CONDITION

Giant cyst of the retina

A giant retinal cyst is a large fluid-filled cavity that usually develops within a retina affected by long-standing detachment.

WHAT IT IS
Large fluid-filled cavity within detached retinal tissue

BODY SYSTEM
Eyes and vision

MAIN SYMPTOMS
Blurred vision, field shadow, flashes, floaters

WHAT CAUSES IT
Usually long-standing retinal detachment

HOW IT IS DIAGNOSED
Dilated eye examination, OCT, and ocular ultrasound

MAIN TREATMENT
Repair of the associated retinal detachment

CAN IT BE CURED?
Sometimes - cysts may collapse after retinal repair

IS IT AN EMERGENCY?
Sometimes - new detachment symptoms need same-day assessment

LONG-TERM OUTLOOK
Vision reflects detachment duration and macular damage

Overview

A giant cyst of the retina, also called a retinal macrocyst, is a large cavity filled with fluid inside the retina. The retina is the light-sensitive layer lining the back of the eye. It sends visual information to the brain.

These cysts are rare. They usually form in an area of retina that has been detached for a long time. A retinal detachment means that the retina has separated from the layer beneath it that provides support and nourishment.

The cyst is usually part of the retinal tissue rather than a separate growth. It is not normally a cancer. However, its appearance can sometimes resemble an eye tumour, so careful imaging is important.

A giant retinal cyst may not cause symptoms of its own. Most symptoms come from the retinal detachment around it. The main concern is therefore not simply the cyst, but whether the retina is detached, how much retina is involved, and whether the macula has been affected. The macula is the central part of the retina responsible for detailed vision.

Symptoms

A giant retinal cyst is often found during an examination for retinal detachment. It may also be discovered unexpectedly during an eye examination or imaging test.

Possible symptoms include:

Floaters are dots, strands, or cobweb-like shapes that move across your sight. Flashes may look like brief sparks or streaks of light, often at the side of your vision.

Retinal detachment is usually painless. The absence of pain does not mean that the problem is minor.

A cyst in the far edge of the retina may cause no additional change that you can notice. A larger cyst can make part of the detached retina bulge into the gel-filled centre of the eye. In some cases, it can make the detached retina harder to flatten during surgery.

Symptoms can affect only one eye. Because the other eye may compensate, a change can be less obvious until you cover each eye separately.

- Blurred or reduced vision
- A dark curtain, shadow, or missing area in your vision
- New flashes of light
- A sudden increase in floaters
- Distorted central vision if the macula is involved

Causes and risk factors

Most giant retinal cysts develop as a complication of long-standing rhegmatogenous retinal detachment. "Rhegmatogenous" means that fluid has passed through a tear or hole in the retina and collected underneath it.

When retina remains detached, its tissue can undergo gradual degenerative changes. Small spaces within the retina may combine and enlarge, eventually producing a macrocyst. The cyst is therefore usually a result of chronic retinal separation, not the original cause of the

detachment.

Factors linked with retinal tears and detachment include:

These factors do not mean that a giant cyst will develop. Many people with retinal detachment never develop one.

Occasionally, a cyst-like retinal abnormality may have another explanation, such as retinoschisis. Retinoschisis is splitting between layers of the retina rather than separation of the whole retina from the tissue beneath it. This distinction matters because the expected course and treatment may differ.

- Previous retinal detachment in either eye
- Severe short-sightedness
- Eye injury
- Previous eye surgery, particularly cataract surgery
- Thinning or degeneration of the outer retina
- Certain inherited disorders affecting the eye
- Increasing age and changes in the eye's internal gel

Diagnosis

An ophthalmologist, a medical doctor specialising in eye conditions, usually diagnoses a giant retinal cyst. The assessment aims to confirm that the cavity is within the retina, identify any retinal tear, and determine the extent and age of the detachment.

Your eyes will usually be examined after dilating drops have enlarged the pupils. The clinician may use different lenses and gentle pressure around the eyelid to inspect the far edges of the retina. The drops can blur near vision and increase sensitivity to light for several hours.

Optical coherence tomography, or OCT, uses reflected light to create detailed cross-sectional images of the retina. It can show separation between retinal layers or fluid beneath the retina. A far-peripheral cyst may be difficult to capture with standard OCT equipment.

Ocular ultrasound uses sound waves to create an image of structures inside the eye. It is especially helpful if cataract, bleeding, or another obstruction prevents a clear view of the retina. Ultrasound can show a fluid-filled structure attached to detached retinal tissue and help distinguish it from a solid mass.

Wide-field retinal photography may document the cyst and surrounding detachment. Other tests may be used when the appearance is unusual or a tumour needs to be excluded.

A biopsy is not routinely needed. Diagnosis is usually based on the retinal examination and imaging findings.

Treatment and management

Treatment is based mainly on the retinal detachment rather than the cyst alone. The approach depends on where the retinal tear is located, how much retina is detached, whether the macula is involved, and whether scar tissue is pulling on the retina.

Retinal detachment surgery may include:

These methods may be combined. Gas bubbles gradually disappear, while silicone oil may require a later operation for removal. The choice is made after an eye surgeon has examined the individual detachment.

A giant retinal cyst often becomes smaller or collapses after the retina is reattached. It does not always need separate removal.

