

## Analytical Study for Pterygium in Syria

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### Abstract

### Original Research Article

**Purpose:** To majoring pterygium in the society and put suitable treatment and Prevention of Pterygium Recurrence after Surgical Removal. **Material and Methods:** 60 eyes with primary Pterygium and follow up after surgery. The Study Was Performed Between October 2014 and January 2015, to study patients with pterygium and who presented the Department of the ophthalmology in the Alipo University hospital and Damascus eye surgical and follow up was performed for 6 months postoperatively. Differences between frequencies in both groups were compared by the chi-square test  $P < 0.05$  was considered significant and analysis the causative organisms susceptibility patterns of pterygium patients on Syria during 2014 -2015. **Result:** The Recurrence is conjunctival tissue going or passed 1 mm after lumps we analyzed the data with SPSS version 10 programs. Postoperative complications by Chi-2 and P value test where the value was considered less than 0.05 statistically significant. After 6 months from surgery the percentage of Recurrence. Tables for follow up patients after surgery (3-4- 5- 6 -7- 8). **Conclusion:** The pterygium on of common diseases in the eye, and expressed the ophthalmologist from the most important reduced of the pterygium recurrence suggested many treatments (injection in the head of the pterygium - a conjunctival flap)

**Keywords:** Pterygium, Phcc, Primary Health Care Corporation, Qatar.

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## SECTION 1:

Theoretical study

1 - Anatomical and fetal abut conjunctiva

1.1. Conjunctiva (AH (1, 2, 3)

The conjunctiva is a thin vascularized mucous membrane of the lining of eyelids, and is reflected at the upper and lower pads on the front surface of the sclera and the eyeball. Connecting with the corneal epithelium and the eyelid with the skin, so the conjunction is a continuous membrane forming a sample between the corrugated and the opponents called conjunctival diverticulum, the connection with the outside center of the groove. And with the nose mucus membrane.

### The conjunctival divided into three main sections The Palpebral Conjunctiva

A pancake section that covers the back of the background and mountain muscle until you relate to the branch of the conjunctival diverticulum. The gunman grinds the abandonment of the clever able plate, the city's blood transfers and where he is seen as the Mobius's rise in the form of vertical and white vertical lines on the edge of the eyelid. In the nine-nine zone,

the conjunct vinous thin is a thin slave based on the eyelids muscles and takes the form of horizontal folds when opening the lids.

### Fornix conjunctiva

Is the bearing that is the bottom of the imbalance and the formation of the mucous membrane of the face of the meter to the front of the front? It is a thickness and wage of the rest of the construction of the construction, which allows the freely transporting motion to move the movement of the law. It is divided into four sections:

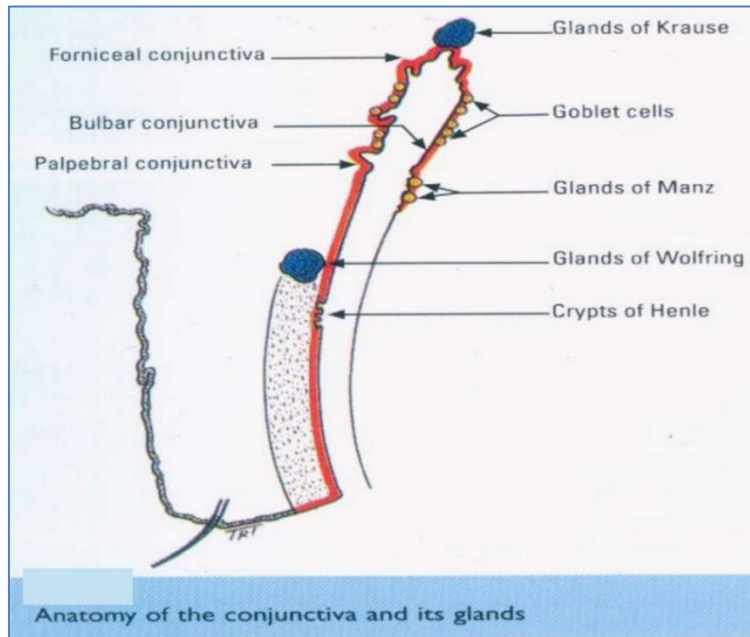
- Upper: The top of the upper and elevated eyelid is located 8-10 mm of the upper edge of the episode, and the fibers of the muscle of the bowl and the most recent returning are based on the top of this product, which keeps this product despite the movement of eyelid and marketing.
- Bottom: The bottom of the bottom and marble is located 800 mm of the lower edge of the lower. The bottom of the bullets is predicted from the bottom of the bottom eyelid, which maintains the product, despite the movement of eyelid and marketing.

