

Hernia



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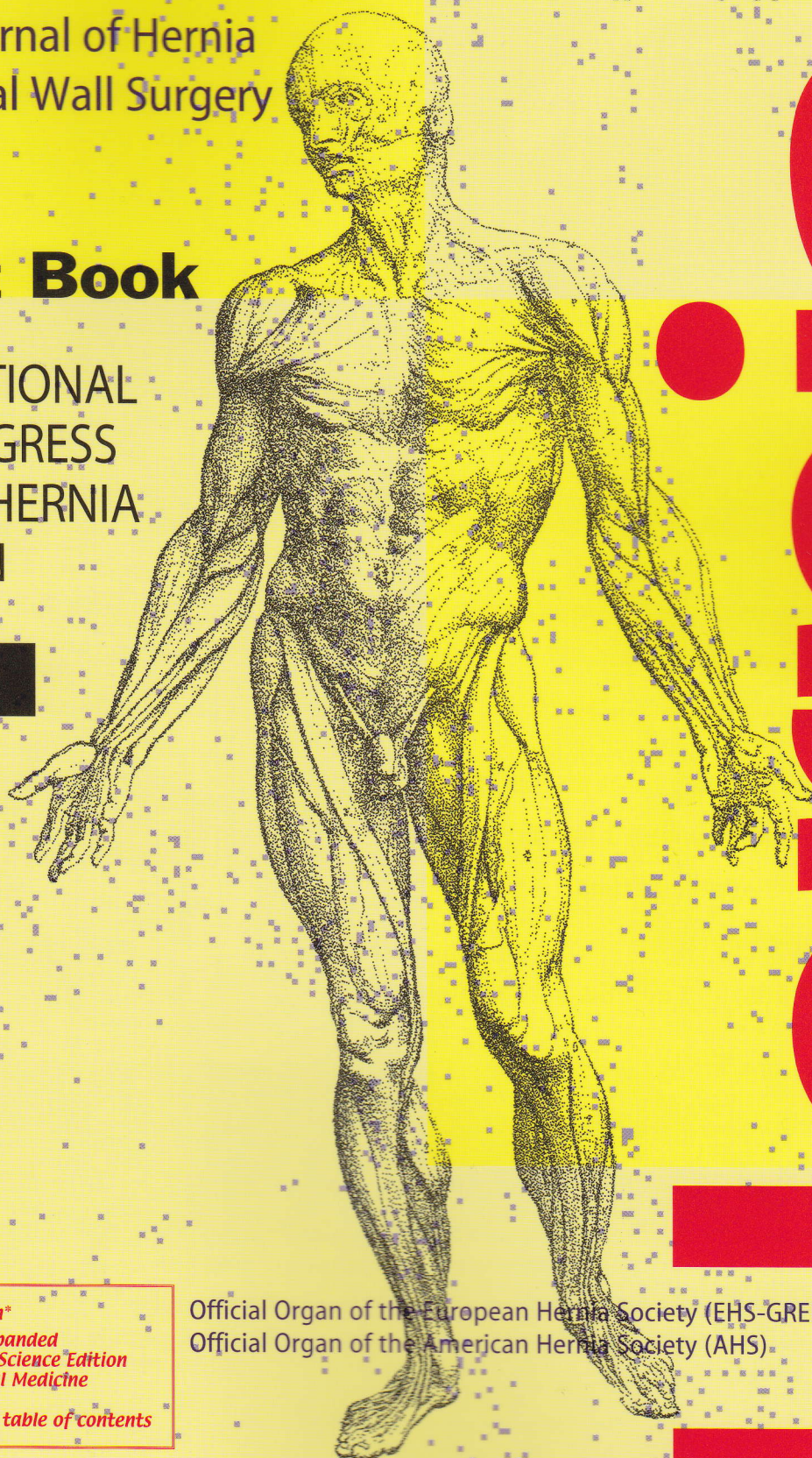
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tological study. 15 cadavers without hernia served as control. The tissue excised demonstrated several histological changes. Among these, fibrohyaline degeneration and fatty dystrophy of the myocytes. Besides limpho-histiocytic and plasmacellular clusters, we found also vein fibrosis and congestion. The arterial structures showed thickening of the media due to hyperplasia leading to sub-occlusion, or even complete arterial obstruction. The nerves clearly demonstrated fibrotic degeneration, atrophy of the axons and thickening of the myelin sheath. The impact of these injuries on the physiology and kinetics of the groin, suggests the following scenario to be a realistic one:

- Degenerative changes of motor nerves and thickened myelin sheath could reduce motility, leading to muscle atrophy and to a weakened contractile response to visceral impact, when abdominal pressure arises.
- An additional weakening effect is consequent to artery sub-occlusion and obstruction, leading to ischemic degeneration of the groin structures.
- Venous congestion, vein fibrosis and inflammatory infiltrate could embody the outcome of chronic compression exerted by the abdominal viscera, followed by tissue edema and impaired metabolism.
- Hyaline degeneration, fibrosis and fatty muscle dystrophy could represent the result of the damages of the vascular and nervous structures.
- These multifactorial muscular injuries are probably amplified by the direct compression of the viscera upon the lower abdominal wall.

