统计学意义(P>0.05)；治疗后，实验组血清 CAM-1、SIL-2R 水平均较对照组显著降低(P<0.05)，血清 IL-2 水平显著高于对照组(P<0.05)，见表 3。

表 3 两组治疗前后血清 CAM-1、SIL-2R、IL-2 水平的变化($\bar{x}\pm s$)

Table 3 Comparison of the serum levels of CAM-1, SIL-2R and IL-2 between the two groups before and after treatment($\bar{x}\pm s$)

| Items | Time | Control group(n=43) | Experimental group(n=43) |
|---|---|---|---|
| CAM-1(μg/L) | Before treatment | 456.23± 57.09 | 455.70± 56.21 |
| | After treatment | 311.58± 38.79[b] | 142.69± 17.35[ab] |
| SIL-2R(ng/L) | Before treatment | 126.30± 15.43 | 125.79± 16.72 |
| | After treatment | 73.29± 9.05[b] | 60.34± 7.90[ab] |
| IL-2(ng/L) | Before treatment | 76.45± 9.85 | 77.04± 8.73 |
| | After treatment | 120.98± 15.21[b] | 146.23± 18.27[ab] |

Note: Compared with the control group, [a]P<0.05; Compared with before treatment, [b]P<0.05.

### 2.4 两组治疗前后肝肾功能比较

两组治疗前肝肾功能比较差异无统计学意义(P>0.05)；治疗后，实验组肝肾功能指标均显著低于对照组(P<0.05)，见表 4。

表 4 两组治疗前后肝肾功能比较($\bar{x}\pm s$)

Table 4 Comparison of the liver and kidney function between the two groups before and after the treatment($\bar{x}\pm s$)

| Items | Time | Control group(n=43) | Experimental group(n=43) |
|---|---|---|---|
| Aspertate aminotransferase(U/L) | Before treatment | 201.66± 25.87 | 202.43± 24.31 |
| | After treatment | 45.21± 5.62[b] | 30.77± 3.53[ab] |
| Cereal third transaminase(U/L) | Before treatment | 188.90± 23.60 | 187.65± 24.76 |
| | After treatment | 47.45± 5.86[b] | 32.11± 4.20[ab] |
| Urea nitrogen(mmol/L) | Before treatment | 13.25± 1.62 | 13.78± 1.37 |
| | After treatment | 8.90± 1.10[b] | 7.65± 0.97[ab] |
| Serum creatinine(μmol/L) | Before treatment | 195.46± 24.33 | 193.70± 25.81 |
| | After treatment | 96.71± 12.11[b] | 83.22± 10.23[ab] |

Note: Compared with control group, [a]P<0.05; Compared with before treatment, [b]P<0.05.

### 2.5 两组不良反应发生情况的比较

治疗期间，两组均未见严重不良反应。

## 3 讨论

急性重症胰腺炎病情危急，目前缺乏明确特效疗法，药物为其重要治疗手段[11,12]。异甘草酸镁能够促进氧自由基的清除，缓解炎症反应，且可利于毛细血管的疏通[13]。国外研究显示[14,15]予异甘草酸镁治疗急性重症胰腺炎患者的临床效果肯定。本研究结果也显示异甘草酸镁治疗后的总有效率较高，且能够明显缩短患者临床症状的缓解时间，但具体机制尚未明确[16,17]。

多种细胞因子在急性重症胰腺炎发病过程中发挥了关键作用，可诱导血管发生渗漏，血容量降低[18,19]。同时，多项临床研究证实受损的胰腺组织可作为一种炎症或者抗原刺激物导致机体免疫功能及细胞网络出现紊乱，造成瀑布级别的炎症反应[20,21]。CAM-1 主要于血管内皮细胞中表达，能够调控血管内皮与白细胞之间的黏附，诱导白细胞发生趋化，刺激其释放大量的自由基及酶，导致组织出现受损[22,23]。SIL-2R 可影响活化淋巴细胞的活性，导致免疫反应过度，且可竞争性结合 IL-2，抑制免疫功能[24]。且 SIL-2R 可使 IgE 浓度及 B 淋巴功能受到影响，降低机体免疫功能，引起免疫逃逸。Th1 细胞受到多种因素因素刺激后能够分泌 IL-2，提高细胞毒性，调控免疫反应，急性炎症反应时其浓度明显降低[25]。本研究显示治疗后两组血清 CAM-1、SIL-2R 均有显著下降，但异甘草酸镁组以上指标降低更明显，且血清 IL-2 水平明显增加，提示联合异甘草酸镁治疗能够明显调节机体的炎症反应，促进机体内环境的稳定，从而有利于患者恢复。

急性重症胰腺炎发病期间由于氧自由基、炎性因子的大量聚集，能够引起多个器官的功能发生衰竭，其中对肝肾的影响较为明显。有关实验证实最早发生损伤的脏器即肝脏，能够导致病情加重，并对预后形成直接影响，严重者能够进展为肝脏衰竭，增加患者病死率[26,27]。肝细胞受损时能够增加细胞膜的通透性，诱导多种因子细胞因子到达血液，引起肝脏功能减弱，并为其他器官损伤提供基础[28]。临床研究报道急性重症胰腺炎患者多种因子浓度均显著增加，随着患者病情的显著缓解，其浓度明显下降。有研究指出 CAM- 1 能够诱导单核细胞及白细胞对肾脏上皮细胞发生粘附作用，导致毒性产物的堆积，引起肾小球发生损伤，尿素氮水平升高可提示伴慢性肾炎的可能[29]。血肌酐是机体的肌肉代谢产物，其水平与肾小球率过滤呈反比。两组治疗后肝肾功能指标均有一定改善，但异甘草酸镁的变化幅度更大，说明其有利于对脏器功能的保护，减轻其损伤，从而有效调整机体状态，更有利于机体的恢复，可能与其能够使肝细胞膜保持稳定有关[30,31]。同时，研究显示急性重症胰腺炎

治疗期间均未见明显不良反应,说明其安全性高,未增加患者的负担。

综上所述,与常规治疗相比,异甘草酸镁可显著提高急性重症胰腺炎的临床效果,降低血清 CAM-1、SIL-2R、IL-2 水平,保护肝肾功能。

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