If the cyst prevents the retina from lying flat, the surgeon may need to puncture, drain, open, or remove part of it during surgery. These steps are uncommon and are considered according to the cyst's position and effect on the repair.

Observation may be reasonable in selected situations, such as a stable chronic detachment with limited visual potential or when the risks of surgery outweigh the likely benefit. Observation still requires planned eye follow-up because the detachment or cyst may change.

Treatment cannot always restore vision that was lost before surgery. Repair may still be recommended to protect remaining vision or prevent the detachment from extending.

- Vitrectomy , which removes the gel inside the eye so the retina can be repositioned
- Scleral buckle surgery , which places a supportive band around the outside of the eye
- Laser or freezing treatment , which creates a seal around retinal breaks
- A gas bubble or silicone oil , which supports the retina while it heals

Complications

The main complications relate to chronic retinal detachment. Photoreceptor cells, which detect light, can lose function while separated from their normal support layer. Central vision can be permanently reduced if the macula has been detached, especially for a prolonged period.

Other possible problems include:

Scar-related contraction is called proliferative vitreoretinopathy. It can make repair more complex and may require further surgery.

Retinal surgery also carries risks, including infection, bleeding, raised eye pressure, cataract progression, and another retinal tear or detachment. Your surgical team should explain the relevant risks and expected benefits before treatment.

- Extension of the retinal detachment
- Scar tissue that pulls on and stiffens the retina
- Difficulty flattening the retina during surgery
- Recurrent detachment after treatment
- Reduced peripheral or central vision
- Rare confusion with a solid eye tumour

Prevention

A giant retinal cyst cannot always be prevented. Once a retinal detachment has been present for a long time, cyst formation may occur as part of the retina's response to chronic separation.

Prompt assessment of new retinal-detachment symptoms may allow a tear or detachment to be treated before it becomes longstanding. This may reduce the opportunity for chronic changes such as a macrocyst to develop, although it cannot guarantee prevention.

Wear suitable eye protection during activities that could cause an eye injury. Attend any retinal follow-up recommended because of previous detachment, severe short-sightedness, eye surgery, or known thinning of the retina.

Routine eye examinations are useful, but they are not a substitute for urgent assessment when flashes, floaters, a visual shadow, or sudden vision loss appears.

Living with it and what to expect

What happens over months and years is shaped mainly by the retinal detachment. A cyst may remain visible, gradually shrink, or collapse after successful reattachment. It can sometimes persist without causing a separate problem.

Visual recovery after surgery is often gradual. The retina may be anatomically reattached before vision reaches its best level. If the macula was detached, central vision may remain

blurred or distorted. The final result is influenced by how long the retina was detached, the condition of the macula, scar tissue, and whether the retina stays attached.

You may need repeated dilated examinations and retinal imaging. Some people need more than one operation. Follow-up after surgery is important even when the eye feels comfortable because retinal problems are often painless.

If a gas bubble is placed in the eye, temporary positioning and restrictions on flying or travelling to high altitude may be necessary. These instructions are specific to the gas used and must be followed until the eye team confirms that the bubble has gone.

Many people continue usual activities after recovery, although reduced sight may affect reading, driving, depth perception, or work requiring detailed vision. Low-vision services, brighter lighting, magnification, and adjustments to screens can help when sight does not fully recover.

The other eye does not develop a cyst simply because one eye has one. However, some causes of retinal tears can affect both eyes, so follow-up of the other retina may be advised.

When to get medical help

Seek same-day urgent eye assessment if you develop:

These can be symptoms of a new or extending retinal detachment. Do not wait for a routine eye appointment, even if there is no pain.

After retinal surgery, follow the emergency instructions given by your surgical team. Seek urgent help for severe or increasing eye pain, sudden worsening of vision, increasing redness, marked swelling, or discharge.

Routine follow-up is appropriate when your vision is stable and you have no new symptoms. Keep scheduled appointments so the retina, cyst, and pressure inside the eye can be monitored.

- A sudden shower or marked increase in floaters
- New or repeated flashes of light
- A dark curtain, shadow, or missing area in your vision
- Sudden or rapidly worsening vision

Common questions

Is a giant retinal cyst cancer?

Usually not. It is generally a fluid-filled cavity within chronically detached retinal tissue. Because it can look like a mass, ultrasound and other imaging may be needed to rule out a solid tumour.

Can the cyst burst?

A spontaneous collapse can occur, especially after the retina is reattached. This is not usually described as a dangerous rupture. During surgery, a cyst may be deliberately opened or drained if it prevents the retina from lying flat.

Will I lose my sight?

A cyst does not automatically mean complete sight loss. The outlook is affected more by the size and duration of the retinal detachment, whether the macula is involved, and whether repair is successful. Some visual loss may remain after treatment.

Does every giant retinal cyst need surgery?

No. Surgery is considered mainly when there is a retinal detachment that can benefit from repair or when the cyst interferes with treatment. A stable condition may sometimes be monitored.

Can a giant retinal cyst go away on its own?

It may shrink or collapse, particularly after the detached retina has been repaired. A cyst can also remain present. Waiting for it to disappear is not safe when there are new symptoms of retinal detachment.

Can it come back after treatment?

The cyst may persist or recur if the retina remains detached or detaches again. Continued retinal follow-up is used to check that the repair remains stable.

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