

# The Use of Fibrin Glue in Pterygium Surgery with Amniotic Membrane Transplantation: A Systematic Review and Meta-Analysis

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## Introduction:

Amniotic membrane transplantation (AMT) has been used in pterygium surgery instead of conjunctival autograft to reduce the rate of recurrence. This is the first meta-analysis to compare the outcomes of using fibrin glue versus sutures with AMT in pterygium surgery.

## Methods:

This study was conducted as per the PRISMA guidelines. Five electronic databases were used to include all studies comparing use of fibrin glue versus sutures in pterygium surgery with AMT.

## Results

Four RCTs enrolling 180 patients were identified.

### Primary outcomes - Conjunctival inflammation:

A statistically significant less amount of conjunctival inflammation was seen in the fibrin glue group (OR = 0.21, CI = 0.08 to 0.50, P = 0.0005).

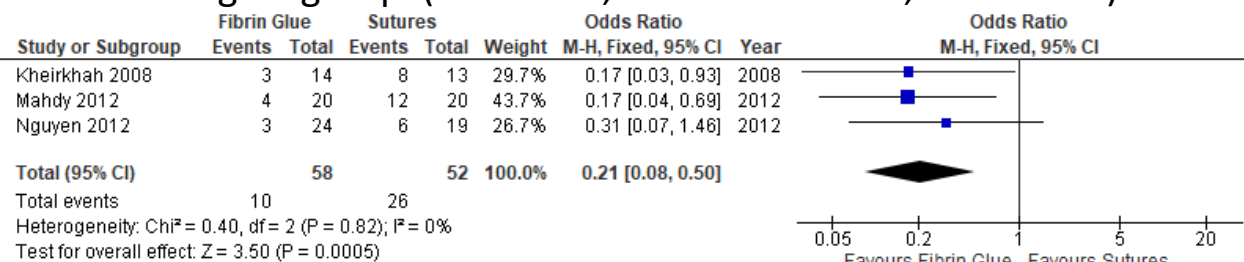


Figure 1 – Forest plot of conjunctival inflammation

### Post-operative discomfort:

There was no statistically significant difference seen in the odds ratio analyses between the two groups (OR = 0.46, CI = 0.12 to 1.73, P = 0.25).

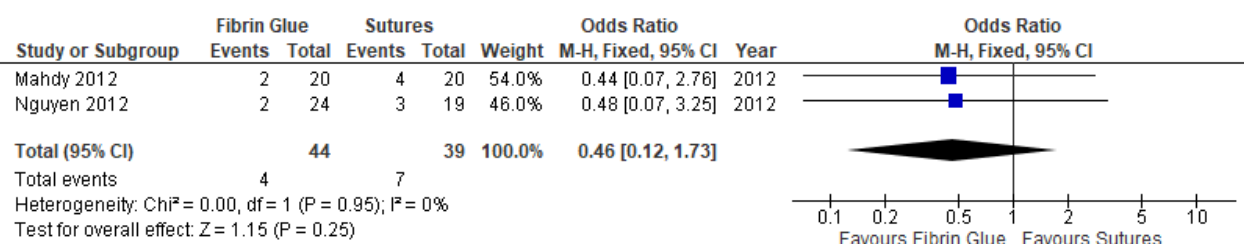


Figure 2 – Forest plot of post-operative discomfort

## Pterygium recurrence:

There was no statistically significant difference seen in the odds ratio analyses (OR = 0.74, CI = 0.33 to 1.70, P = 0.48)

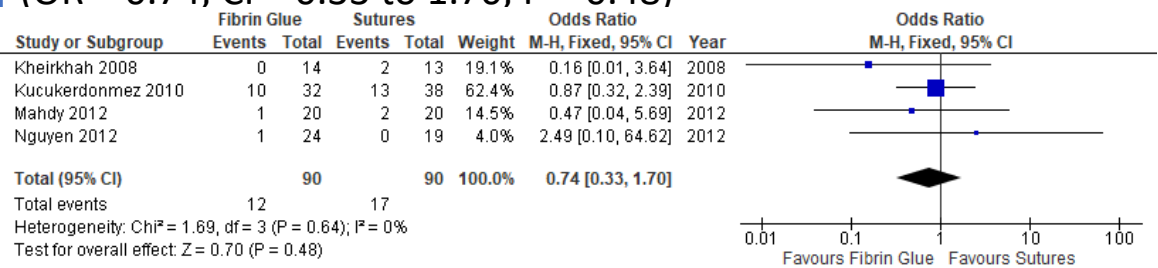


Figure 3 – Pterygium recurrence

## Pyogenic granuloma:

There was no statistically significant difference seen in the odds ratio analyses (OR = 0.47, CI = 0.09 to 2.52, P = 0.38).

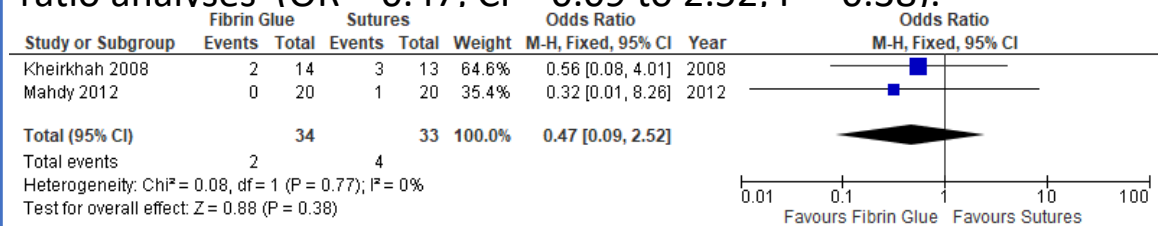
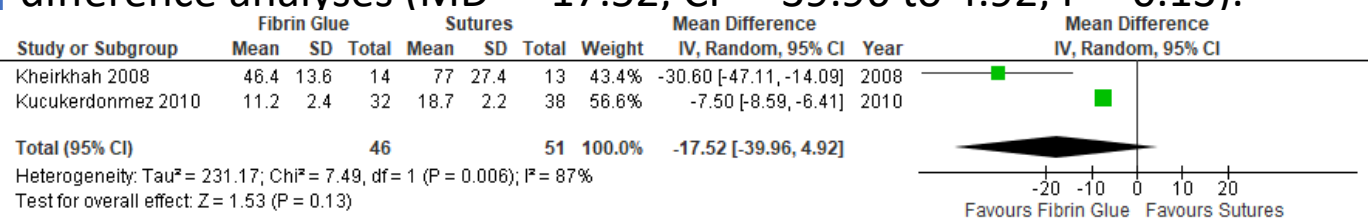


Figure 4 – Pyogenic granuloma

## Surgical time:

There was no statistically significant difference seen in the mean difference analyses (MD = -17.52, CI = -39.96 to 4.92, P = 0.13).



## Secondary outcomes:

Fibrin glue had significantly less cases of graft loss compared with sutures. No statistically significant difference was found in amniotic membrane graft outcomes, time to recurrence and subconjunctival haemorrhage.

## Conclusion:

Fibrin glue is comparable to the sutures used in the pterygium surgery with amniotic membrane transplantation. More studies are required to further support the findings of this study.