What is Corneal Ulcer:
A corneal ulcer is an erosion or open sore on the surface of the cornea. A corneal ulcer is a serious condition that must be treated promptly to avoid lasting vision loss. Although good medicines are available for treatment, corneal ulcers can cause severe loss of vision and even blindness.

Cause:
The cause of corneal ulcer is due to a bacterial infection that invades the cornea, mostly following eye injury, trauma or other damage. Contact lens wearers particularly are susceptible to eye irritation that can lead to a corneal infections and ulcer. Other causes may be due to parasites like protozoan- Acanthamoeba keratitis; fungi- fungal keratitis; virus- herpes simplex.

Symptoms:
You may notice signs of an infection before you’re aware of the corneal ulcer.

- Itchy inflamed sore eye
- Watery eye
- Pus-like discharge from the eye
- Burning or stinging sensation in the eye
- Sensitivity to light

Symptoms and signs of the corneal ulcer itself include:

- Excessive tearing
- Blurred vision
- White spot on your cornea
- Swollen eyelids
- Feeling like something is in your eye (foreign body sensation)

All symptoms of corneal ulcers are severe and should be treated immediately to prevent blindness. A corneal ulcer itself looks like a gray or white area or spot on the usually clear corneal surface.
**Diagnosis:**
An eye doctor can diagnose corneal ulcers during an eye exam

- **Fluorescein eye stain** test. For this test, the doctor places a drop of orange dye onto a thin piece of blotting paper. Then, he transfers the dye to your eye by lightly touching the blotting paper to the surface of your eye. Then a microscope called a slit-lamp is used to shine a special violet light onto the eye to look for any damaged areas on your cornea. Corneal damage will show green when the violet light shines on it.
- Once the ulcer is confirmed, then the doctor may numb your eye with eye drops, and gently scrape the ulcer to get a sample for testing, whether ulcer contains bacteria, fungi, or a virus.

**Treatment:**
Once the cause of infection is determined the doctor prescribes an antibacterial, antifungal or anti-viral medication to treat the cause of infection. If the eyes are inflamed and swollen, you may have to use corticosteroid eye drops.

During treatment, your doctor will likely ask you to avoid the following:

- wearing contact lenses
- wearing makeup
- taking other medications
- touching your eye unnecessarily

**Corneal transplants**
In severe cases, of the corneal ulcers, a corneal transplant may be needed. A corneal transplant is fairly safe procedure, but corneal grafts are difficult to get due to lack of donors.

**Sometimes there may be complications during corneal transplant:**

- Rejection of the donor tissue
- Development of glaucoma (pressure within the eye)
- Eye infection
- Cataracts (clouding of the eye’s lens)
- Swelling of the cornea

Stem cells offer a new approach to treat corneal opacity due to ulcers.
Protocol of treatment at Stem Cell Medicare:
We at Stem Cell Medicare have been giving treatment to patients with degenerative diseases with autologous mesenchymal stem cells from bone marrow, with great success. Bone marrow is sent to laboratory for amplification of stem cells and imparting cytoplasmic markers for making corneal progenitor cells to form a monolayer. This monolayer of progenitor cells is used for corneal graft.
We strive to design protocol for each patient to suit his needs. The technique is quite effective, safe and without any side effects.

The protocol involves the following steps:

Patient Selection:

- Adult Or with Parental approval
- Patient with exclusion criteria for each disease
- Written and video consent to receive the treatment

Stem Cell Extraction: The mesenchymal stem cells are collected from

- Blood
- Bone marrow
- and or abdominal body fat
- The mesenchymal stem cells are separated by special procedure from the blood, bone marrow or adipose tissue.

Stem Cell Processing:
Part of the blood, bone marrow and body fat stem cells are sent to a nationally accredited laboratory for amplification and differentiation of neural cells. These cells are administered on the subsequent visits.

Quality Certificate: Each patient receives a third party certificate (nationally accredited laboratory), for quality, quantity of viability of cells.

Implantation Of Stem Cells: The stem cell implantation can be done in the following ways.

- Intravenous administration
- Intrathecal (lumber puncture)
- Intramuscular
- Intraarterial
- Subcutaneous
- Liberation angioplasty
- Surgical administration for stroke
Follow up:
The Staff at Stem Cell Medicare will call you after one month, two months and six months to see the progress of the treatment. This helps us refine our protocols to improve further. You can also call for any other help in case required.

Eligibility:
- Blotting paper test to confirm ulcer

Exclusion Criteria
- Need some vision