ECRONICON OPEN ACCESS

EC OPHTHALMOLOGY
Research Article

Infero Temporal Dialysis: Genetic Reghmatogenous Retinal Detachment in the Andes?

Armando Sandoval*

Hospital Metropolitano-Clinivision, Quito, Ecuador

***Corresponding Author:** Armando Sandoval, Hospital Metropolitano-Clinivision, Quito, Ecuador.

Received: September 25, 2016; **Published:** November 17, 2016

Introduction

Dialysis of the ora serrata, relates to the separation of the peripheral retina just at it insertion at the ora. Topographically the ora is located at 8 mm from the limbus in the temporal quadrants, and to 7 mm in the nasal side.

Dialysis may be traumatic or spontaneous. Generally traumatic dialysis occurs in the supero temporal quadrant and spontaneous in the infero temporal.

Infero temporal dialysis (ITD) is approximately 10 % of all the retinal detachments (RD).

ITD has typical clinical features, because it tends to occur in young patients, who have the vitreous intact, without liquefication, or at least, less liquefication than in adults, and considering that the dialysis is an inferiorly located break, there is not flow of vitreous through the hole, what explains the slow progression of the development of the retinal detachment. ITD is a juvenile RD with a high incidence of bilaterality. Retina has horizontal –oblique, white or pigmented demarcation lines caused by the sub-retinal fluid that climbs in the sub-retinal space with time. Most of the time it has yellow whitish vitreous opacities like grumes, and peripheral or central retinal cysts that may appear like pseudo macular holes.

Purpose

To determine the incidence of ITD in the Ecuadorian Andes region, with an altitude of 8 to 10 thousand feet over the sea level, trying to find out if there is some ethiological factor.

Material and Methods

This is a retrospective non-randomized revision of 3 series of patients operated by the author. The first, during 17 years (1986 - 2002) with 150 eyes in 131 patients with reghmatogenous retinal detachment (RRD) requiring scleral buckling (SB). Second: 5 years (2006 - 2011) with 32 eyes in 29 patients, and third: 2 years and 6 months (June 2011-Dec 2014) with 29 eyes in 27 patients. Surgery was performed in all cases with the 287 silicon epiescleral explant, 240 encircling band in cases where ITD was greater than 90 degrees and there was some vitreous traction, cryo, sub retinal fluid drainage, and post-op. photocoagulation in some cases. Most of the cases under general anesthesia, and some under local anesthesia in an ambulatory surgical center. [1] Never was done pars plana vitrectomy (PPV).

The surgeries were performed at the following institutions: Hospital Metropolitano, Clinivisión, Fundación Ecuatoriana Vista para Ciegos, Club de Leones Quito Central, Fundación Finlandia, Hospital Eugenio Espejo. The former two are private practice places, the others are institutional.

Inclusion criteria

Primary RRD that can be treated with SB, until PVR C-1. These can be: idiophatic, myopic or high myopic, pseudophakic, aphakic, and some cases of traumatic.

Exclusion criteria

PVR cases C-2 or more, giant retinal tears, RD by macular hole in high myopia, trauma.

Results

In the first group, of 150 eyes, 51 (34%) were ITD, [2] 50 eyes (33%) were idiophatic, 24 eyes (16%) high myopic, 10 eyes (6.6%) aphakic, 10 eyes (6.65 %) pseudophakic, and 5 eyes (3.3%) trauma. Considering the number of patients: Idiopathic were 50 (38%), ITD 32 (24.4%), high myopia 24 (18%), aphakia 10 (7.6%), trauma 10 (7.6%) and pseudophakia 5 (3.8%).

In the second group, of 32 eyes, 11 (34%) were ITD, 10 eyes (32%)were idiopathic, 6 eyes (19%) were myopics, 4 eyes (12%) pseudophakic, and 1 (3%) traumatic ITD. Considering the number of patients, from a total of 29 patients, 10 (34.4%) were idiopathic, 8 (27.6%) were ITD, 6 (20.7%) were myopic, 4 (13.8%) were pseudophakic, and 1 (3.5%) traumatic ITD.

