SOLAR RETINOPATHY FROM SUNGAZING IN MEDJUGORJE

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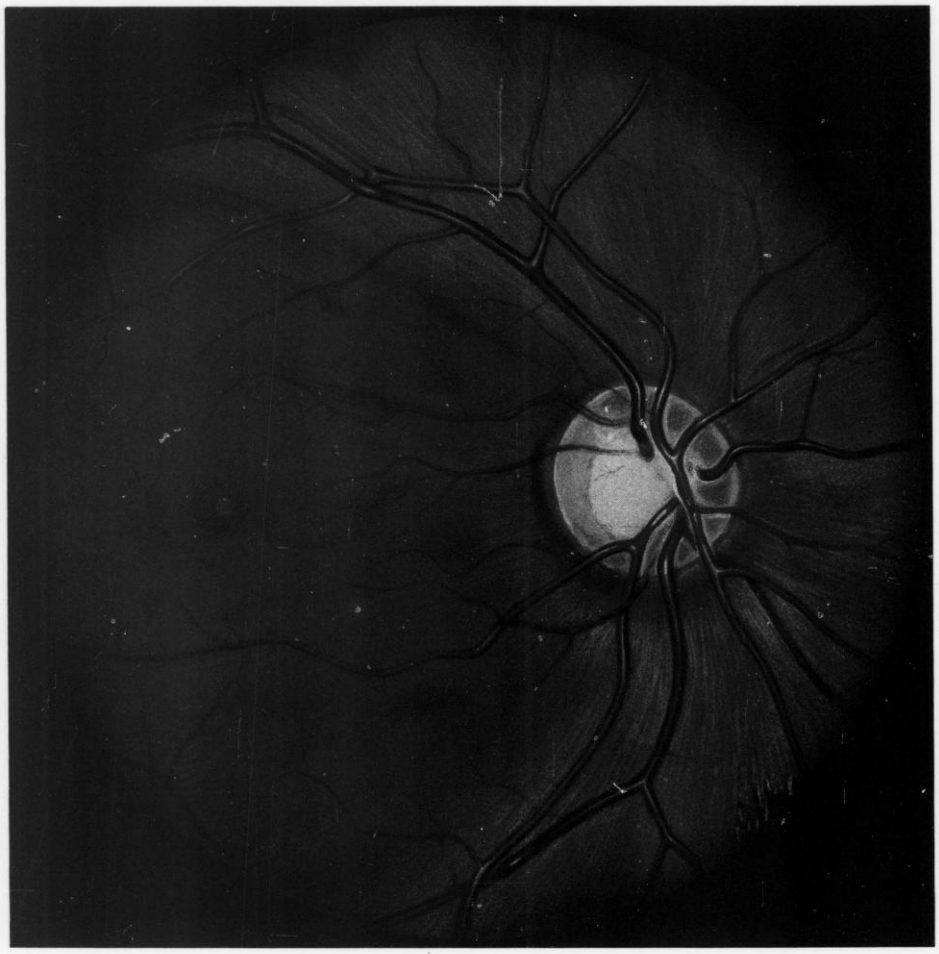

There has been much interest and enthusiasm generated among the Louisiana population concerning the reported apparitions of Mary, the Mother of Jesus, to six children in Medjugorje, Yugoslavia. In addition thousands of visitors to Medjugorje have claimed to have observe the "miracle of the sun," in which the sun is covered by a black disc and appears to pulsate and emit bright colors, without any apparent harmful effects to the eye. The following is a report of four patients who have suffered retinal damage associated with sungazing, both in Medjugorje and in New Orleans. It is hoped that by reporting these cases that the physicians of Louisiana will become aware of the risks involved with this practice, and that appropriate warnings will be disseminated to patients, friends, and to the public.

