

Bevacizumab for Retinopathy of Prematurity (BEAT-ROP) Study – 2011



Objective

To assess the efficacy of intravitreal bevacizumab monotherapy vs. conventional laser therapy in reducing the incidence of recurrent zone I or zone II posterior stage 3+ retinopathy of prematurity (ROP)

Methods

Design: Multicenter, prospective RCT

Sample Size: 143 infants with stage 3+ ROP

Treatment Groups:

- Conventional laser therapy
 - 33 zone I ROP
 - 40 zone II posterior ROP
- Intravitreal bevacizumab
 - 31 zone I ROP
 - 39 zone II posterior ROP

Outcome Measures:

- Recurrence of neovascularization requiring retreatment by 54 weeks' postmenstrual age

Results

Point 1: Rate of ROP recurrence was higher with conventional laser therapy than with intravitreal bevacizumab.

- The rate of recurrence was significantly higher with conventional laser therapy (26% [19/73 infants]) than with intravitreal bevacizumab (6% [4 of 70 infants]).
- Odds ratio (of recurrence) with bevacizumab, 0.17; 95% CI: 0.05-0.53; P= 0.002.
- The absolute difference between the two groups in the risk of recurrence was 20 percentage points (95% CI, 9 to 32).

Point 2: Significant treatment effect was found for zone I retinopathy of prematurity but not for zone II disease.

- Recurrence with zone I disease alone was significantly higher with laser therapy than with bevacizumab (42% [14/33 infants] vs. 6% [2/31 infants]; odds ratio with bevacizumab, 0.09; 95% CI 0.02-0.43; P=0.003).
- Recurrence with zone II disease alone did not differ significantly between laser therapy (12% [5/40 infants]) and bevacizumab (5% [2/39 infants]); odds ratio with bevacizumab, 0.39; 95% CI 0.07-2.11; P = 0.27).

TLDR: Intravitreal bevacizumab monotherapy in infants with stage 3+ ROP showed a significant benefit for zone I but not zone II disease, when compared with conventional laser therapy.