- Brutal diverticulum: Brew-elevated and elevated. It extends 14 mm of the brutal edge of the
- The medial diverticulum: The only section of the conjunctivitis that is not a clear and completely anticipated brigade, and contains two distinctive brigades, which are the beam and tribal clinics. The concentration of polybagged

**Bulbar Conjunctiva**

A transparent thin membrane sees the lung basic vessel easily and covers the front section of the

eyeball. Separates sclera with the Tenons capsule, and the adhesion of them is sprayed so that the morality of overwhelming and sclera. The conjunction with the tenon capsule is closely close to a mm 3 mm, so the rights in this area reach us to the distance under the Tenons capsule directly. As a patient conjunction is the place of existence, its capacity to relegation and easily erased sclera. Helps to eradicate the dumper and sclera coverage.



**Anatomy of the conjunctiva and its glands the conjunctivita shows of two distinguished**

Plica semilunaris: on the medial canthus small fold in the bulbar conjunctiva. The direction of her vertical, slightly down towards the sore and brutal, it's free loading of the cornea, which is more than the most important of the upper end of the bottom diverticulum the caruncle: a small body for a small ingredient color pipe, measuring 1-2 mm. The corrals of the gas flexibility in the lame shot near the base of Plica semilunaris, and have the meat on some colorless hair.

**Macroscopic anatomy of the conjunctiva [1-3]**

The epithelium: is an internal cellular layer that differs by cellular installation by anatomy of the conjunctiva, the mucus link is based on the back of the background of the Mobius's vulnerable, the leather epic constant from the stuffed epic stuffed keratinized squamous epithelium is not in the noise of the seal of the narrow, the middle of the Pickle Cells, the deep-component of cylindrical cells. At the level of the pancake, the epithelial cells shall be based on several layers of 3-5 layers, the cone and cells of the spinal cells with the many cells with the middle classes in the middle classes and the cubic cell class in the baseline. This cellular installation continues along the patient's

implantation, even the blame where the cellular layer is installed until it gradually integrates with the four-layer of the cornea.

**The Substania Properia**

A compass fabric located under the epithelium, and practically characterized by two layers: the surface narrowed in the ADENOID LAYER: This fabric extends the flexible under the pterygium until the lumps. This class is made of precision compact fabric that spreads in grain lyrics and has some cells of Mast Cells and the Histiocytic Cells. Lymphocytes are grown to assemble small injustice, especially in the conjunctivitis. These gatherings are not a real hidden territory but lower cells of a distinct border with excellent distance, the size and number of these doors is in the inflammatory cases, and may increase its size to be false.

**The deep fibrous layer**

Is a majority of the nine of the class in a more prepared program, which is part of the same conjunctival, composed of a densely flexible and flexible fiber network, is absent in the region over the

pterygium and look as it is extended from his edge? This class is supported by the relief of the alleys of the eyelid crane and the upper stage of the top of the upper-lower area, and the Lockwood Subsensory Ligament's the bottom area, and is integrated with the Tenons capsule in the conical contents. This nerve class and nutrient feeding is contained for the gym.

The conjunctival glands: Conjunctiva has a large number of glands, divided into two groups: the mucous glands and Globalet cells the serous glands and accessory lacrimal glands counted gland of Krause and wolfling and the absence of these flexes lead to the dilution of the conjunctiva Xerosis despite the normal depth of the path, and the number of these cells are increasing in all the chronic inflammatory cases.

