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ORIGINAL ARTICLE

Laparoscopic cure of small ventral hernias with composite mesh

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Abstract
Background The use of mesh is recommended to reduce the rate of recurrence after the curing of ventral hernias.
Methods A multicentre prospective trial was conducted to assess the laparoscopic cure of small ventral hernias with a composite mesh.
Results Around 222 patients entered the trial and received laparoscopic repair for ventral hernias of less than 5 cm. There was one conversion. The mean length of post-operative hospitalisation was 2.5 days. At 1 year, the recurrence rate was 2%. Two meshes were removed due to infection, 3% of the patients were using analgesics and 86.1% of the patients described no pain on EVA scoring.
Conclusion The laparoscopic cure of small ventral hernias with composite mesh is efficient. Further technical progress is warranted to reduce the rate of seroma formation.

Keywords Composite mesh · Incisional hernia · Laparoscopy · Umbilical hernia

Introduction

Meshes are more effective than sutures in the management of umbilical and incisional hernias [1–3]. Most trials have used polytetrafluoroethylene (PTFE) or polypropylene material. Recently, a composite mesh has been introduced which can be used in the peritoneal cavity without causing adhesions on the visceral layer, yet, with adequate rehabilitation by fibroblasts [4].

A multicentre prospective trial was conducted to assess the efficacy and feasibility of laparoscopic cure with composite mesh for small umbilical or incisional hernias. Because of the very recent use of composite mesh on humans, this trial was not randomised.

Patients and methods

Club Coelio is a group of 50 surgeons involved in laparoscopic surgery. To be included, patients should have umbilical or incisional hernias less than 5 cm, repaired by laparoscopy with Parietex (Sofradim, 01600 Trevoux, France.) composite mesh. This device is constructed with a three-dimensional multifibre polyester mesh 1.5-mm thick, with a hexagonal motif protected on one side by a continuous, hydrophilic and resorbable film. This transparent film is made from a mixture of oxidised atelocollagen type I, polyethylene glycol and glycerol, in order to protect the viscera from direct contact with the mesh during the process of tissue integration. The large pore size (1,220×1,630 μm) of this three-dimensional mesh allows a quick and complete integration on the parietal side whilst preventing adhesion and visceral erosion on the intra-abdominal side.

The size of 5 cm was clinical at the pre-operative visit. The real surface of the defect was evaluated during operation. The peritoneal layer had to be clear of omental adhesion and falciform ligament on the entire surface of the defect and for a minimum of 3 cm in all axes.

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