

Tobacco smoking and early onset cataracts

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Background and Hypothesis:

Cataracts are among the leading causes of blindness in the world. Smoking tobacco has been linked to cataract formation in old age. However, its linkage in causing an earlier onset is much more questionable. Assessing this linkage can help identify risk factors and help understand the causes and pathogenesis in development of cataracts over time. This can help direct modifiable risk factors in patients to prevent early deterioration in health, finance, physical capabilities, and overall comfort. It is hypothesized that history and intensity of smoking tobacco correlates with earlier onset cataracts.

Experimental Design or Project Methods

Patient data of patients aged 40-65 were gathered from the last two years of cataract surgeries from Deen-Gross Eye Centers EMR (n=718). Age at date of surgery was used as observed value for determining earlier onset, and pre-operation charts were used to collect patient data on smoking status (light, someday, every day, heavy, former, never), age, gender, hypertension, diabetes, number of eyes operated on, family history (cataracts/glaucoma), and glaucoma. Statistical analysis was performed among the gathered data.

Results

Statistical analysis revealed no significant difference in the ages of cataract surgeries between smokers and non-smokers. Controlling for non-hypertensive and non-diabetic patients revealed a similar result. There was no significant difference in smoking status between ages 40-55 and ages 56-65 who underwent surgery. There was no significant difference in age of surgery among each of the individual types of smokers.

Conclusion

No significant associations were found. This calls for further research to better understand the linkage between tobacco smoking and cataracts, as well as the pathogenesis of earlier onset cataracts. No modifications in directing patient care can be made yet.