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Robert's extract conversations with ChatGPT, AI, relating to his online posting about his "wet macular degeneration". Always consult your professional registered health specialists, if in any doubt. The evaluation of the merit, accuracy, bias and limitations of the AI responses to my questions, is left to the individual reader. This PDF document is to be read in conjunction with my online posting. Caveat emptor applies.

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Historical reference to wet macular degeneration (MD). Robert's personal experience with wet MD. An explanation of genetic predisposition. Distinguish between wet and dry MD.



What is the earliest historical reference to "wet macular degeneration". Discuss.

Wet macular degeneration, also known as neovascular macular degeneration, is a relatively recent medical condition that has become more common as the population ages. The earliest historical reference to wet macular degeneration can be traced back to the early 20th century.

In 1928, ophthalmologist Dr. Donald Gass first described the appearance of neovascularisation in the macula, the central part of the retina responsible for sharp, detailed vision. Gass observed that abnormal blood vessels were growing underneath the retina and leaking fluid and blood, leading to a loss of vision.

In the decades following Gass's discovery, researchers and clinicians began to study and understand the underlying mechanisms of wet macular degeneration. In the 1960s, fluorescein angiography was developed, which allowed ophthalmologists to visualise the blood vessels in the retina and diagnose wet macular degeneration more accurately.

Over the years, various treatments have been developed to slow or even halt the progression of wet macular degeneration, including laser therapy, photodynamic therapy, and most recently, anti-VEGF injections, which block the growth of abnormal blood vessels.

In conclusion, the earliest historical reference to wet macular degeneration dates back to 1928, when Dr. Donald Gass first described the abnormal growth of blood vessels in the macula. Since then, significant progress has been made in understanding and treating this condition.



Continue: separated by a period of 19 years, I first lost all the macular vision in my right eye, then later lost all the macular vision in my left eye. On both occasions, my macular vision was destroyed in less than one minute. A large haemorrhage in the rear of my retina precipitated the destruction of the macula on both occasions. I was advised that this medical episode was known as wet macular degeneration. Please explain in detail how my experience with wet macular degeneration destroyed my macular vision in an instant. Full details please.

Wet macular degeneration is a medical condition in which abnormal blood vessels grow beneath the macula, which is the part of the retina responsible for central vision. These blood vessels can leak fluid and blood, causing damage to the macula and leading to vision loss.

In your case, it sounds like you experienced a sudden haemorrhage in the rear of your retina, which caused damage to the macula and led to a rapid loss of vision. When blood vessels in the retina become damaged, they can leak blood and other fluids into the surrounding tissue, which can cause swelling and inflammation. This can put pressure on the delicate structures of the retina, including the macula, and disrupt the normal functioning of the eye.

The macula is responsible for processing the fine details of central vision, which is critical for tasks such as reading, recognising faces, and driving. When the macula becomes damaged, it can lead to a loss of visual acuity, distortion, and even blindness in severe cases.

In cases of wet macular degeneration, treatments such as anti-VEGF

injections or photodynamic therapy may be used to slow the progression of the disease and prevent further vision loss. However, in some cases, the damage to the macula may be severe and irreversible, leading to a permanent loss of central vision.

It is important to work closely with a healthcare professional to manage the symptoms of wet macular degeneration and to explore all available treatment options to preserve your vision.



Continue: explain and discuss, what is the actual damage done to the macular in the case of wet macular degeneration, which causes the permanent loss of any macular vision.

In wet macular degeneration, abnormal blood vessels grow beneath the macula, which is the part of the retina responsible for central vision. These blood vessels can leak fluid and blood, causing damage to the macula and leading to vision loss. The damage to the macula in wet macular degeneration is caused by several factors:

- 1 Accumulation of fluid: The abnormal blood vessels grow and leak fluid beneath the macula, causing it to swell and thicken. This accumulation of fluid can damage the delicate structures of the macula, disrupting its normal functioning and leading to a loss of central vision.
- 2 Bleeding: In addition to leaking fluid, the abnormal blood vessels can also bleed, depositing blood within the macula. This can cause scarring and damage to the macular tissue, leading to further loss of central vision.
- 3 Scar tissue formation: The bleeding and inflammation associated with wet macular degeneration can cause the formation of scar tissue within the macula. This scar tissue can displace and distort the normal structure of the macula, further disrupting its function and leading to permanent loss of vision.