SINCE THE VERY FIRST DAY of the alleged visions of Mary in June 1981, fervor about her revelations to the world has spread like a contagious wildfire, especially in Louisiana. Conversions have resulted, miraculous cures have been reported, and Christians and non-Christians alike have been challenged to consider the likelihood of Mary paying the world a personal visit. Several books have already been written on the subject, documenting the repeated appearances of Mary to the six children in Yugoslavia, detailing accounts of every aspect of these acclaimed events. The objective authenticity of these unexplained phenomenon is, of course, a subject of controversy and speculation for believers and non-believers alike.[1]

Given the special religious temperament and Catholic history of Louisiana, an amazing number of our patients are traveling weekly to Medjugorje in hopes of witnessing the visionaries during the apparitions, and personally observing the supposed miraculous changes in the sun. The voyagers must be made aware of the serious health risks involved in voluntarily looking at the sun for more than a moment. While this report makes no judgment as to the credibility or truth of the various experiences that have been reported, our patients need to be reminded before traveling to Yugoslavia that permanent damage to the eye can result from prolonged direct focusing on the sun.

For this reason, it is strongly advised that visitors to Medjugorje avoid intentionally looking at the sun to experience the purported mystical changes. Pilgrims have testified that these phenomenon are noticed accidentally, but by reporting them they should not encourage others to look at the sun directly in order to witness the same occurrence.

CASE ONE

A 60-year-old male was first seen on November 14, 1986, with a history of viewing the sun in Medjugorje, Yugoslavia for approximately 25 minutes, 15 days earlier on October 30, 1986. This occurred at approximately 3:00 p.m. and was documented by observers standing in his vicinity. A photograph was later brought in showing him viewing the sun with his hand covering or shading his left eye. He stated that a black disc covered the sun, with brilliant colors radiating and pulsating from around the disc.

Visual acuity on November 14, 1986 was 20/25 with correction in the right eye and 20/20 with correction in the left eye. Visual acuity recorded on January 28, 1985 was 20/20 with correction in each eye, at which time no retinal changes were observed by his ophthalmologist. Positive findings were restricted to the macula area of both retinas, which were examined with the Goldman posterior pole contact lens and slit lamp biomicroscopy. Examination of the right macula revealed retinal pigment epithelial dispersion and clumping above the fovea. A few small drusen were the only findings in the left macula.

Retinal fluorescein angiography performed on November 17, 1986 showed cloroidal shine-through of dye around the retinal pigment clumping above the right fovea (Fig 1). No increased dye leakage or accumulation was present in the later frames of the right eye. No abnormal findings were seen in the frames of the left eye.

On February 12, 1987 the patient returned and stated that he experienced the same phenomenon of seeing a black disc covering the sun while sungazing in New Orleans on January 15, 1987 for approximately 15 minutes around 4:00 p.m. Visual acuity at that time has decreased to 20/30 with correction in the right eye and 20/20 with correction in the left eye. Re-examination of the macula areas of both retinas with the Goldman posterior pole contact lens and slit lamp biomicroscopy again revealed no abnormal findings other than a few small drusen in the left macula. Increased retinal pigment epithelial atrophy with

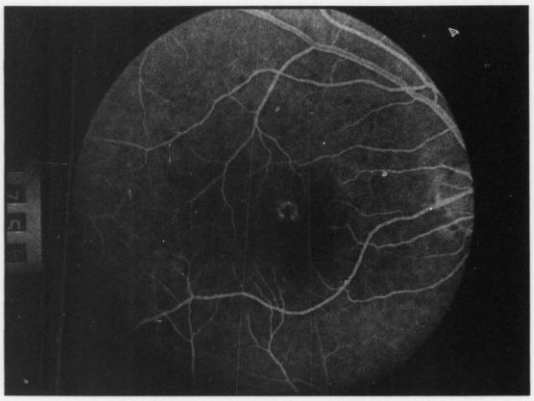

Fig 1. Retinal fluorescein angiographic photograph of right eye of patient #1, showing choroidal shine, through around pigment clump.

