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Cilioretinal arteries: incidence in a 1110 patients'sample

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The central retinal artery, supplies retinal vasculature. In some cases, a part of retinal circulation is supplied by a cilioretinal artery [1]. Cilioretinal arteries take rise from a posterior ciliary artey [2]. If retinal vascular occlusion occurs, the presence of a cilioretinal artery can be a significant factor influencing visual morbidity [3]. Studies on the frequency of this anatomical anomaly are limited in number and most of them take into consideration a small number of subjects. Largest two studies are Wang et al. (1991) [4], on 2050 patients, published only in Chinese language, and Liu et al (2011) on 2500 patients [5].

We examined the fundus photographies of 1110 patients between the age of 7 and 100, with an average of 51 years old.Observations were made through the use of a high definition confocal scanner fundus camera (Eidon). This instrument provides high resolution images in a short time even through an undilated pupil. These characteristics have been advantageous for obtaining viable images of the fundus oculi even in the pediatric patients. Cilioretinal arteries were found in 380 patients (34.2%). Among 380 patients, 178 (47%) were males and 202 (53%)were females. Of these patients, 97 (25,5 %) presented this anatomical variant in both eyes and 283 (74,5%) in only one eye. This variant was mostly present in the right eye (64,7 %of the right eyes and 35,3%of the left eyes), and 95 patients (25%) had more than one cilioretinal artery. Finally, in 330 cases (87%) the vessels were temporal, in 19 (5%) were only nasal and in 30 cases (8%) the patients had both temporal and nasal cilioretinal arteries. This is one of the largest studies in literature. Our results are obtained with a non invasive technique. Nevertheless, incidence of cilioretinal arteries in our study is comparable with that obtained by fundus fluorescein angiography, normally considered the most accurate method to visualize retinal vessels. Our non invasive approach is a base for further investigations.

References

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Key words

Cilioretinal artery, CRAO, CRVO, retinal blood flow.