

Internal limiting membrane peeling should be performed in all cases of full thickness macular holes

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Advantages:

Surgery for macular hole with 0.05 % isotonic indocyanine green (ICG)-assisted internal limiting membrane (ILM) peeling results in a better anatomic outcome than vitrectomy alone without significantly reducing the functional potential.

Methods:

Randomized clinical trial of stage 2 and 3 idiopathic macular hole without visible epiretinal fibrosis and with less than 1-year duration of symptoms. Eyes were randomized to (1) vitrectomy alone without retinal surface manipulation, (2) vitrectomy plus 0.05% isotonic ICG-assisted ILM peeling or (3) vitrectomy plus 0.15% Trypan blue (TB)-assisted ILM peeling. Main outcomes were hole closure after 3 and 12 months and best-corrected visual acuity in ETDRS (Early Treatment of Diabetic Retinopathy Study) letters after 12 months.

Effectiveness / Safety:

78 eyes were enrolled. Primary closure rates were significantly higher with ILM peeling than without peeling for both stage 2 holes (ICG-peeling 100%, non-peeling 55%, $p = 0.014$) and for stage 3 holes (ICG-peeling 91%, TB-peeling 89%, non-peeling 36%, $p 0.001$). Visual outcomes in eyes with primary hole closure (72.8 ETDRS letters) were not significantly different between the groups whereas re-operated eyes (66.4 ETDRS letters) performed significantly worse in all visual outcome parameters compared to eyes with primary macular hole closure ($p = 0.007$), underlining the importance of closing the macular hole in one procedure by performing ILM peeling in all cases of full thickness macular hole surgery.

Take home message:

ILM peeling should be performed in all cases of full thickness macular hole surgery and the use of 0.05 % isotonic ICG-assisted ILM peeling seems to be safe alternative.