**Conjunctival blood vessels [1-4]**

Conjunctival vessels are supplied by the ophthalmic artery and the external carotid artery

**The conjunction of the conjunctival Lymphatics [1-4]**

Conjunctiva does not contain lymph nodes the lymph nodes in front of the ear Preauricular Nodes, which receives the lymph of the upper eyelid conjunctiva and the lateral triangle of the bottom of the eyelid.

**Conjunctival nerves: [1, 3, 4]**

1 nerve sensory of the conjunctiva and the nerves are:  
 Supratrochlear nerve  
 Supraorbital nerve  
 Intratracheal nerve and Lacrimal nerve with zygomaticofacial nerve)

**The Genome of Function [1, 5, 6]**

Embryology Development the Evolution starts the twenty-tow day of unemployed, as two grandsons to the two sides of the brain claims the two vicinity, and the brain of the two visuals. In the seventh week, he typically backed by the upper and highly raw built-in bold bags, where it is formulated under the macros and above, each of which grows gradually until they meet the eighty-eight-day e-mail, and these folds form the upper and lower steps. Each of the fabric of the micro of the evidence of the entire nursery is surface and evolves this fabric to finish the skin on the face and appropriately the conjunctivitis on the face of the meter of each. In the eighth week when grenades reach somewhat, their edges began to integrate from the market towards the breeding and ending the integration this week. In the twelfth week, the diuretic diocese of the intimate derived.

Is the remaining and the opponet remains adjacent to each other over the sink of the verb to the end of the fifth life of the unemployed, where they start their excuse from the time on the bottom to take this separation at the end of the seventh month of the

purpose of the unemployed. The development of the tribal club is at the end of the second month of the purpose of the unemployed, where the fancy of the fluid is formulated with a flexible element that includes derived elements of the medium-performing, and the voluntary intervals of the 12th week, and is complementing its distinction at the beginning of the fourth fetal month. The development of the beam starts at the end of the third month, with the reveal of the alphabet cells on the back of the Vice-Professional part of the bottom of its free load, develops fatty glands and the poetic federations in the fourth month. The Global and Fabric is to be the first time from birth before or after direct.

**What is the Pterygium?**

The Pterygium since the days of Socrates, who lived BC in several thousand years, also mentioned in the Socrates and Galena's, literature and others. The DRC has taken the current Pterygium destination of Pastry's Pterygium, which means the suite to form the triangle that is like the wing, and the Arabs in the letter to the reverse nail.

The Pterygium is disturbing for the patient because of the distorted shape that he talked to the eye, as well as the symptoms of the symptoms, and the doctor because of the Pterygium after the surgical eradication. It was not yet placed on the accuracy of the mutual science and did not know the real causes and the same pathological scene. We can therefore half of them with their symptoms and tags in it, which can be diagnosed as we can mention the available ways to its surgical era. Photo (2).

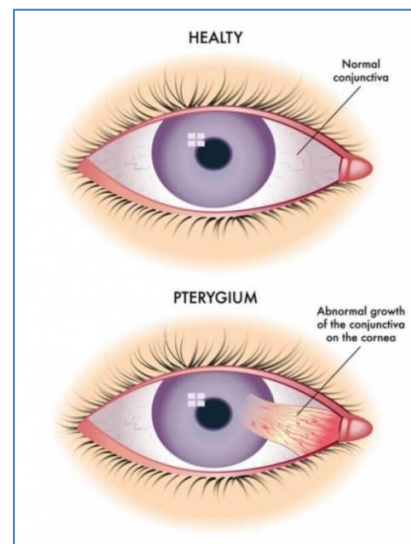


Photo (2) Pterygium

**Pterygium definition (1 - 5-6- 7- 9 -10)**

Triangular growth of Bulbar Conjunctiva tissue starting from medial on nasal conjunctiva to the cornea, this growth has a form of his educated base and its peak towards the center of the cornea, is horizontal that has been conceived the cornea.

