Introduction: The ideal intraocular lens (IOL) for correction of aphakia in the absence of capsular support should be safe and easy to implant. Anterior chamber IOLs are relatively easy to implant, but possible endothelial decompensation, secondary glaucoma and hyphema compromise its broad use. Retropupillary verisyse® IOL implantation is an option in selected cases to overcome such disadvantages. Our work aims to describe the influence of retropupillary verisyse® (VS) intraocular lens implantation in anterior chamber (AC) anatomy.

Material and Methods: Observational study of 18 subjects who underwent verisyse® lens retropupillary implantation between November-2013 and April-2015. Patients with incomplete clinical records, VS implanted in both eyes and poor-quality imaging data were excluded. Pentacam® was performed and anterior chamber data were analysed: pupil diameter, iridocorneal angle, anterior chamber depth and volume. Endothelial cell count was calculated using specular microscopy and intraocular pressure was obtained. These parameters were then compared with the fellow eye. For data analysis, two subgroups were used: 1) phakic fellow eye and 2) fellow eye with IOL implanted in the capsular bag.

Results: Studied population included 18 subjects who underwent verisyse® lens retropupillary implantation. Of these, the fellow eye of 10 subjects had an IOL implanted in the capsular bag and the fellow eye of the remaining was phakic. Minimum follow-up time was 3 months.In the pseudophakic and phakic groups, mean age was 76.3 ± 5.7 years and 65.8 ± 19 years, respectively. Peaked pupils were frequently observed in VS eye, as proved by significantly greater pupil diameters (P < 0.05). Mean anterior chamber angle increased in the VS eyes when compared to the fellow phakic eyes (P < 0.05). Intraocular pressure after follow-up time, anterior chamber depth and volume were not significantly different. Mean corneal astigmatism in the VS eyes after follow-up time was 3.65 ± 2.15 diopters.

Conclusions: In our series, retropupillary verisyse® IOL implantation had minimal effects in AC anatomy. Therefore, they are becoming a preferential approach for correction of aphakia in the absence of capsular support. Our study is limited by the small number of subjects included and short follow-up time, but stresses the importance of clarifying the indications and procedure to better manage each individual case.