INTRODUCTION

Subfoveal perfluorocarbon liquid (SPCL) is a rare but important complication of vitreoretinal surgery. Since the introduction of perfluorocarbonated liquids to date, very few publications have focused on this product (1-4). Although their experimental toxicity has been described, we know little about the urgency of the time for their removal. The literature describes two patients affected by PFCLS. A comparative study has been made with the other five cases published to date (1-4) to determine whether the final visual prognosis of this complication can be predicted.
**CLINICAL CASES**

**Patient 1**

A 71-year-old male cool in November 2000 visited the urgency ward due to visual acuity reduction and temporal upper scotoma in the left eye. The antecedents included retinal detachment surgery with good anatomic results and poor functional results in the right eye in 1986, as well as cataract surgery in the left eye (LE) (20 Oct 2000). At the time of the visit, the patients visual acuity was 20/100 in the LE. Ocular exploration revealed important displacement of the intra-ocular lens towards the lower temporal pupil margin, with the lens in the corneal incision. The ocular fundus revealed a lower nasal retina detachment. The patient was operated on November 11th, 2000 with circular scleral procedure, vitrectomy, perfluorocarbon liquid (PFCL), laser endophotocoagulation (endoFCG) and C3F8 gas. One month later, the patient exhibited a relapse of the retinal detachment, nearly complete, with vitreoretinal proliferation (PVR-CII). He was intervened again on January 23, 2001 by means of vitrectomy, resection of epiretinal membranes, PFCL, endoFCG and introduction of 5000cs silicone oil. In the post-op, the patient exhibited three PFCL spheres in the posterior pole, two were extramacular and the third one subfoveal (fig. 1). His visual acuity was of 20/200 with absolute central scotoma (fig. 2) throughout the post surgery period. The patient did not accept additional surgery until February 26, 2004, when we intervened to remove silicone, to perform an extra macular retinotomy and extract subfoveal PFCL without removal of the remaining two extra-macular subretinal spheres and exchange with air. At present, October 1, 2007 (fig. 3) the central Scotoma has disappeared (fig. 4) and the patient VA is of 20/40.

**DISCUSSION**

PFCLS is an infrequent complication of vitreo-retinal surgery. It courses with an absolute centrum scotoma which can be resolved when extracting the PFCL as demonstrated in our case 2 and in the cases described by Roth et al (4), in contrast to the case published by Lesnoni et al (3).

**Patient 2**

A 56-year-old male with visual acuity loss in the left eye for one week. His visual acuity was of hand movements (HM). The ophthalmological exploration evidenced a retinal detachment involving the temporal quadrants and affecting the macula, with a 2 hour-long tear in the lower temporal quadrant in the midst of a lattice degeneration. It also exhibited a giant superior tear from 10,30 to 2 o’clock. On December 18, 2003, we operated utilizing circular procedure, vitrectomy, PFCL, endoFCG and introduction of 5000cs silicone oil. In the post-op, the patient exhibited three PFCL spheres in the posterior pole, two were extramacular and the third one subfoveal (fig. 1). His visual acuity was of 20/200 with absolute central scotoma (fig. 2) throughout the post surgery period. The patient did not accept additional surgery until February 26, 2004, when we intervened to remove silicone, to perform an extra macular retinotomy and extract subfoveal PFCL without removal of the remaining two extra-macular subretinal spheres and exchange with air. At present, October 1, 2007 (fig. 3) the central Scotoma has disappeared (fig. 4) and the patient VA is of 20/40.
In the few cases described in the literature, PFCLS has remained highly variable without influencing the final visual results. Thus, Roth et al (4) maintained it 180 days and the final visual acuity was of 20/30, one of the best of the series. Also, our case 2 remained 68 days with PFCLS and we achieved a visual acuity of 20/40.

The patient age cannot be said to have an influence in the end result. The oldest patient, described by Lai et al (2) was 78 years old and exhibited the best vision (20/40) and the youngest patient, described by Escalada et al (1), was 35 and obtained a vision of 20/50, while the worst result was the case described by Lesnonti et al (3) who, at age 56, obtained a vision of 20/100.

The pre-op visual acuity is not a variable to be taken into account for predicting the final vision because the majority of patients had a vision of 20/400 or worse, except in one patient described by Roth et al (4) who had a visual acuity of 20/70.

The situation of the macula prior to retinal detachment could not be assessed because it was detached in all cases except in those of Roth et al (4) where said detachment was not described.

We are not favorable to leaving the subfoveal PFCL, as recently described by Nowilaty (5) because, however small, a central scotoma always remains and the degree of vision recovery will always be limited.

In conclusion, it can be said that PFCLS is an infrequent and severe complication. It causes a central absolute scotoma which may disappear with the extraction thereof and the visual prognosis is relatively good and does not depend of the
patient age or the time of permanence in the subretinal space even when three months of evolution have elapsed.

REFERENCES


