

Macular OCT findings in ROP patients treated with both laser and bevacizumab



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Introduction:

Several studies have reported structural eye changes related to prematurity such as steeper corneal curvatures, shallower anterior chamber depth and thicker lens. Recently, optical coherence tomography (OCT) has been used to study macular changes associated with this condition^[1,2]. An increased foveal thickness seems to be an hallmark of prematurity. No articles on PubMed report OCT findings of premature infants treated with bevacizumab.

Objective:

To describe macular OCT findings of patients with history of retinopathy of prematurity (ROP) treated with both laser and bevacizumab.

Methods:

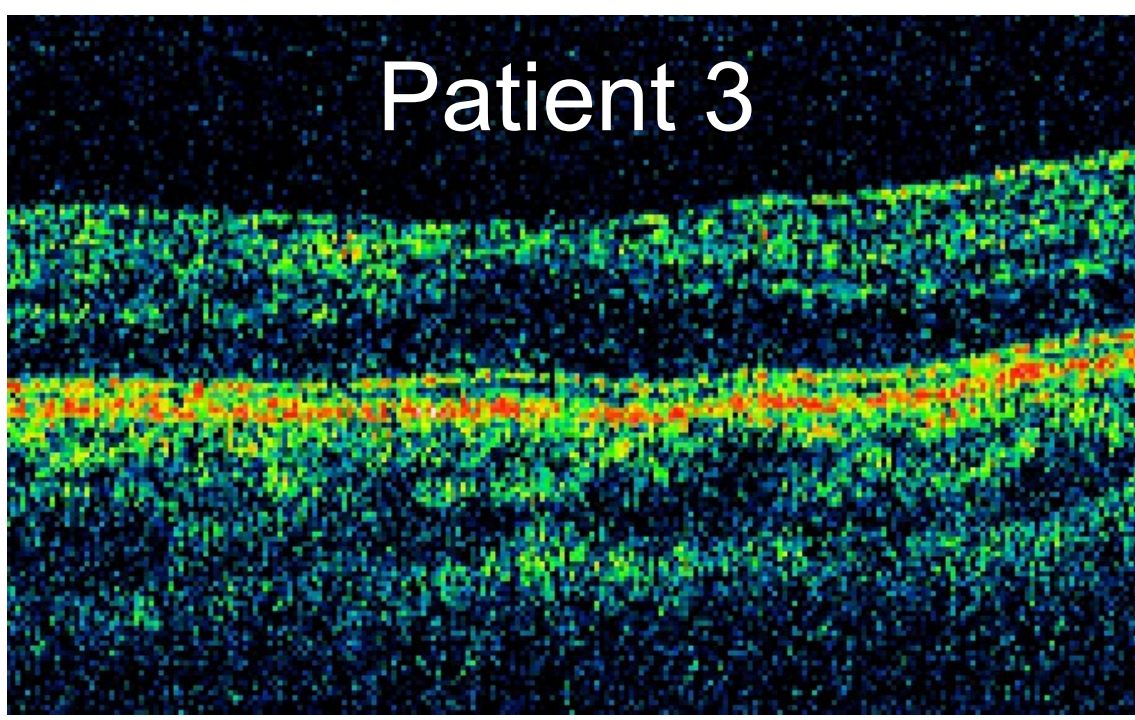
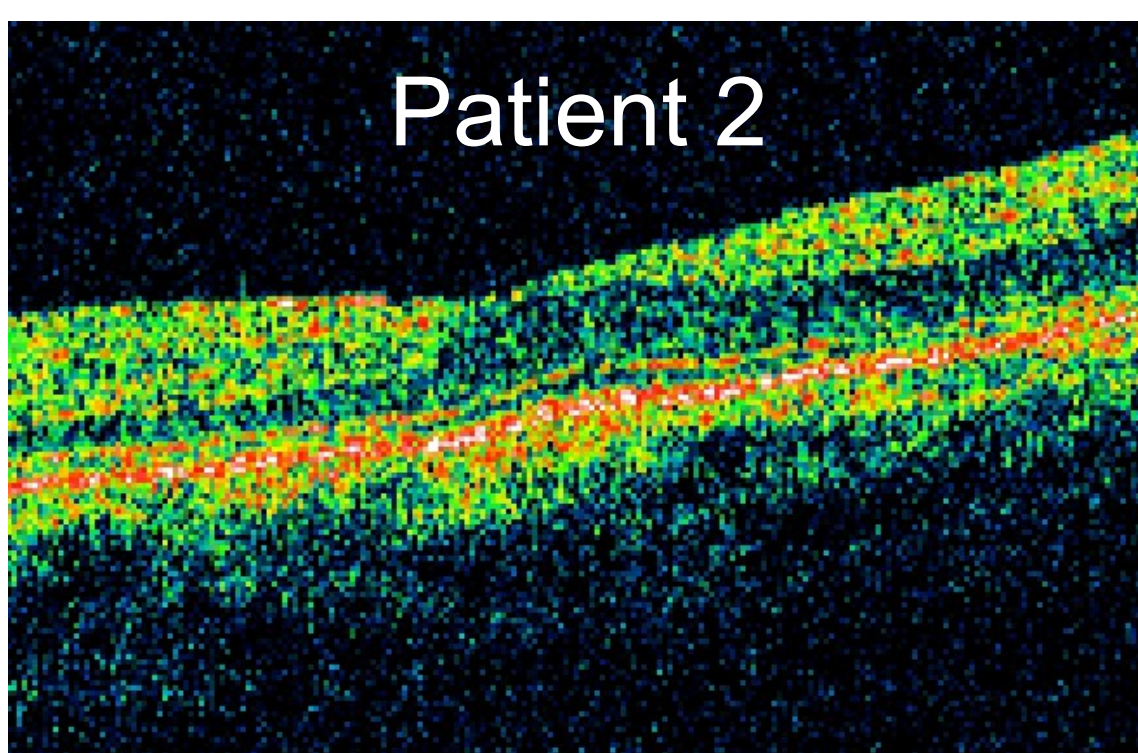
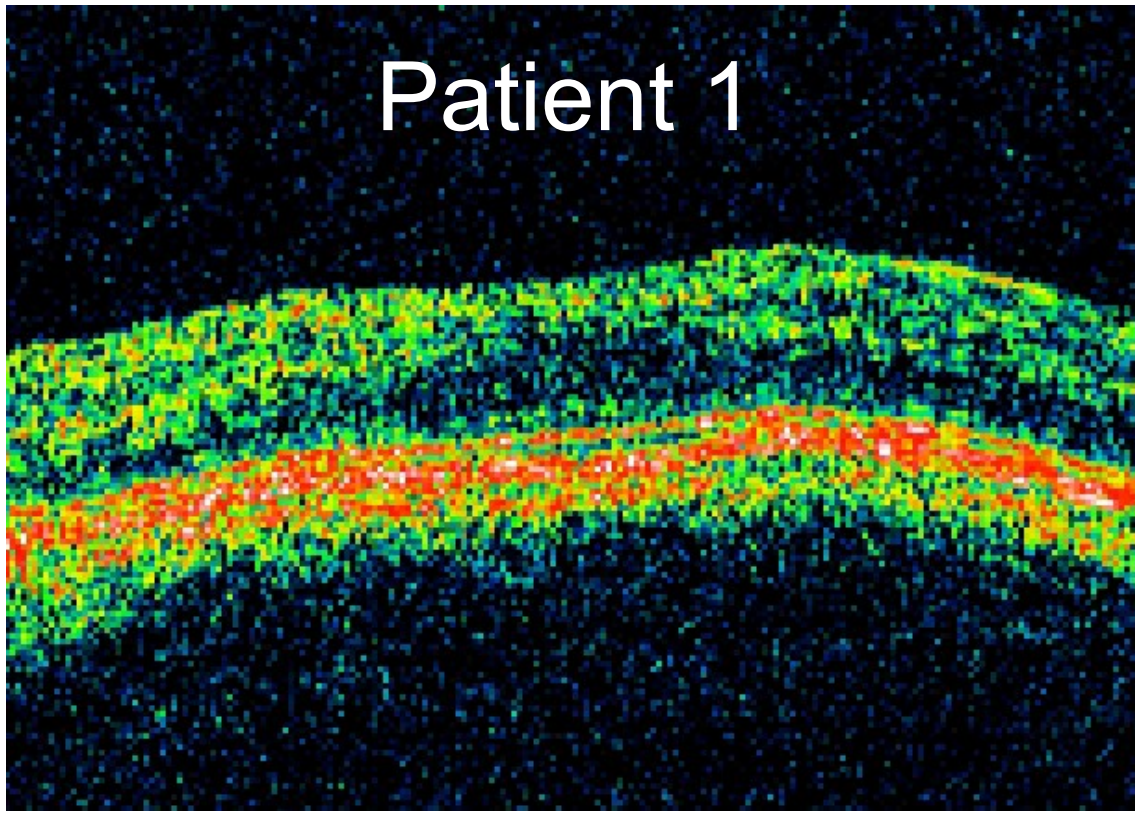
Clinical records and OCT (Stratus OCT™ Carl Zeiss Meditec) findings of the first 3 patients treated with both laser and bevacizumab at our hospital were reviewed. Control group was comprised by patients that were subject to laser treatment and better matched birth weight and gestational age. One eye from each patient was randomly chosen. The main outcome measure was foveal and parafoveal retinal thickness.