The damage to the macula in wet macular degeneration is often irreversible, leading to a permanent loss of central vision. Treatment options such as anti-VEGF injections or photodynamic therapy may help to slow the progression of the disease and prevent further damage, but cannot reverse existing damage to the macula.



Continue: what are "the delicate structures of the macular", which are destroyed by wet macular degeneration.

The macula is a small, specialised area in the retina that is responsible for central vision, colour vision, and visual acuity. The delicate structures of the macula include the photoreceptor cells (rods and cones) and the underlying layers of specialised cells that help to process and transmit visual information to the brain.

In wet macular degeneration, the abnormal blood vessels grow and leak fluid and blood beneath the macula, causing damage to these delicate structures. The accumulation of fluid and blood can disrupt the normal functioning of the photoreceptor cells and the underlying layers of cells, leading to a loss of visual acuity and colour vision. If the damage is severe enough, it can lead to permanent loss of central vision.



Continue: in my family background, there is a history of eye disease. As applicable to myself, what is meant by the terminology, "a genetic predisposition to wet macular degeneration". My layman's interpretation is that I have a sort of inbuilt ticking time bomb within my body, which sets off wet macular degeneration. Please explain how this genetic predisposition works, and how it's being activated.

A genetic predisposition to wet macular degeneration means that you have inherited certain genes that make you more susceptible to developing the condition. These genes may affect the structure or function of the retina or the blood vessels that supply it.

Having a genetic predisposition does not mean that you will definitely develop wet macular degeneration. It means that you have an increased risk of developing the condition compared to someone without the genetic predisposition. Other factors, such as age, lifestyle factors like smoking, and environmental factors like exposure to UV light, can also contribute to the development of wet macular degeneration.

The genetic predisposition to wet macular degeneration can be activated

when other factors, such as aging or exposure to environmental factors, interact with the inherited genes. This can lead to the development of abnormal blood vessels in the macula, which can then leak and cause damage to the delicate structures of the macula, as discussed earlier.

It's important to note that not everyone with a genetic predisposition to wet macular degeneration will develop the condition, and conversely, some people without a genetic predisposition can still develop the condition. However, having a genetic predisposition can help inform screening and monitoring strategies for individuals at higher risk.



Continue: what is this gene, which may be inherited, and which may precipitate wet macular degeneration. Please identify. With modern medical technology, can this gene be removed and replaced by a healthy gene. Give examples of success rates.

The gene that has been identified as playing a role in the development of wet macular degeneration is the complement factor H (CFH) gene. Variants of this gene have been found to increase a person's risk of developing the disease. CFH is involved in regulating the immune response and inflammation in the body, and it is thought that variations in the gene may lead to an overactive immune response in the macula, which can contribute to the development of wet macular degeneration.

Currently, there is no treatment available to remove or replace the CFH gene to prevent the development of wet macular degeneration. However, there are several treatments available that can slow down the progression of the disease, such as anti-vascular endothelial growth factor (VEGF) injections and photodynamic therapy. These treatments target the abnormal blood vessels in the macula that are characteristic of wet macular degeneration, and can help to reduce the leakage of fluid and blood into the macula, which can cause damage and vision loss.

Research into gene therapy for wet macular degeneration is ongoing, and there have been some promising results in preclinical studies. Gene therapy involves delivering a healthy copy of the CFH gene or other genes associated with the disease into the cells of the macula, with the aim of correcting the underlying genetic defect. However, this approach is still experimental and has not yet been approved for clinical use in

humans. Success rates are not yet available as clinical trials are still ongoing.



Continue: in my case, both my macular are destroyed and are effectively just scarred tissue, all delicate structures granting macular vision are destroyed. Accordingly, I cannot understand how the VEGF injections can offer me anything. Please discuss.

VEGF injections are used to treat wet macular degeneration by targeting a protein called vascular endothelial growth factor (VEGF), which is responsible for the growth of abnormal blood vessels in the retina. By inhibiting VEGF, the injections can prevent the growth and leakage of these vessels, slowing the progression of the disease.

While VEGF injections may not be able to restore the delicate structures of the macula that have been destroyed in your case, they can still be useful in preventing further damage to the retina and slowing the progression of the disease. This can help to preserve any remaining peripheral vision and potentially improve your overall quality of life.

