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论著

自体腹膜覆盖聚丙烯补片抗粘连作用的实验研究

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摘要

目的 研究在大鼠腹腔内植入聚丙烯（polypropylene PP）补片并以补片旁腹膜覆盖后能否减少聚丙烯补片引起的腹腔粘连 。方法：选用SD大鼠120只，分为裸露组（A组）、转移组（B组）、翻转组（C组）及游离组（D组），将聚丙烯补片植入大鼠腹腔，以A组作为对照，B、C、D组采用不同的腹膜覆盖的方法,在术后3、7、28d分别处死大鼠，进行大鼠腹腔内粘连程度检测、组织学检查及扫描电镜检查以了解补片表面的粘连情况。 结果：术后3d，对照组A组的聚丙烯补片表面粘连较实验组B、C、D组明显（P<0.05）；术后7d及28d，A组和D组聚丙烯补片表面粘连明显较B、C组明显（P<0.05）。术后7d各组补片表面的粘连较3d时明显，术后28d时粘连与7d时相似。补片表面没有粘连的区域术后7d可见有腹膜覆盖。结论：转移及翻转的腹膜能在聚丙烯表面存活并能减少其表面的粘连，而游离的腹膜坏死后并不能减少聚丙烯补片表面的粘连。

关键词 聚丙烯；补片；切口疝；腹膜；粘连

分类号

Experimental study on peritoneum's reduction on adhesions to polypropylene mesh inserted in peritoneal cavity in rats

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Abstract

Objective To study whether peritoneum can reduce adhesions to polypropylene mesh inserted in peritoneal cavity in rats. Methods In 120 male SD rats, polypropylene mesh was inserted in peritoneal cavity with adjacent peritoneum covered in different ways (Group A: Blank contrast; insert polypropylene mesh into peritoneal cavity, fixed on four angles using 5-0 absorbable threads. Group B: Insert polypropylene mesh into peritoneal cavity, cover the mesh with transferred adjacent peritoneum, fixed on four angles. Group C: Insert polypropylene mesh into peritoneal cavity, cover the mesh with upturned adjacent peritoneum, fixed on four angles. Group D: Insert polypropylene mesh into peritoneal cavity, cover the mesh with disconnected peritoneum, fixed on four angles.) Rats were sacrificed at various time intervals. Adhesion formation at the surface of polypropylene mesh was evaluated. Samples underwent both light and scanning electron microscopy. Results On the third day after operation, adhesions to polypropylene mesh in Group A are much severer than Group B,C,D(P<0.05). On the seventh and the twenty-eighth day, adhesions are much severer in Group A and D (P<0.05). The areas where no adhesion was found were covered with a converging mesothelial cell layer on day 7. Conclusion: Peritoneum transferred or upturned from adjacent areas (Group B and C) can reduce adhesions onto polypropylene mesh, but disconnected peritoneum (Group D) has no effect on reducing adhesions due to inflammatory reaction caused by the necrosis of peritoneum.

Key words polypropylene；mesh；incisional hernia；peritoneum；adhesion

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