Long-term comparison of recurrence rates between lightweight and heavyweight meshes in Open anterior mesh inguinal hernia repair

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Conclusion

76495 consecutive inguinal hernias, recruited from the national Swedish Hernia Register, demonstrates that regular lightweight meshes (LWM) were not associated with increased risk of recurrence.

Considering that LWM also have advantages in lesser side-effects, there are no benefits of using heavyweight meshes (HWM) in Open anterior mesh (OAM) inguinal hernia repair.

Background

Lightweight meshes have shown benefits compared to heavyweight meshes in terms of accelerated recovery after surgery with less postoperative pain. The use of such meshes may, however, be associated with an increase in hernia recurrence.

Aim

To identify risk factors of reoperation for recurrence in OAM inguinal hernia repair with special focus on comparing long-term recurrence rates between different types of LWM and HWM.

Methods

All OAM groin repairs registered in The Swedish Hernia Register between 1 January 2005 and 31 December 2013 were eligible. Follow up time was until 30 June 2016.

Four groups of meshes were included:

• Polypropylene (PP) HWM > 50 g/m²
• Regular PP LWM < 50 g/m²
• Composite PP LWM with absorbable poliglecaprone-25 (Ultrapro) (LWM-PP/PGC)
• Composite PP LWM with absorbable polyglactin-910 (Vypro) (LWM-PP/PG)

Primary endpoint was reoperation for recurrence.

Results

76495 elective OAM inguinal hernia repairs in male patients were included for statistical analysis.

1676 (2.2%) repairs were reoperated for recurrence.

Multivariate analysis demonstrated no significant difference of reoperation risk for recurrence between HWM and regular LWM (HR 1.12, 95% CI 0.96-1.31, P=0.13). LWM-PP/PGC (HR 1.42, 95% CI 1.25-1.61, p<0.001) and LWM-PP/PG (HR 2.05, 95% CI 1.79-2.34, p<0.001) resulted in a significant increased risk compared to HWM.

Larger hernia defects, direct hernias and recurrent hernias were all associated with an increased risk of reoperation for recurrence.

Future directions

To investigate and compare patient-reported outcome of chronic pain of different type of meshes through the nationwide population based hernia register.