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## Evaluation of a posterior vitreous detachment: A comparison of biomicroscopy, B-scan ultrasonography and optical coherence tomography to surgical findings with chromodissection

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**Purpose:** To find the most reliable and efficient non-invasive technique to detect a posterior vitreous detachment.

**Design:** In a prospective study on 30 eyes of 30 patients with macular pucker or macular hole formation the posterior vitreous cortex was examined by three independent investigators via slit-lamp biomicroscopy, 10 MHz b-scan ultrasound and optical coherence tomography via OCT III Stratus® (Carl Zeiss Meditec Inc. Dublin, CA) and RTVue-100-OCT (Optovue Corp., Fremont, CA). In each examination the state of the posterior vitreous adhaesion was classified as “attached” or “detached”. These findings were compared during a triamcinolone-acetonide-assisted vitrectomy one day later.

**Result:** Vitrectomy showed in 60% a posterior vitreous detachment and in 40% an attached posterior vitreous cortex. B-scan ultrasound and biomicroscopy revealed the highest, correct evaluation of the posterior vitreous status with 83% and 76% respectively. The prediction of the OCT only applied in 12.5% of all cases. In all other cases the evaluation by OCT was not possible or inadequate.

**Conclusion:** The prognostic most reliable, but investigator-dependent methods to detect whether the posterior vitreous cortex is detached, are b-scan-ultrasound and biomicroscopy. The objective technique of the high-resolution, two-dimensional time-domain OCT allows only in a few cases a clear differentiation of preretinal structures.

### Biography

Nadia Kičová has completed her M.D. in 2007 from Faculty of Medicine of Giessen, Germany. She completed her ophthalmology residency in University of Marburg. She obtained the title of FEBO in 2013 (Fellow of European Board of Ophthalmology). Her Ph.D. thesis was based on Electrophysiological Characterisation of *Escherichia coli*'s  $\alpha$ -Hämolysin induced Membrane Pores in Human Embryonic Kidney Cells (at the age of 30). She has published 8 papers in reputed journals and is the reviewer of 3 international journals.

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