The described outcome may facilitate understanding the multifactorial causes of the weakening of the inguinal area leading to hernia protrusion. A deeper knowledge of these mechanisms could result useful in developing more physiologic hernia repair systems.

P-1439

Fixation-free inguinal hernia repair, using a dynamic self-retaining implant inducing enhanced biologic response. Results of a midterm follow up

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Introduction: Implant fixation and how to ensure adequate mesh overlap are key issues in abdominal hernia repair. A newly developed technique for ventral and incisional hernia repair using a proprietary implant with incorporated straps makes fixation unnecessary through tissue friction. This new implant allows for a broader coverage of the abdominal wall and results in simplified repair. Midterm follow-up in a cohort of patients indicates a decrease in postoperative complications and no recurrences to date.

Material and methods: A lightweight, large porous polypropylene mesh with a central body and eight radiating arms was used to repair ventral or incisional hernia. The implant was placed in open preperitoneal or retromuscular sublay in 30 patients. The straps were delivered by means of a proprietary needle, tunneled laterally through the abdominal wall muscles.

Results: There were no significant intraoperative complications to report. An overlap of the defect of at least 30% was achieved in all patients. In a follow up from 30 to 36 months, 3 seromas and 1 infection occurred, successfully managed without mesh removal. Postoperative ultrasound detection showed that all straps were well integrated within the abdominal wall. No mesh dislocation, hematoma, chronic pain or recurrences have been reported to date.

Conclusions: The described prosthetic straps system allowed for much smaller incisions and eliminated challenging maneuvers associated to mesh fixation. The straps showed to ensure a firm, correctly orientated mesh positioning. A very wide lateral mesh placement with broad defect overlap was accomplished. Friction and straps elongation helped to absorb forces impacting the implant during early recovery, avoiding mesh dislodgement. In our belief these advantages are clearly demonstrated and result in: fixation-free mesh placement, simplified procedure, broader coverage of the abdominal wall, shortening of the operative time. Additional advantages are decreased postoperative complications and absence of recurrences.

P-1440

Fixation free prosthetic repair of large umbilical hernia granting a broad defect overlap

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Introduction: Umbilical hernia is a common surgical disease, accounting for 10–14% of all hernias and having many therapeutic options. Pure tissue repair is affected by a recurrence up to 40%. Prosthetic mesh repair is now widely utilized with a decrease of recurrences up to 10%. Nevertheless, if large defect are present, assuring a wide overlap and a fixation-free technique still represent an issue. In this report we describe the outcomes of an umbilical hernia repair technique via a new implant with radiating straps at its boundary.

Material and methods: A light weight, large porous polypropylene implant having a central body of 12x15 cm in diameter and eight radiating straps was used to repair umbilical hernia in 31 patients with defect size >2 cm.

The implant was placed via open technique in preperitoneal or retromuscular sublay position. To secure the mesh in place, the straps were tunneled laterally through the rectus muscles by using a specially designed passing needle. No fixation of the implant was necessary. Median follow-up was 2,8 years (range 3,6-2 years).

Results: With this new method and prosthetic implant we achieved a simplified and faster surgical procedure. There were no intraoperative complications to report. In the follow up, we recorded 2 seromas. No hematoma, chronic pain, strap pain or recurrences have been reported to date.

Conclusions: The integrated straps seemed to allow a very wide lateral mesh placement, assuring sufficient defect overlap; important if mesh shrinkage occurs. The inherent elongation of the straps helps to absorb forces exerted upon the implant during early recovery, thus avoiding mesh dislodgement in this critical phase before tissue ingrowth has occurred. These advantages are clearly demonstrated and result in: fixation-free mesh placement, simplified procedure, broader coverage of the abdominal wall, shortening of the operative time and decreased postoperative complications.

P-1441

Bioabsorbable synthetic mesh for abdominal wall reconstruction in a complex operative field

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Options for treating patients who have an abdominal wall defect and contamination of the operative field are limited. Removal of the mesh is typically required, but repair with permanent synthetic mesh is inadvisable. Expensive biologic mesh has been promoted as a solu-