The mandate, or the brightness, and more than one of the most common. The dumper is characterized by its gradual extension, which starts with a small and gradual stretch on the cornea, in some cases, the optical center of the square may be reached or exceeding the leading to the blurring of the vision. The spread of the 2-7 % of the people in America, which is now from the decreased birds as long as the mutual cause did not determine.

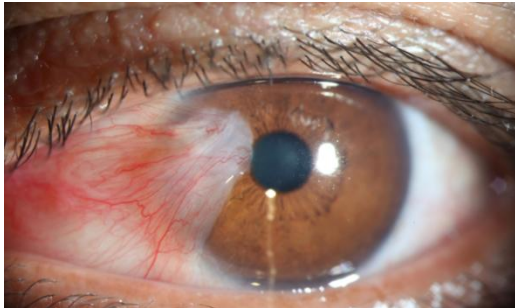


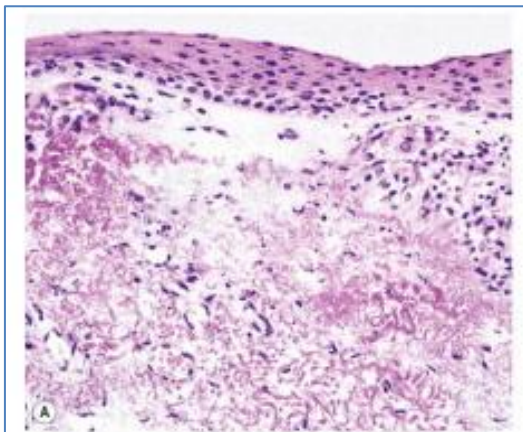
Photo (3) Pterygium

**The anatomical patterns of the pterygium:**

Notes the distinctive tissue elements of the initial fertilization in the epithelium and the substance, where the dowry is covered with a dual-sized coverage of the permanent conjunction over the cornea, its natural border. Where we note the following. Hyalinization glass in the violet fabric under the euphoric

The designs are designed or spread of acidic grassroots and an increasing number of fibroses other cells. Mazars increased by fibers of thick and tortuous are well known flexible fiber colors. This fiber shall be next to the underwriter fiberglass area

Migration within a grass, or the fiberglass area, it may be bound by varying or acute blessings. Comboxes are updated, usually the mercury and scattering of excess planting extension fairly in addition to the bleaching of the vocal bed in the sclera under pterygium.



Pathological anatomy of the pterygium 3

**Incidence and Prevalence [1, 3, 2]**

The geographical distribution: The domain is spread all over the world but its rate is different from another manner according to its proximity to the line of equator, where the pterygium was more prevalent in areas between latitude 40 north and a south, and Cameron has developed a map that has shown the spread of the drought according to geographical areas.

Through the map, our rate of the feet is very high in tropical areas that extend between the lines of 0 to 30 degrees north and south and reach 22% in the tropical theater. The falling rate is in the areas between 30 -35th grade and north of the north and the Republic of the Close-run, Egypt, and Syria. From the past, we note that Syria is lying with the high-fall areas with them under a 30-37 degree grade.

**Age**

The rate of proliferation and falling according to age is different from the age of 20, and the rate of spirits is raised at the 40th year, and the rate of occurrence is higher in the age group between 20-40 years. This may be due to this group is the most vulnerable to climatic factors, and the denomination rate after surgery is in the case of the reality.

**Profession**

The rate of spread of the pterygium is given by the patient's career where it is more common in the professions that require outdoor work as farmers.

**Gender**

Many studies have been observed that the rate of fewer pterygiums at the highest in it is in females and the percentage of some studies arrived in 2 to 1

**Genetics**

History of pterygium was observed at some families, and this factor is moving as a precious generation in the penetration of influence.

We note above before: the reason for the duty is still unknown, they occur in the warm areas and in persons who are environments and their race for the nature of their work. With a preparedness of a family pillow in some cases.