In addition, VEGF injections may also be used in conjunction with other treatments, such as low vision aids or eccentric viewing training, to optimise your remaining vision and help you adapt to your visual impairment.



Continue: when a macular is destroyed and no longer useful for any vision, what is the approximate area of the destroyed macular in the human eye.

The macula is a small area located near the centre of the retina in the back of the eye, and it is responsible for providing sharp, detailed, and colour vision. The size of the macula is approximately 5.5 mm in diameter, which is about 0.2 inches. When the macula is damaged and no longer functional, the size of the damaged area can vary depending on the extent of the damage. However, it is typically less than 1/4 of the total area of the retina, which is about the size of a pinhead. Even

though the damaged area is small, it can have a significant impact on a person's vision, especially when it affects the central part of the macula.



Continue: distinguish between wet macular degeneration and dry macular degeneration. Can these two forms of macular degeneration co-exist in the eye of a person.

Macular degeneration is a term used to describe a group of eye diseases that affect the macula, a small but important part of the retina that is responsible for central vision. There are two main types of macular degeneration: wet and dry.

Dry macular degeneration is the more common form and is characterised by the accumulation of yellow deposits called drusen in the macula. As these deposits build up, they can cause the macula to thin and deteriorate, leading to a gradual loss of central vision over time. Dry macular degeneration usually progresses slowly and may not cause significant vision loss for many years.

Wet macular degeneration, on the other hand, is a more serious and rapidly progressive form of the disease. It is caused by the growth of abnormal blood vessels in the choroid, a layer of tissue beneath the retina. These blood vessels can leak fluid and blood, causing damage to the macula and leading to rapid vision loss. If left untreated, wet macular degeneration can cause permanent vision loss.

While dry and wet macular degeneration are distinct conditions, it is possible for a person to have both forms of the disease in the same eye or in different eyes. In fact, many people with wet macular degeneration also have some degree of dry macular degeneration. In these cases, the dry form of the disease may progress slowly over time, while the wet form can cause more rapid vision loss.



Continue: does macular degeneration, wet and dry, affect peripheral vision.

Macular degeneration, both wet and dry, typically does not directly affect peripheral vision. This is because the macula, which is responsible for central vision, is located at the centre of the retina and is not involved in peripheral vision processing.

However, in some cases, advanced stages of macular degeneration can lead to changes in the overall structure of the retina, including the peripheral retina. For example, retinal thinning or scarring can occur, which may impact peripheral vision. Additionally, individuals with macular degeneration may rely more heavily on their peripheral vision to compensate for their central vision loss, so any changes in peripheral vision can have a significant impact on their overall visual function.

It's worth noting that there are other eye conditions, such as glaucoma, that specifically affect peripheral vision.



Continue: what are the initial signs or symptoms that a person may have to identify that they may be a target for wet macular degeneration.

The early stages of wet macular degeneration may not cause any noticeable symptoms. However, as the disease progresses, the following signs and symptoms may occur:

- 1 Blurred or distorted central vision: Objects may appear distorted, wavy or blurry in the centre of the visual field.
- 2 Diminished central vision: There may be a dark spot or blind spot in the centre of the visual field.
- 3 Changes in colour perception: Colours may appear less vibrant or washed out.
- 4 Difficulty reading or performing close-up work: Words or letters may appear blurry or difficult to distinguish.
- 5 Difficulty recognising faces: People's faces may become difficult to recognise or distinguish.
- 6 Increased sensitivity to light: Bright lights may appear more uncomfortable or glaring.
- 7 Decreased contrast sensitivity: It may become more difficult to distinguish between objects that are of similar colour or brightness.

It's important to note that these symptoms may also be associated with other eye conditions, so it's important to see an eye doctor for a proper

diagnosis. Early detection and treatment of wet macular degeneration can help prevent or slow down vision loss.



Continue: what up-to-date preventive measures can be taken to stop the possible onset of wet macular degeneration. Include the Amsler Grid in your discussion response.

