MYELOMA CANADA
MAKING MYELOMA MATTER

Managing Eye and Vision Issues Associated with Myeloma and Its Treatment

InfoSheet

Healthy eyes and clear vision are essential for daily activities, independence, and quality of life.

Multiple myeloma and novel therapies used to treat this blood cancer may affect various aspects of your health, including your eyes. Many patients may experience eye or vision related side effects. This can be due to the disease itself, treatment-related side effects, or other related conditions.

This InfoSheet will help you learn how to recognize common eye and vision symptoms, understand possible causes, and find practical strategies to protect your eye health and improve overall wellbeing.

Definition and Causes of Eye-Related Side Effects

What Are Eye-Related Side Effects?

Eye and vision changes occur when structures of the eye (such as the cornea, lens, retina, or optic nerve) or the nerves controlling vision are affected. Symptoms may include blurred vision, dry or irritated eyes, light sensitivity, double vision, or sudden changes in vision.

In people with multiple myeloma, eye symptoms may be caused by:

- Effects of myeloma on blood circulation or nerves
- Abnormal proteins affecting the surface of the eye
- Anemia or metabolic changes (such as high calcium or blood sugar)
- Immune system changes
- Side effects of anti-myeloma therapies

Most eye symptoms are mild and manageable, but some require prompt medical attention to prevent long-term vision problems.

Symptoms may include:

- Blurred or reduced vision
- Dry, gritty, or burning sensation in the eye(s)
- Light or temperature sensitivity
- Pain, redness, or irritation
- Double vision
- Eye discomfort or pressure
- Floaters, flashing lights, or shadows
- Swelling in one or both eyes
- Discharge or watery eyes

It is important to have any of these symptoms assessed as soon as possible.

Importance of Regular Eye Exams

Regular eye exams are an important part of maintaining overall health and vision throughout life. Without routine examinations and care, health issues affecting the eyes and the body can go undetected.

Adults (ages 20-64 years)

Adults between the ages of 20 and 64 should have a comprehensive eye exam at least every two years by an optometrist. Some individuals may require more frequent eye exams, as recommended by their optometrist.

As we age, so do our eyes. After the age of 40, individuals are at an increased risk for several eye conditions. Many of these can develop gradually and may not cause noticeable symptoms until the disease is more advanced. Regular eye care can help to detect these conditions earlier, when they are easier to treat.

Seniors (ages 65 and older)

Adults aged 65 years and older should have a comprehensive eye exam at least once a year. Seniors are at a higher risk of developing age-related eye conditions, which can affect vision and independence if not identified early.

Regular eye exams help to detect eye conditions early, monitor changes, and identify signs of other health issues. Following the recommended eye exam schedules and consulting with an optometrist about individual risk factors can help protect vision and support long-term eye health.

Causes of Eye and Vision Changes in Multiple Myeloma

Multiple myeloma can affect the eyes and vision in several different ways. These changes can be due to the disease itself or its treatment. It is important to be aware of all the possible symptoms and to report any new changes to your healthcare team.

Effects of Myeloma

One of the eye-related complications of multiple myeloma is hyperviscosity syndrome. This occurs when abnormal plasma cells produce excessive monoclonal proteins (M proteins), which can thicken the blood. Thicker blood may slow circulation in the small blood vessels of the retina (the light-sensitive tissue at the back of the eye) and lead to vision problems such as:

- Blurred vision
- Difficulty focusing
- Blind spots in vision
- Retinal hemorrhages (bleeding in the retina)
- Retinal detachment

In some cases, abnormal plasma cells may grow in or around the orbit (the bony cavity that holds the eye) or surrounding tissues. This may cause:

- Proptosis (bulging of the eye)
- Double vision
- Eye pain or discomfort
- Eyelid swelling
- Decreased eye movement

In rare cases, these changes may put pressure on the optic nerve, which carries visual information from the eye to the brain. This can result in:

- Reduced sharpness of vision
- Missing areas in the field of vision
- Changes in colour vision

Effects of Anti-Myeloma Treatment

Some treatments used to manage multiple myeloma may affect the eyes or vision. These side effects are not common, but it is important to be aware of possible symptoms and report any changes to your healthcare team.

Antibody-Drug Conjugates (such as belantamab mafodotin)

How they work: targets BCMA (a protein found on myeloma cells) and delivers an anti-cancer agent directly to the cells. Once the anti-cancer agent is inside the cell, it damages or kills the cancer cells while minimizing drug exposure to healthy cells.

Eye/Vision Risks:

- Changes in the cornea (the clear front surface of the eye)
- Blurred vision or reduced visual acuity
- Dry eyes or irritation
- Photophobia (light sensitivity)
- Foreign-body sensation in the eye
- Eye pain or discomfort
- Rare corneal ulcers or more severe changes

Overall, while eye-related side effects are common and usually mild, they are typically manageable and reversible with careful monitoring and treatment adjustments (such as dose modifications and temporary delays). Notably, most patients can continue treatment after recovering from their eye-related side effects. In addition, it is important to note that not all patients will notice all eye-related symptoms. Some changes on the surface of the eye can occur without symptoms and are detectable only through eye exams.

