PT-1.5 Laparoscopic transabdominal preperitoneal hernia repair (TAPP): Comparison of a 35g/m2 titanized polypropylene mesh with a 16 g/m2 titanized polypropylene mesh - A prospectively randomized single blinded clinical trial

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Aims: The aim of this prospectively randomized single blinded clinical trial was to compare the incidence of chronic pain after laparoscopic transabdominal preperitoneal hernia repair (TAPP) between a 35g/m2 titanized polypropylene mesh (TiMesh-Light) and a 16 g/m2 titanized polypropylene mesh (TiMesh-Extralight).

Methods: 380 patients with 466 inguinal hernias were operated between 2002 and 2006 using laparoscopic transabdominal preperitoneal (TAPP) technique. Mesh fixation with staples was carried out routinely. After the dissection was completed just prior to the implantation of the mesh, patients were randomized into two groups. In Group A 250 (53.6 %) inguinal hernias were repaired with a 35g/m2 TiMesh-Light and in Group B 216 (46.4 %) inguinal hernias were repaired with a 16 g/m2 titanized polypropylene mesh TiMesh-Extralight. The primary outcome consisted in chronic pain 3 years after surgery. The degree of pain was determined using visual analogue scale (VAS) with a range from 0 to 10. The secondary outcome consisted in the rate of recurrence.

Results: The postoperative period of observation comprised at least three years for every patient. In both groups 90 % of the patients could be questioned and examined clinically; in Group A 5.3 % (TiMesh-Light) and in Group B 1.5 % (TiMesh-Extralight) of the patients suffered from chronic pain. Chronic pain was significantly more common in Group A than in Group B (p=0.037). There was no difference concerning the rate of recurrence: Group A 3.1 % and Group B 2.6 %, between the groups (p=0.724).

Conclusion: Chronic pain is not very common in patients having their inguinal hernias repaired with titanium covered polypropylene mesh. Reducing the material load from 35 g/m2 to 16 g/m2 seems to further improve biocompatibility of these meshes improving clinical outcome by reducing chronic pain to a rare event. The role of staples in causing chronic pain following inguinal hernia repair may be overestimated. There was no evidence supporting the notion that the use of the 16 g/m2 titanized meshes is associated with increased recurrence rates.