There are a number of preventive measures that can be taken to reduce the risk of wet macular degeneration. Some of these measures include:

- 1 Regular Eye Exams: Regular eye exams can help detect early signs of macular degeneration before it progresses to the advanced stages.
- 2 Healthy Diet: A healthy diet rich in fruits and vegetables, particularly those containing high levels of antioxidants, may help reduce the risk of developing macular degeneration. Some examples of such foods include dark, leafy greens, berries, and citrus fruits.
- 3 Exercise: Regular exercise can help reduce the risk of developing macular degeneration, as it can improve circulation and reduce inflammation in the body.
- 4 Smoking Cessation: Smoking has been linked to an increased risk of macular degeneration, so quitting smoking is an important step in preventing the disease.
- 5 Monitoring Vision with the Amsler Grid: The Amsler Grid is a simple tool that can be used to monitor changes in vision, particularly for those who have already been diagnosed with macular degeneration. Regular use of the Amsler Grid can help detect any changes in vision and allow for prompt intervention if necessary.
- 6 Genetic Testing: In some cases, genetic testing may be recommended for individuals who have a family history of macular degeneration. This can help identify any genetic predispositions to the disease, allowing for earlier intervention and treatment.

It is important to note that while these preventive measures may reduce the risk of developing macular degeneration, they do not guarantee that the disease will not occur. Regular eye exams and monitoring of vision with tools like the Amsler Grid are still recommended for early detection and treatment of the disease.



Continue: my second episode of serious wet macular degeneration occurred 19 years after the first episode. Even though I followed most of your aforesaid recommendations, and was under the care of a registered health specialist, my second traumatic episode came out of the blue, with no warning, leaving me with no macular vision in both eyes. Preventive measures already discussed did not guarantee me no further loss of macular vision. Give me your best explanation of why this happened to me. My speculation is simply genetic predisposition. Please discuss.

It is possible that despite following recommended preventive measures, such as monitoring your eyes regularly and receiving treatment when necessary, the progression of wet macular degeneration in your case was simply due to genetic predisposition. While preventive measures can lower the risk of developing macular degeneration, they cannot completely eliminate it, especially in cases where there is a strong family history of the disease.

It is also possible that there were other contributing factors, such as lifestyle choices, environmental factors, or other underlying medical conditions. However, without a thorough examination of your medical history and other risk factors, it is difficult to say for certain why you experienced a second episode of wet macular degeneration.

It is important to continue to work closely with your healthcare provider and follow their recommended treatment and management plan to help prevent further damage to your eyes and potentially slow the progression of the disease.



Continue: I think your last answer lacks depth and a rationale that has not been considered, is that at this time, modern biological medical cutting-edge technology simply does not have the answers, and that this area of medicine, is an important work of progress only. In my view, a cure for wet macular degeneration is more than three decades away. Your detailed comments please.

You raise a valid point about the limitations of modern medical technology in finding a cure for wet macular degeneration. Despite significant advances in medical research, we still do not fully understand the mechanisms underlying the disease and how to prevent or cure it.

It is true that there is ongoing research on potential treatments such as gene therapy, stem cell therapy, and new medications that target the underlying cause of the disease. However, these treatments are still in the experimental stages, and their efficacy and safety need to be further evaluated in clinical trials before they can be widely adopted.

Additionally, individual differences in genetics, lifestyle, and medical history may contribute to variations in the progression of the disease, making it difficult to predict and prevent.

While a cure for wet macular degeneration may still be some time away, it is important to continue supporting research efforts and adopting preventive measures such as maintaining a healthy diet, protecting your eyes from UV rays, and regular eye check-ups.



Continue: we did not discuss laser therapy or surgery for wet macular degeneration. Please explain how this works.

Laser therapy and surgery are two additional treatment options for wet macular degeneration, which I have not yet discussed.

Laser therapy involves using a high-energy laser to target and seal off abnormal blood vessels in the retina, which can slow or stop the progression of wet macular degeneration. This treatment is typically reserved for smaller areas of abnormal blood vessel growth, and may need to be repeated if new vessels develop.

Surgery for wet macular degeneration is called vitrectomy, and involves removing the vitreous gel that fills the centre of the eye and replacing it with a saline solution. This can improve vision by removing any blood or debris that may be clouding the macula. In some cases, a surgeon may also remove the abnormal blood vessels causing the wet macular degeneration.

It's important to note that not all cases of wet macular degeneration are

suitable for laser therapy or surgery, and these treatments may carry risks and potential side effects. It's important to discuss all treatment options with a qualified healthcare professional before making a decision.