Managing Eye Health During Treatment with BCMA Antibody-Drug Conjugates:

While using BCMA antibody-drug conjugates, patients are asked to have an eye exam before each treatment dose, and the frequency may be reduced if no problems are detected during the first few cycles. Most eye-related side effects are manageable and often improve with appropriate care.

To help protect your eyes, use preservative-free artificial tears at least four times a day starting from your first infusion and continuing throughout treatment. If eye-related side effects occur, your myeloma doctor may delay treatment or reduce the dose, and in rare cases, stop treatment altogether. Importantly, many patients who require these adjustments are still able to benefit from therapy. You should avoid wearing contact lenses unless advised otherwise and refrain from driving or operating heavy machinery if your vision is affected. Always speak with your healthcare team if you notice any changes in your vision or have concerns about your treatment.

Proteasome Inhibitors (such as bortezomib, carfilzomib, ixazomib)

How they work: proteasome inhibitors (PIs) are an important class of medications used to treat multiple myeloma. They work by blocking the cell's natural waste-disposal system, causing harmful proteins to build up inside myeloma cells and leading to their death. Generally, PIs are not known to cause significant vision issues, but the below have been reported.

Eye/Vision Risks:

- Blurred vision (less common)
- Dry or irritated eyes

These are considered less common side effects, and vision changes need to be checked.

Monoclonal Antibodies (daratumumab) and Bispecific Antibodies (erlanatamab)

How they work: monoclonal antibodies are laboratory produced antibodies that recognize specific myeloma antigens. In multiple myeloma they help the immune system identify and destroy cancer cells.

Some patients may experience eye symptoms during or after infusion, especially if a systemic reaction occurs.

Eye/Vision Risks:

- Blurred vision
- Eye irritation, dryness or redness
- Increased risk of infections
- Rare reports of acute myopia or angle-closure changes due to fluid shifts in the eye

If sudden or severe eye symptoms occur during an infusion, seek immediate medical evaluation.

Other Treatments for Multiple Myeloma and Eye Health

In addition to the therapies discussed earlier, other treatments are commonly used to manage multiple myeloma. These include **immunomodulatory drugs (IMiDs)**, such as lenalidomide, pomalidomide, and thalidomide, as well as **stem cell transplantation** and radiation therapy.

Eye-related side effects with these treatments are uncommon, but they can occur. Immunomodulatory drugs have occasionally been associated with symptoms such as blurred vision, dry or irritated eyes, and, rarely, more serious effects like retinal changes or blood clots that could affect vision. Stem cell transplantation may temporarily affect vision due to conditioning chemotherapy, infections, or changes in blood counts. These effects can lead to dry eyes or an increased susceptibility to eye infections.

Steroids, which are very commonly used in multiple myeloma treatment, can also affect the eyes. Long-term or repeated steroid use may increase the pressure inside the eye, potentially leading to glaucoma, and may also contribute to the development of cataracts. Regular eye examinations are important to detect these changes early and ensure they are appropriately managed.

Infections and Eye Health

People living with multiple myeloma have a higher risk of infections, including infections that can affect the eyes, because both the disease and its treatments can weaken the immune system. This makes eye infections such as conjunctivitis and viral infections like shingles (varicella-zoster virus) or herpes simplex more likely, and these can potentially affect vision if not treated promptly. Symptoms may include redness, pain, swelling, discharge, sensitivity to light, or sudden changes in vision. Early treatment with antiviral or antibiotic medications is usually effective, and some patients may receive preventive antiviral therapy or vaccination against shingles to reduce this risk.

Tips for Self-Management

Taking an active role in caring for your eyes can help prevent complications and support your overall well-being during multiple myeloma treatment. Simple daily habits and awareness of symptoms can make a meaningful difference in maintaining clear vision and eye comfort.

What You Can Do

- Use preservative-free artificial tears regularly to keep your eyes moist and reduce dryness or irritation.
- Attend all scheduled eye examinations so that any changes can be detected and managed early.
- Report any new or worsening symptoms to your healthcare team promptly.
- Avoid wearing contact lenses unless specifically advised by your eye care professional.
- Protect your eyes from sunlight and wind by wearing sunglasses when outdoors.
- Practice good hand hygiene to reduce the risk of eye infections.
- Stay well-hydrated to support overall eye comfort and health.
- Avoid driving or operating heavy machinery if your vision is affected.
- Manage other health conditions, such as diabetes or high blood pressure, which can impact eye health.

When to Seek Immediate Medical Attention

Seek urgent medical care if you experience any sudden changes in vision, such as vision loss or double vision. This should be considered a medical emergency.

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