In the third group, of 29 eyes, 15 (51.7%) were idiopathic, 12 (41.3%) ITD, 1 (3.4%) myopic, and 1 ((3.4%) others (VHL). And considering the number of patients, from a total of 27, 15 (55%) were idiopathic, 10 (37%) were ITD, 1 (3.75%) myopic, and 1 (3.75%)others.

Making a summary regarding the 3 groups, in 25 years, there was a total of 187 patients and 211 eyes with RRD requiring SB, from which ITD belong to 50 patients (26.73%) and 73 eyes (34.5 %). Respect to other types of RRD, the idiopathic is the most common with 124 (66.3%) patients and 131 eyes (62 %).

It is so important to point out the high incidence of bilaterality, which is 59%, 37% and 20% in the three series respectively. Same thing making a summary, of the total of 50 patients with ITD, 24 were bilateral (48%) (19, 3 and 2 patients, respectively).

Conclusions

1) ITD is the second common type of RRD in the Ecuadorian Andes.

2) There is a high incidence of bilaterality of ITD (48 %)

3) ITD is a benign RRD with slow progression (years), many patients notice the problem when subretinal fluid arrives to the macula.

4) ITD is a self-limited or a subclinical retinal detachment

5) ITD is most common in young males. Ages from 15 to 35 years (range 5 - 45) Gender 3-1 (M-F)

6) ITD is most common in native inhabitants of the Andes region

7) ITD is most common in institutional than in private practices.

Discussion

Bilaterality is high. Simultaneous bilateral RRD are uncommon, as this accounts for 1.18 - 2.5 % of all retinal detachments [3]. Retinal dialysis is the cause of the detachment in 10% of cases and is usually unilateral [4]. Bilateral retinal dialysis occurs in 3.5 - 7.7 % of cases and bilateral ITD in 1.5 - 5.6 % of the total cases [5].

Is there a genetic factor? There are some in favor arguments: Vaiser A., *et al*. describes bilateral IT dialysis in identical twins that suggests that genetic factors play a role in some cases of ITD. The cause of ITD is multifactorial and there is a definite subpopulation in which a genetic predisposition is present [6] Verdaguer J., *et al*. says that there is an autosomic recessive inheritance [7-8] But also there are against arguments: Ross, WH, made a revision of 150 cases of retinal dialysis, 35 with spontaneous dialysis with review of fellow eye, family history and close relatives, ruling out a genetic basis [9].

Why is this disease so common in the Ecuadorian Andes?

Is there a congenital developmental anomaly at the ora?

Only a genetic research will tell us …

Bibliography

1. Sandoval VA. "Ambulatory surgery for retinal detachment". Syllabus of the International Symposium commemorating the dedication of the Cleveland Clinic's Cole Eye Institute (1999): 249.
2. Sandoval VA. "Infero Temporal Dialysis, The Most Common Reghmatogenous Retinal Detachment in the Ecuadorian Andes". *American Academy of Ophthalmology, Annual Meeting, Anaheim* (2003).
3. Bodarowitz S., *et al*. "Simultaneous bilateral reghmatogenous retinal detachment". *Klin Monatsbi Augenheilkd* 206.3 (1995): 148-151.
4. Hagler WS and Norht AW. "Retinal dialysis and retinal detachment". *Archives of Ophthalmology* 79.4 (1968): 376-388.
5. Zion VM and Burton TC. "Retinal dialysis". *Archives of Ophthalmology* 98.11 (1980): 1971-1974.
6. Vaiser A and Jost BF. "Bilateral inferotemporal dialysis in identical twins". *Annals of Ophthalmology* 24.10 (1992): 378-380.
7. Verdaguer TJ., *et al*. "Desprendimiento Retinal por desinserción simple de la ora serrata". *Arch Chil Oftal* 28 (1971): 364.
8. Verdaguer TJ., *et al*. "Nuevos estudios sobre las Diálisis Retinales, incidencia en la población escolar". *Palestra Oftalmológica Panamericana* 1 (1977): 47-50.
9. Ross WH. "Retinal dialysis: lack of evidence for a genetic cause". *Canadian Journal of Ophthalmology* 26.6 (1991): 309-312.

Volume 4 Issue 2 November 2016