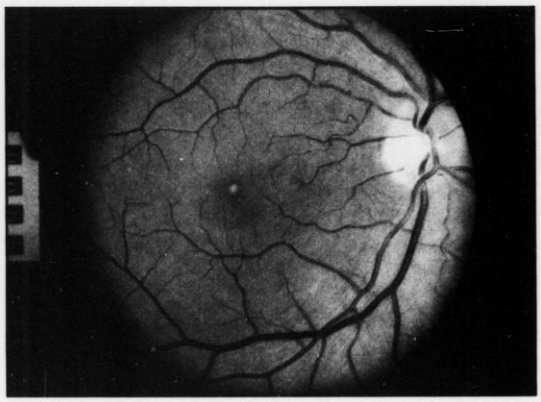

Fig 2. Red-free photograph of right eye of patient #2, showing (yellow-white) intra-retinal lesion in center of macula region.

slightly more pigmentary dispersion and clumping was seen above the right fovea. No associated retinal sheen was seen at this time.

CASE TWO

A 29-year-old female was first seen on February 5, 1987 and stated that she observed the sun covered by a black disc with brilliant colors radiating and pulsating from around the disc for 15 minutes at 2:30 p.m. in New Orleans on February 3, 1987. She noted the time before and after this occurrence. She then summoned a neighbor and attempted to look at the sun a second time for 15 seconds, five minutes later. However this time the black disc was not present. She stated that she has seen a small white scotoma in the center of both fields of vision since that time.

On February 5, 1987 visual acuity was recorded at 20/30-2 with correction in the right eye and 20/40 with correction in the left eye. Positive findings were restricted to both foveal regions, which were examined with the Goldman posterior pole contact lens and slit lamp biomicroscopy. Small pinpoint yellow white lesions were seen within the retina in the upper portion of both foveas. A few small drusen were also present in the right macula area. No obvious retinal edema was present.

Retinal fluorescein angiography was done on February 5, 1987 and showed no abnormal dye leakage or staining. However the first two red-free photographs showed the lesions in the center of both foveas (Figs 2,3).

On February 12, 1987 the patient stated that the scotomas were smaller and more transparent. The visual acuity had improved to 20/30 with correction in each eye. Re-examination of the right macula showed the yellow white spot in the fovea was beginning to break up, with only yellowish flecks remaining with faint grey pigmentation surrounding the fovea. The yellow white lesion in the left foveal region appeared unchanged.

On March 26, 1987 the patient stated that the white scotomas were even smaller and more transparent, but were still present. However minimal vertical and horizontal visual distortion was now present. The visual acuity had improved to 20/20 with correction in each eye. Re-examination of both maculas revealed small inner lamellar retinal holes in the upper portion of both foveas where the yellow white intra-retinal lesions had been present.

CASE THREE

A 34-year-old female was seen on February 26, 1987 with the history of having observed the sun during a pilgrimage to Medjugorje, Yugoslavia in November

Fig 3. Red-free photograph of left eye of patient #2, showing (yellow-white) intra-retinal lesion in center of macula region.

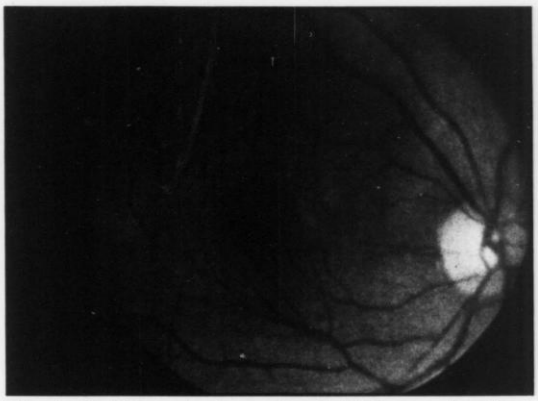

Fig 4. Red-free photograph of right eye of patient #4, showing (yellow-white) intra-retinal lesion in center of macula region.

