Macular Degeneration

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Macular Degeneration

**Etiology**

Macular degeneration is an eye disease that leads to vision loss. It is usually related to the age factor, and it is considered normally to be an incurable disease. More than ten million citizens of the US have been affected by the disease. The central portion of the retina is called macula. In macular degeneration, the macula of the eye deteriorates causing the inability to see the details of an object. A person cannot read, drive, or focus on an object. Retina is a layer inside the eye towards its back area. It is responsible for capturing images of the objects that the eye sees. These images are sent to the brain where they are identified and appropriate responses are generated by the brain. Degeneration of macula deprives a person of the ability to see the central part of the objects and the person sees a blur on the center of each object (de Jong, Geerlings, & den Hollander, 2019). At early stages, the disease does not affect the vision of the eye. However, in the later stages, the person loses the central vision completely. Two types of the disease exist; dry macular degeneration and wet macular degeneration.

 The causes of macular degeneration are not known precisely. This is due to the lack of research and related sources. If the scientists are able to know the causes of deterioration of macula, they can find the solution for curing the disease. Until now, the following risk factors have been given by the researchers.

* Growing age is the most prevalent risk factor for the disease. It occurs mostly in persons aged fifty-five or older.
* Genetic factors are important concerning the disease. That is why children also demonstrate acquiring this disease. People with a family history of macular degeneration are more vulnerable to acquire this disease (Lambert et al., 2016). Further, the scientists have also indicated that people belonging to certain ethnic groups are also more likely to develop macular degeneration, for instance, the Caucasians have been identified to have more possibilities to have this disease.
* Smoking is also linked with the disease such that it increases the risks of macular degeneration.

**Diagnosis**

 In order to diagnose macular degeneration, various types of eye tests may be performed. The specialist performing these tests is referred to by the ophthalmologist or optometrist. He would do a comprehensive examination of the eye. Regular examination of eyes is advised by doctors to most of the people. The dilated examination of eyes performed annually for the patients can tell the doctors about the early symptoms of macular degeneration. The doctors will see a certain type of waste deposited on the base of the retina called drusen (Khan et al., 2016). The presence of drusen can be considered as a sign of the disease. Changes in a person's vision are not the earliest sign of the disease, as drusen begins to deposit on retina much earlier, and it could be only detected by the examination at this stage. The doctor uses certain eye drops to dilate the pupils. It helps the doctors to study the signs of disease on the retina.

 Visual acuity examination is a standard method for checking the occurrence of disease. The doctor assesses the patient’s ability to see a symbol or letter in detail. The patient is asked to sit at a specific distance for recognizing the symbol and identifying its different parts. Amsler grid is another method used for the diagnosis of macular degeneration. It can be used by people to check their vision by themselves. It is easy to use. The grid chart is to be placed at fourteen inches away and the central dot in the chart is to be focused without diverting eyes away. If the lines focused appear to be wavy, or boxes appear to become large, or similar other abnormal happen, a visit to some eye doctor is suggested. Eye examination for checking vision and diagnosing macular degeneration may include fluorescein angiography for capturing images of the fundus. Other methods imaging fundus include optical coherence tomography, fundus autofluorescence imaging, etc.

**Treatment**

 Macular degeneration is not curable in its acute or later stages. Certain treatments can bring improvement in the vision in some situations or delay the process of macular degeneration. For dry macular degeneration, the treatment given is nutritional therapy. Things with negative effects should be avoided such as extra usage of fats, lazy lifestyle, and avoidance of smoking. Antioxidants must be higher in diet, which will nourish macula. Supplements with increased vitamins also have positive effects.

 For wet macular degeneration, laser treatment is suggested usually called laser coagulation. It has been reported to reduce the risk of vision loss. It involves the use of light (laser) to make thermal burn on retina and destroy certain structures. It also decreases oxygen consumption by the retina and makes a balance between supply and demand of oxygen. Photodynamic therapy is another step in the laser therapy. The abnormal blood vessels in the eye are damaged by the use of laser after injecting certain medication (Visudyne) into the arm and activating this medicine by laser light when it passes through the retina. One of the most effectively used treatments for macular degeneration is the anti-VEGF therapy. VEGF stands for vascular endothelial growth factor. It involves injecting a chemical known as anti-VEGF into the eye that prevents the forming of new blood vessels at the backside of retina, which will eventually prevent leakage of blood, serum, or lipids that scar retina and kill macular cells (Maguire et al., 2016). The treatment is most successful, however, it is usually discomforting for the parents.

Works Cited

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