

# Did Isaac Suffer from an Ocular Disease?

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It is fascinating to speculate that medical issues played a key role in biblical studies. In particular, it may be that ophthalmologic issues greatly affected the story of Isaac. It says about Isaac in Genesis, 27:1, "When Isaac was old and his eyes were too dim to see, he called his older son Esau and said to him, 'My son.' He answered, 'Here I am.'" Rashi, quoting the Midrash, presents different explanations as to why Isaac's eyes were dim. The first explanation is that his eyes were dimmed from the incense which Esau's wives offered to idolatry. There is much research and discussion of how smoke can increase the likelihood of one developing cataracts and macular degeneration, thus making it possible to suspect that Isaac was afflicted with cataracts or macular degeneration, both of which would dim his eyes. A study conducted at the Chinese University of Hong Kong revealed that there is a causal relationship between those who smoke and develop these eye diseases [1]. The New York State Department of Health has published that those who smoke are three times as likely to form cataracts and macular degeneration than those who don't smoke [2]. Dr. William Barry Lee, an ophthalmologist, explains that exposure to smoke reduces blood supply to the eye, enlarges the blind spot and reduces one's threshold of different lights [3]. Additionally, elevated levels of carboxyhemoglobin found in the blood of those exposed to secondhand smoke, depresses one's visual perception [4].

Another possibility that Rashi quotes from the Midrash is that Isaac's eyes were dimmed from the tears of the angels at the *Akeda*, when his father, Abraham, almost sacrificed him to God. The final explanation that Rashi quotes from the Midrash is that God caused him to lose his eyesight in order to ensure that the blessing would be given to Jacob instead of Esau. The Midrash does not say which condition he had, but it makes it clear that his eye condition was so severe that Isaac was unable to distinguish between his two sons. Thus, it is possible to assume that Isaac's eye condition prevented him from distinguishing between objects and people. Both cataracts and macular degeneration can impair one's vision to the point where they are no longer able to

distinguish between detail in objects and recognize people. The condition of cataracts occurs when the lens of the eye is clouded, causing images to be foggy because the light is either scattered or blocked, instead of being sharply focused on the retina to create a clear image. Additionally, cataracts change one's perception of color, which could be the reason why Isaac did not notice that Jacob's hair color was different from Esau's red hair [5]. Macular degeneration is a condition where one loses their central vision, and only their peripheral vision is preserved. One can form dry macular degeneration, in which retinal cells die, or wet macular degeneration, in which blood vessels leak into and beneath the retina [6]. Isaac, being unable to recognize who was directly in front of him, portrays the symptoms of one with macular degeneration who has lost his central vision.

The Ramban in Genesis 25:34 points out the juxtaposition of mentioning Isaac's dim eyes with Isaac's old age. The Ramban understands this connection to be the explanation of the reason for his poor eyesight, being that Isaac was elderly. Macular degeneration and cataracts are both a very common development as one ages. Another theory to explain Isaac's poor eyesight is diabetes. Dr. Reisenberger, a biblical scholar, writes, "Diabetes mellitus and its complications encompass a multiplicity of signs, symptoms and secondary conditions which include a constant need for water, increased appetite, lethargy and chronic fatigue, visual deficit and sexual dysfunction, including impotence" [7]. She notes that Isaac was always sure to stay near a water source and that is why his servants were always digging wells for him. Reisenberger also points out that Isaac had no big physical achievements that are recorded in the Tanach. She speculates that Isaac and Rebecca also had trouble conceiving due to diabetes, as trouble bearing children is a common symptom of the disease. Diabetes can affect eyesight, causing Diabetic Retinopathy, leading to blurry vision, glaucoma, cataracts, and even blindness. Having high blood sugar damages the blood vessels of the retina, the light-sensitive part of the eye, that sends signals to the brain through the optic nerve. Diabetes and high blood sugar will damage the blood vessels in the eye, causing blockages within them, leading them to bleed. The eye tries to grow new blood vessels to

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compensate for the blocked, damaged ones, but they do not function well and leak. Subsequent bleeding and scarring of the retina impair eye function and vision [8]. Thus, it is common for people with diabetes and fluctuating blood sugar levels to have defective vision. This could be part of the reason why Isaac had so much difficulty seeing and why it says that his eyes were too dim to see. It may be that Isaac suffered from one of several ophthalmologic conditions- cataracts, macular degeneration or diabetic retinopathy, which caused his poor vision that is mentioned in Genesis.

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