1986. She saw a black disc covering the sun with brilliant colors radiating and pulsating from the disc. This occurred around 3:30 p.m. and lasted about 20 minutes. The next day she again attempted to look at the sun for about 20 seconds. She stated however that the black disc was not present, and that she has seen small grey central scotomas in both fields of vision since that time.

Examination of both posterior retinas with the Goldman posterior pole contact lens and slit lamp biomicroscopy revealed two small inner lamellar retinal holes in the center of both maculas. Pigmentary dispersion and accumulation surrounded the inner lamellar macular holes.

CASE FOUR

A 37-year-old female was first seen on May 7, 1987 with the history of looking at the sun in Medjugorje, Yugoslavia on April 28, 1987 for about two minutes. She covered the left eye, but saw with the right eye six or seven satellite suns that were bluish in color spinning around the sun. Twenty minutes later she saw a pink cloud behind the sun. The center of the sun appeared gold then turned blue. She observed this for three minutes. She stated that the vision in the right eye has been blurred since that time, and she initially saw a dark central scotoma in the right field of vision, that now appears white.

Visual acuity on May 7, 1987 was recorded at 20/25-3 without correction in the right eye and 20/20 without correction in the left eye. Examination of the right posterior retina with the Goldman posterior pole contact lens and slit lamp biomicroscopy revealed a small yellow lesion in the upper part of the foveal region. No associated retinal edema or pigmentary dispersion was seen (Fig 4).

DISCUSSION

Solar retinopathy, eclipse burn, or foveomacula retinitis are terms referring to specific retinal changes following sungazing, associated with eclipse viewing, sunbathing, regligious rituals, or hallucinogenic drug usage. Symptoms include central scotoma, chromatopsia, metamorphopsia, and headaches. The visual acuity is usually reduced to 20/40-20/70 initially, but in most cases it usually returns to between 20/20 and 20/40 over a period of weeks to months.[2]

Clinical findings include the initial appearance of a small yellow white spot within an edematous retina with minute hemorrhages in the center of the macula. The spot changes in color after the injury and often fades from view after 10 to 14 days. The lesion is often replaced by a small reddish circumscribed inner la-

mellar retinal hole in the fovea. With prolonged exposure a more diffuse lesion with mottling and clumping of the retinal pigment epithelium may occur.[2, 3]

Retinal fluorescein angiography typically shows no abnormality. Occasionally a hyperfluorescent spot may be evident in the area of the lesion during the early phase of the angiogram. The presence of xanthophilic pigment in the foveal area may be responsible for the difficulty in demonstrating angiographic evidence of minor pigment epithelial damage in some cases.[2]

Evidence suggests a great individual variation in the susceptibility for developing solar retinopathy, as the cause of the lesion is felt to be a photochemical injury rather than a thermal injury of the retina and retinal pigment epithelium. Light toxicity has been shown to depend on wavelength or color, with susceptibility to retinal damage increasing rapidly in going from the green to the blue to the violet range. This is in addition to the known toxic effect of ultraviolet light. The longer wavelengths of light (greater than 580 nm) produce mostly thermal-type lesions, while short wavelengths in the visible spectrum (400 to 580 nm) produce mainly photochemical lesions.[3]

Histologically, the effects of light on the retina involves a loss of pigment cells in the burned area with the heaping up of pigment cells at the periphery of the lesion. A coagulation necrosis of the affected retinal elements is present. Often the foveal or parafoveal tissue disappears, with formation of a cyst or hole.[3]

It is strongly advised that visitors to Medjugorje avoid intentionally looking at the sun to experience the purported mystical changes. Pilgrams have testified that these phenomenon are noticed accidentally, but by reporting them they should not encourage others to look at the sun directly in order to witness the same occurrence.

Because of the natural discomfort from staring at the sun, mankind probably always has realized that bright light might harm the eye. However with the hope of observing supposed miraculous changes in the sun caution has been thrown to the wind. ■

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