Results:

7 eyes of 7 patients with type 1 (stage 3+) disease were studied. All eyes were submitted to laser ablation of peripheral retina. The 3 patients in bevacizumab group were treated with secondary intra-vitreous injection (0.03mL 25mg/mL). Average birth weight was 553± 92g in the bevacizumab group and 802± 43g in the laser group. Average gestational age was 25 weeks in the bevacizumab group and 26 weeks in the laser group.

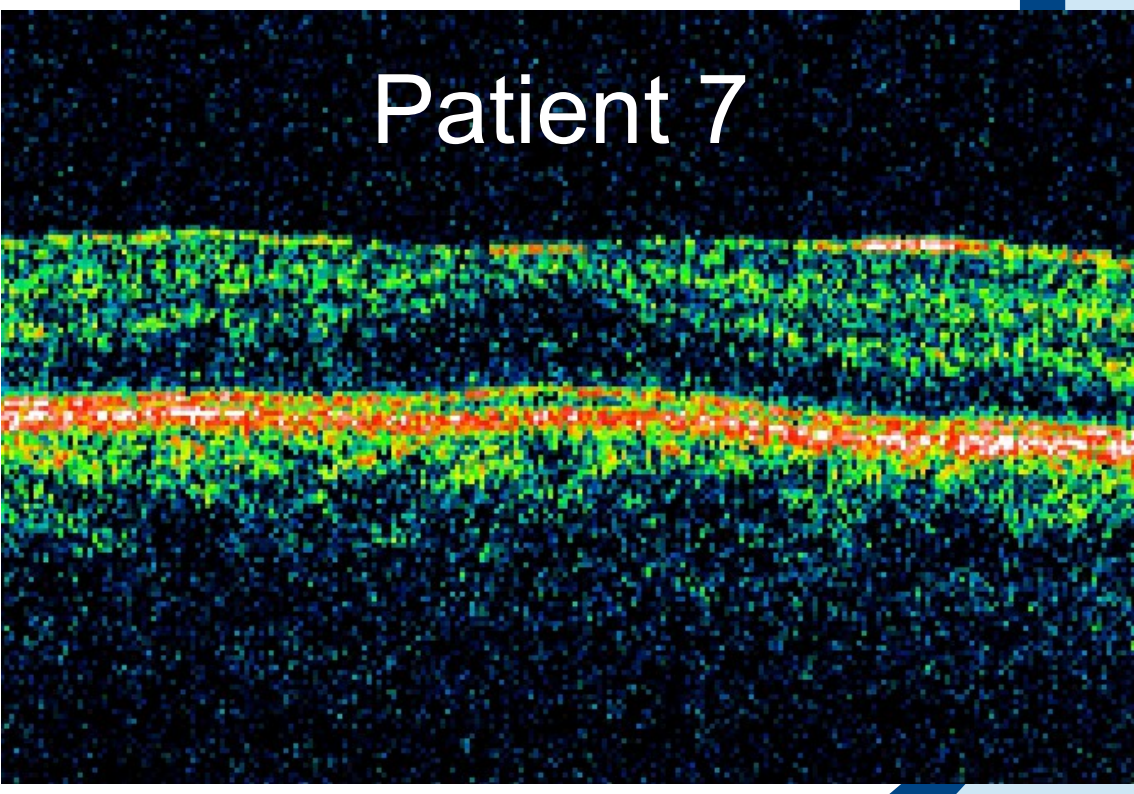
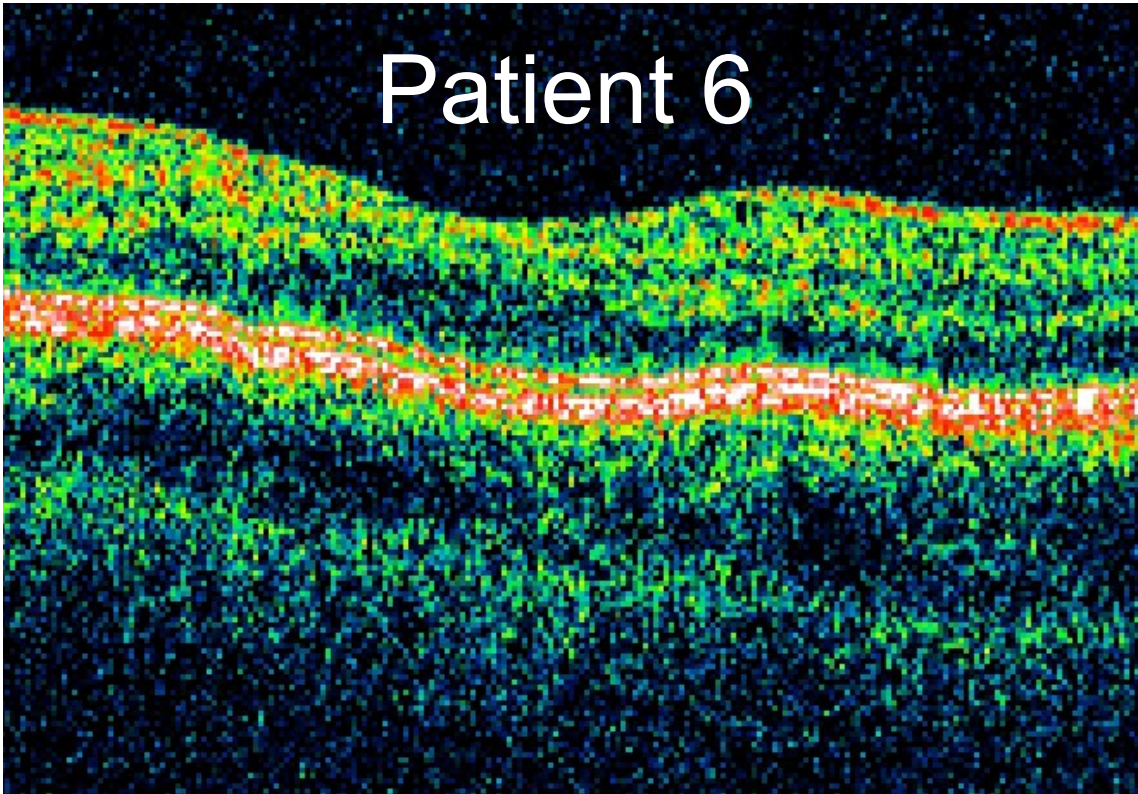
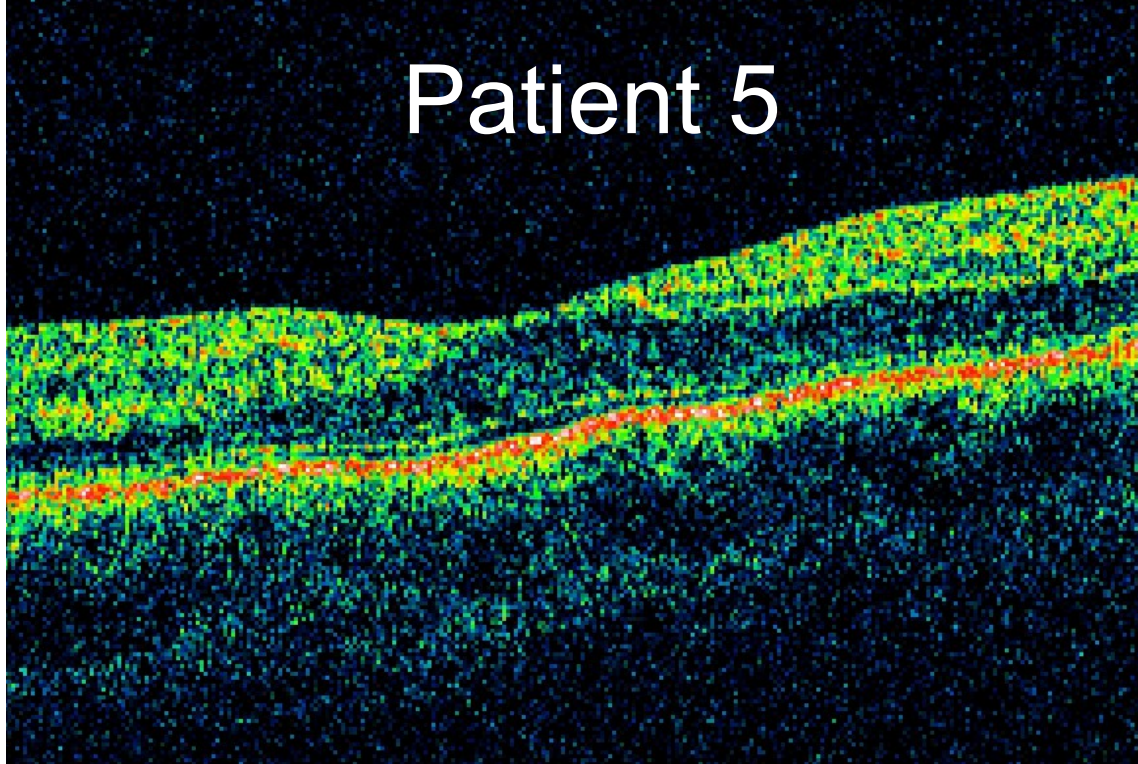
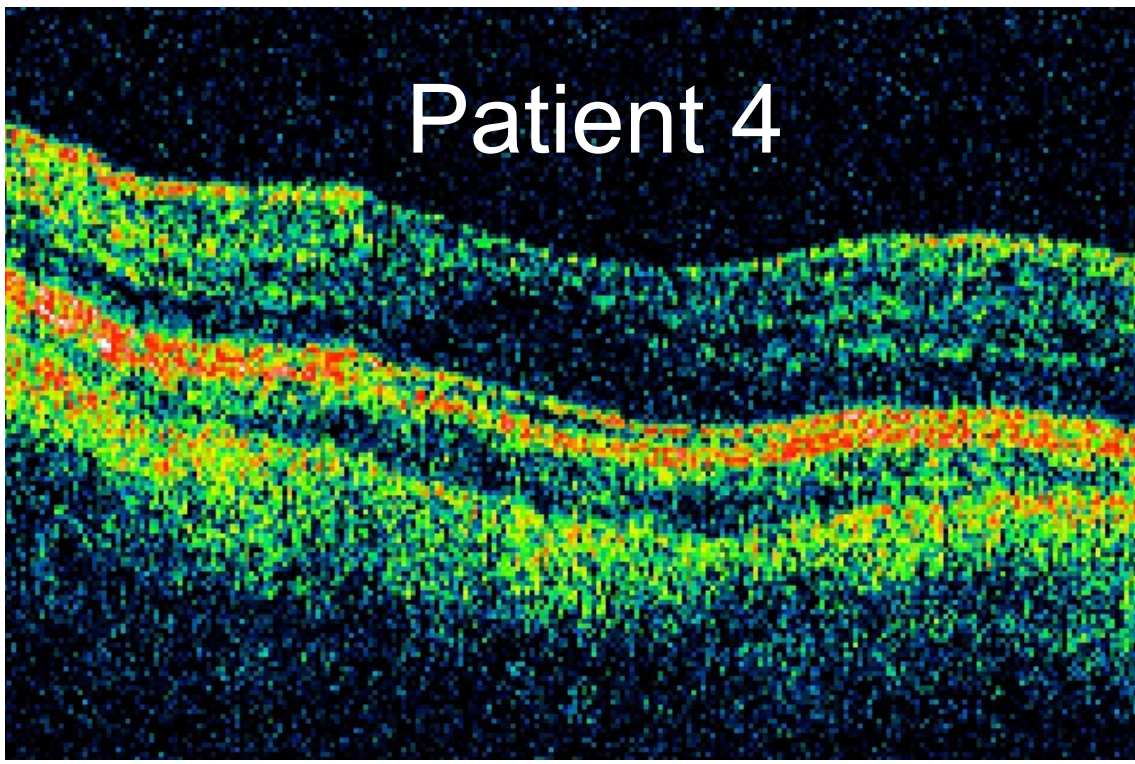
Bevacizumab group

OCTs at three years of age:



Control group

OCTs at between five and six years of age:



	Bevacizumab Group	Control Group
Mean parafoveal thickness (µm)	219 ± 18	256 ± 11
Mean foveal thickness (µm)	208 ± 20	243 ± 13
Mean foveal depression (µm)	10.7 ± 4.0	13.0 ± 2.7

Conclusion:

Recent studies in the literature have shown an increased foveal thickness in premature infants with or without ROP. We report the same findings in our small series of both laser and bevacizumab treated patients. The sample was too small to determine hypothetical differences related to treatment modality