



## CFEH Facebook Case #25

A 53 year old Indian female was referred to the Centre for a glaucoma assessment. Her ocular history was unremarkable. There is a family history of glaucoma in her mother. Her current medications include thyroxine for managing her underactive thyroid.

Slit lamp examination revealed radial, thin, thread-like pigmentation on the peripheral anterior lens capsule OU seen with pupil dilation. The pigmentation involved the whole lens, most visible nasally OD and inferotemporally OS.

Central corneas were unremarkable. The central pupillary area did not show presence of pigment.

What is the significance of these findings?



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# ANSWER

Radial retroiridal pigmented lines.

The pigment originates from constant abrasion of the posterior layers of the iris with the anterior surface of the lens. The release of pigment is possibly associated with age-related changes of the iris pigmented epithelium being decrease in melanin and vacuolization as well as necrosis of the pupillary border. Radial retroiridal pigmentation was previously thought to be remnants of the tunica vasculosa retroiridalis however observations of the sign mainly in adults and not children did not support this theory.

***Clinical features:*** Radial retroiridal pigmented lines can occur in one or both halves of the lens periphery and on occasions the whole circumference of the lens, usually in the lower nasal quadrant. The central pupillary area is commonly absent of pigment. Radial pigmentation is usually seen in patients after the 5<sup>th</sup> decade of life.

***Clinical implications:*** Radial retroiridal pigmented lines were more likely seen in hyperopes which may be associated with crowding of the anterior segment structures causing more abrasion of the iris on the lens. Given that radial pigmentation is a possible risk factor for development of glaucoma in particular related to pigment dispersion, a glaucoma work-up including gonioscopy, applanation tonometry should be performed and these patients closely monitored.

***Systemic Associations:*** It has also been suggested that these pigmented lines can be associated with diabetes and arteriosclerosis.