**Clinical findings [1-5-6-7-9-9-10-13]**

3.2.1. Signs and Symptoms: The pterygium looks block to a diet of a thickness melody fabric, a base over the saline immunization or scenic, the Cape Brown's head, the axis of the triangle is not perfectly horizontally, but a little tendency to the top of the corneal. The assets of the script in the nude lamp:

1- CAP: a white-gray white-spray area is different from different size, it is located in the underground vase of the square, the dash burg is advanced surrounding as an asphalt, and we are finding

rounds or tidal of the shape. The Lots of Fuchs is also the same as the Iron Deposits in the cornea of the cornea between the stoker's line and the pterygium. The determination of the corneal of the DRC. The last of the doubt of the DRC and the idius usually prepared with the curl blessings.

2 -The pterygium head, it seems a slightly liblosed block of the white surface of the cornea and the grandmas suction is not can be moved from it.

3 - Pterygium body: The pink fabric is a blood vessel that takes the shape of the horizontal plate of its upper bottom and lower limited and properly burned with a burning near the right. The dominant usually is not cross-core and develops in a quiet and especially in the early stages of injury and the appearance of symptoms complies with the intervals between the failures that affect the dumper and then combat the dumper and this is a very sharp vertical grown with the growth and feeling of a foreign body of the eye. The patient also complains to grinding, deceived and unfair appearance of the distinguished appearance always has the only presentation that pushed the patient to review the doctor especially in female.

3.2.2. Pterygium side effects: The decrease in the vision is due to the development of a corneal astigmatism resistance is caused by a cutting to the Sporting and is often critical of the incidence of irregular. After a long period of development, the pterygium extended to the corneal center of the Survey leading to severe decrease in the vision of the optical center of the Square and the Gulled Gulf, which has shot light from the glare surface of the light. The diplopia may occur in the cases of the denominator and the adhesive of the object of the domain in the area of the field. Which determines the eye movement for brutal.

**Differential diagnosis of the pterygium**

Is involved in the discharge of the dialect of the fertilizer of a number of diseases that are located in the lumbus aria the most important:

1 - Pseudo pterygium is an adverse disaster adapter between conjunctiva and cornea where the adhesion between the flexible and horny corrosion is expected, and the reaction of inflammation and the immunization of the conjunctival structure of the conjunctivitis The figure is similar to the corner is based on the corneal surface. You see this mechanism in many in-kind birds such as: Ear, construction, construction, surgery, chemical burns, and marginal ulcer. To distinguish between the real and false division we adopt the following qualities: the false charter false from the blindness of the stability of there is an affordable reason to put in the unfair gas occupation in the area of the cornea, stressing a sclera in the limbs

area, the head, the lack of the distinctive parts (hat-head) body always tends to extend.

2-Pinguecula: show a mass of high-level q or the triangular shape between the gray and yellow, the nets on the glitter concentration in the unfair and unusual in the eyes. The Pinguecula may stretch to the limbus



**Exceeding the graduals limbs or otherwise of the other**

- Pemphigus vulgaris and scleritis
- Dermoid theater near the limbus
- Nonmalignant tumor (papilloma – lymphoma - adenoma )
- exposed cancers such as the Bowen's disease
- the squamous cell carcinoma
- Acanthosis
- Parakeratosis
- hyperkeratsis

**Pterygium management [7-8-9-10-11]**

Medical treatment

1-prevention

- Warring Sunglasses preventive uv
- Change Life and Professional Lifestyle

**2- Pterygium Symptoms treatment**

Symptoms can be reduced photophobia, burning foregone body sensation, avoided the Experimental Communities or Smoke place with Drug Surface Dissolve Unelectable on Copyright Materials, Vascular Dialogs and Light Steroids.

