Amblyopia Treatment Study (ATS) Atropine vs. Patch - 2002

THE LENS

Objective

To compare patching to atropine treatment in children 3-7 years of age with moderate amblyopia

Methods

Design: RCT

Sample Size: N = 419
- 3-7 year-old children with amblyopia and VA between 20/40 and 20/100

Treatment Groups:
- 1 drop of 1% Atropine per day in amblyopic eye (N = 204)
- Control: adhesive skin patch for >6 hours per day (N = 215)

Outcome Measures:
- Visual acuity in amblyopic and non-amblyopic eye after 6 months

Results

Point 1: Improvement of amblyopic eye VA was more rapid in the patching group, but similar at 6 months
- At 5 weeks, patching improved VA by 2.22 lines while atropine improved VA by 1.37 lines in amblyopic eye
- At 6 months, patching improved VA by 3.16 lines while atropine improved VA by 2.84 lines. This difference was significant but is unlikely to be clinically meaningful
- At 6 months, patching was 79% successful while atropine was 74% successful (20/30 or better in amblyopic eye)

Point 2: Atropine may be easier to administer and cheaper
- Patching compliance was good or excellent in 83%, while atropine compliance was good or excellent in 95%
- Parent survey's suggested atropine was easier to administer than patching, but both were well tolerated in the first month
- The cost for patching was approximately $100 per 6 months, and $10-$60 for atropine

TLDR: Atropine is nearly as effective as patching in treating moderate amblyopia in children ages 3-7; and while patching was the standard, atropine may be easier to administer as well as cheaper.

Pediatric Eye Disease Investigator Group. A randomized trial of atropine vs. patching for treatment of moderate amblyopia in children. Arch Ophthalmol. 2002;120(3):268-278. doi:10.1001/archopht.120.3.268