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Abstract Information

Abstract Title:

The Influence of Central Corneal Thickness on Dynamic Contour Tonometry as Compared to Goldmann Applanation Tonometry

Purpose:

To assess the influence of central corneal thickness (CCT) and corneal curvature (CC) of dynamic contour tonometry (DCT, Pascal ® tonometer) as compared to Goldmann applanation tonometry (GAT).

Design:

Prospective clinical trial.

Participants:

One hundred eyes of 100 non-glaucomatous patients were prospectively enrolled.

Main Outcome Measures:

Intraocular pressure as measured with both GAT and DCT.

Methods:

GAT and DCT were measured in a sitting position at the slitlamp, CCT and CC were measured with an optical method. GAT was measured in a masked fashion.

Results:

A correlation of $r=0,69$ ($p<0,001$) was found between intraocular pressures (IOPs) measured with DCT and GAT. DCT resulted in a higher median IOP (+1,8 mmHg). GAT measurements were influenced by CCT ($r=0,375$, $p<0,001$) whereas DCT measurement were not ($p=0,756$). Both methods were not influenced by CC.

Conclusion:

DCT is a reliable new method for IOP measurements and is independent of CCT. Advantages can be expected for cooperative patients whereas GAT is more reliable in patients with reduced cooperation, low vision or nystagmus.