- The treatment of Thioketal is a diligent factor for the departure of the Azotine
- Mitomycin c treatment

**Physical treatment**

Physical Treatment: is a coding treatment used by physical means as an integral awareness of an estimated reaction as a surface for surgery or as a heritage treatment, but the most of its micronations, the difficulty of its application has led to limited use and includes:

- cryotherapy
- Thermo coagulation
- X ray
- β radiation
- Laser Therapy: The Argon laser used in the newly typical blood vessels after the surgery of the surgery

**Pterygium surgical treatment**

Remains the surgical of the only treatment successful treatment of the pterygium when indication for surgery. The effect of the vision of the observation of the effect is not seen directly on the vision of the opponent, the defines of the eye movement and the diplopia the reaction of the groom of the

- The photophobia unrelative functional, and the conjunctival redness.
- Plastic indications
- Th Clinical Doubt of the malignance

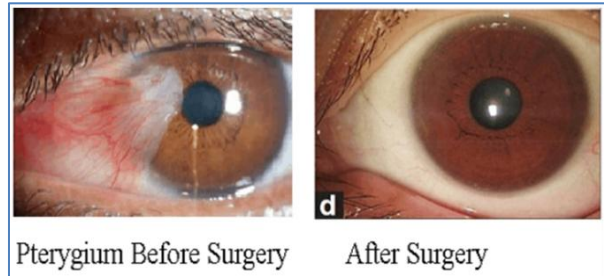
**The high recurrence of pterygium excision a varies methods to the pterygium eradication such as:**

1. The scleral eradication of the (Bare sclera excision)
2. Simple excision
3. Pterygium excision with the application of mitomycin C: mitomycin C is a consistent material that is divided into the cellular DNA and the RNA and thus the input of the generation of the generation cells of the Fibroblasts is reduced by the DNA rate. Here we apply the mitomycin c on sclera after the eradication of the pterygium.
4. The aim of the mitomycin c investigates to reduce the percentage of the ducts that one of the most important problems is the overall after the eradication of the long duty of the pterygium with the use of a roller slide of the conjunctivitis:

**Where we here cover the solid place of women after the eradication of a flexible roller of the upper or lower-final**

1. Giving off the pterygium with the β-edition application: We apply radiation of the pterygium
2. Giving the pterygium with the use of the amniotic membrane: the aim of the base of the wad roads is to reduce the normal dissolution of the recurrence as much as possible,

3. Giving off the pterygium with the use of a free flap of the conjunctiva: Here is a taste of the upper context of the upperly edge of the edge of the stable diabetes.



**Section II**

**The practical study of the clinical study**

Pterygium one of the most important concentrations of conjunctiva and more common, where the patient complains from the itching burning and forgone body sensation and watery eyes and is considered where the patient complains from the itching and decrease of vision, the optimal surgery for the treatment of the pterygium and due to the high-recurrence of the pterygium after surgery there is various methods to prevent, the high recurrence.

The pterygium in Syria was given the relative proximity of the line of equator of the region, where there was a relationship to exposure to ultraviolet radio and the increasing the objective the message to study the percentage of patients who had pterygium and follow up after surgery.

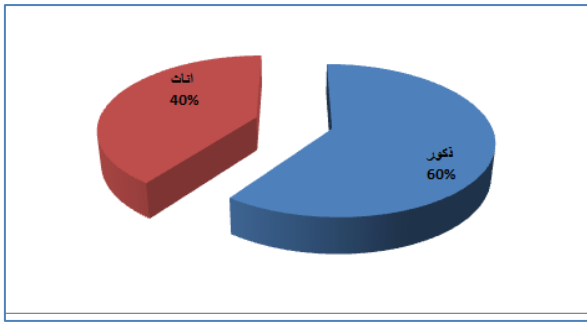
**PATIENTS AND METHODS**

To study patients with pterygium and who presented the Department of the ophthalmology in the Alipo University hospital and Damascus eye surgical of the number of cases 60 eyes, after the rule of the study excluded:

- congestion pterygium patients
- dry eye patients
- uveitis patients
- glaucoma patients
- blepharitis patients
- patients who not interested with follow up
- And we open special fail and lists for all patients in the study.
- The patient was distributed by sex as apparently in the table (1)

