

Histological characteristics of neovascular membranes in AMD after PDT: Comparison with spontaneous evolution, laser photocoagulation and radiotherapy

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Purpose:

To describe and emphasize specific histological changes observed on removed neovascular membranes after PDT in order to understand the post treatment complication and the efficiency of triamcinolone.

Methods:

24 consecutive neovascular membranes treated by one or more PDT sessions and removed for submacular hematomas were analyzed by histological and immunohistochemical techniques and compared with 153 non treated neovascular membranes, 7 post-laser photocoagulation membranes and 3 post-radiotherapy membranes.

Results:

Post-PDT membranes were remarkable by:

- Absence of thrombosis aspects within numerous new vessels
- Presence of a high cellularity fibrosis which can explain the late RPE retraction and submacular hemorrhage
- RPE modification with hyperplasic and atrophic changes
- Accumulation of hyaline drusen-like material on the RPE basal membrane.

Conclusion:

PDT seems to induce specific changes different from what have been observed before. The drusen like deposits seem to be the price to pay if we want to have an effective treatment. Triamcinolone injection could decrease complication's rate in decreasing the very cellular fibrosis.