14 The Eye in Primary Antiphospholipid Syndrome

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Clinical associations of antiphospholipid antibodies (aPL) include venous and arterial thrombosis, recurrent fetal loss, blood cytopenias, thrombocytopenia, and multi-organ compromise [1–13]. Vessel occlusion is a hallmark of this association; it may occur within the context of several diseases, mainly autoimmune disorders such as systemic lupus erythematosus (SLE), or it may be present without any recognizible disease, the so-called primary antiphospholipid syndrome or Hughes syndrome [14].

In the past there were isolated reports describing the eye involved in the primary antiphospholipid syndrome (APS) and serious ocular damage, like optic neuritis and ocular vaso-occlusive disease in patients with Hughes syndrome [15–17]. This association was challenged by Merry et al [18] based on the absence of aPL in a group of patients with ocular vaso-occlusive disease. However, Asherson et al [19] found that the presence of ocular vaso-occlusive disease in patients with SLE was definitely related to the presence of antiphospholipid autoantibodies and several studies agree on a high prevalence of vasculopathic eye disease in subjects with Hughes syndrome [20–25]. Maybe the different appreciation reflects both a selection bias (the presence of ocular disease was the inclusion criterion in some studies) and a low prevalence of Hughes syndrome among patients with ocular vaso-occlusive disease of miscellaneous origin.

At present, some cases or some series [26–48] which describe ocular findings in the presence of aPL, or associated to other diseases, are added to our clinical observations, and confirm that the eye is frequently affected. Also, they confirm that the damage is predominant in the posterior segment, as retinal or choroidal vaso-occlusive diseases, which can be arterial, venous, or both. A higher number of studied cases has made it possible to identify, in the literature, a more frecuently anterior segment damages. Anterior and posterior scleritis, related to aPL, were also reported. However, in our APS ocular disease experience, we have not seen yet this manifestation. Besides this, there is nothing new to be added to our clinical study at present.

Clinical Study

We performed and reported a cross-sectional ophthalmology study [49] on 28 consecutive patients (18 women, 10 men; median ages, 30.5 and 40 years, respectively)

Table 14.1. Primary antiphospholipid syndrome: clinical and laboratory findings.

Clinical findings	No.	Laboratory findings	No.
Ocular disease	24/28	IgG aCL	28/28[a]
Recurrent fetal loss	8/10[b]	PTT > 10	14/17
Venous thrombosis	16/28	False-positive results of VDLR	11/28
Arterial occlusion	10/28[d]	Lupus anticoagulant	4/9[b]
Migraine	11/28	Cytopenia	10/28[c]
Livedo reticularis	7/28	FANA (low titer)	3/28
Leg ulcers	3/28		
Chorea	1/28		

PTT = partial thromboplastin time; FANA = fluorescent antinuclear antibodies.
[a]More than 5 SD above the mean value.
[b]Subjects at risk or those in whom the test was done.
[c]Thrombocytopenia, 9; leukopenia, 1.
[d]Seven of these 10 patients had brain infarction demonstrated by computed tomography.

with APS, all of them were seen at the Instituto Nacional de Cardiología Ignacio Chávez from 1987 to 1996. Irrespective of visual symptoms, 27 patients were evaluated prospectively by the ophthalmologist in an equivalent search effort. One patient had visual symptoms, and primary antiphospholipid antibody syndrome (PAPS) was subsequently identified. The diagnosis was based on proposed clinical criteria [5]. SLE was ruled out clinically and serologically over a 48-month follow up. Anticardiolipin antibodies (aCL) were detected by enzyme-linked immunosorbent assay according to Gharavi et al [50], with some modifications by the authors [51]. Test for serum lipid profile, fluorescent antinuclear antibodies, rheumatoid factors, syphilis (VDRL, fluorescent treponemal absorbed antibody), and a clotting profile were performed in every patient using standard laboratory techniques.

The eye examination included a survey of ocular symptoms; tests for visual acuity, ocular movements, and intraocular pressure; and slit-lamp biomicroscopy to evaluate the anterior segment and the fundus. Twenty-four patients agreed to a standard retinal fluorangiography [52].

All patients (Table 14.1) had high titer [>5 standard deviations (SD) above the mean] IgG aCL in at least two determinations. No other non–organ-specific antibodies nor lipid abnormalities were detected. In 14 out of 17 patients, a prolonged phospholipid-dependent clotting assay (PTT) was identified. In the remaining 11 patients, the test was not performed because the patients were receiving anticoagulant drugs. A false-positive VDRL test was present in 11 patients. Nine patients had thrombocytopenia, 1 more case had persistent leukopenia. Four out of 9 patients at risk in whom the test was done presented a positive lupus anticoagulant (LA) test.

Ocular Findings

As shown in Table 14.2, 19 (68%) patients had visual symptoms. Transient visual disturbance (transient blurred vision or amaurosis fugax*)* was present in 16 eyes (8 patients), decreased vision in 7 (4 patients), transient diplopia in 8 (4 patients), and transient field loss associated with headache and photopsy in 8 (4 patients). Visual acuity with or without correction was 20/20 to 20/ 40 in 46 eyes, 20/60 to 20/100 in 3