**Table-1**

Sex	Nanampere of eyes	percent increase
Mel	36	60%
Female	24	40%
ALL	60	100%



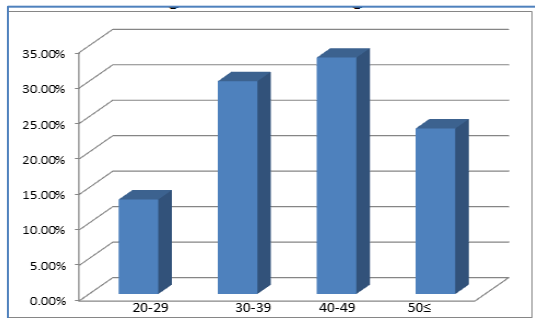
Red female blue Mel distribution patients by sex chart (1)

Distribution patients by sex Note that the mal injury has more than females in our study

(2) Age groups (year-old percentage age

Age (years)	Nanampere of eyes	percent increase
20-29	8	13.33 %
30-39	18	30%
40-49	20	33.33%
50≤	14	23.34%

Distribution patients by age in the table 2 not most of patients in the age groups 40-49 years



Distribution patients by age in the table (2)

**RESULT**

**The percentage of Recurrence after 6 months from surgery table 3**

Patients	Percentage
successful	56 ( 93.33 % )
Recurrence	4 ( 6.67 % )

The percentage of Recurrence after 6 months from surgery table (3) The Recurrence is conjunctival tissue going or passed 1 mm after lumps we analyzed the data with SPSS version 10 programs. Postoperative complications by Chi-2 and P value test where the value was considered less than 0.05 statistically significant.

**Tables for follow up patients after surgery (4- 5- 6 - 7- 8)**

**Table-4**

First day examination	Patients
subconjunctival hemorrhage	8
Irritability photophobia	7

**Table-5**

examination after 1 week	Patients
subconjunctival hemorrhage	6
Irritability photophobia	5

**Table-6**

examination after 1 month	Patients
Scleral thinning	0
Cataract	0

**Table-7**

examination after 3 months	Patients
Scleral thinning	0
Cataract	0

**Table-8**

Examination after 6 months	Patients
Scleral thinning	0
Cataract	0

**DISCUSSION**

Recurrence is the most important complications facing the surgery of the eye during the treatment of the dominant, and to reduce the denomination rate during its eradication, many treatment processors have been proposed, these treatments have been disappeared in their effectiveness and resulting complications.

Male accounted for 60%, female percentage of 40% and the fact that the pterygium of the male exhibition was more than a female slaughter of sunshine as a result of working conditions. The proportion of age group of 40-49 years was 33.33% of the sample, the most category injury for the rest of the categories, followed by the age group 30-39 years, with 30%. The percentage of the recurrence of 6.67% (4 patients) during the period of 6 months.

The conclusions after the surgical work we have noted that most of them are the surgical technique, where 8 eyes recorded subconjunctival hemorrhage (26.6. The bleeding may be gone within a period of follow-up. The conjunctival Irritability in 7 patients were proposed for (23.3%) of patients still within the following period.

Irritability photophobia appeared in 3 patients (10%) has been still within a week. We did not note during the follow-up period of patients, any case corneal dystrophy or cataract or scleral problem. Another study on 2013 Pterygium – A Study Which Was Done on A Rural Based Population [16]. Bhardwaj Veena M.S., Das Alaka Priyadarshani, and Bhardwaj Gaurav

There is No significant gender difference was found in male/female ratio in our studies as shown in as compared to that in the study which was done by Droutcas K and Skunadu W, which shows us a high incidence of males who suffering from pterygium. This may be due to the fact that at they have done a general, population based study. Our study shows us a high incidence of pterygium in the age groups of 21–40 years and 41–60 years as shown in, as which supported in the findings of the work studies which were done by Lin A, Stern G [8/11] and Dermartini DR *et al.* [2], which supported the theory of the U.V radiations and the environmental factors as the aetiopathogenesis of pterygium, which was supported by Talor *et al.* who found a statistically significant association between U. V radiation and the development of pterygium in a large group of Chesapeake bay fisherman.

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