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Meta-analysis of Injection of Mitomycin after Glaucoma Surgery to Improves Clinical Outcome

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Abstract: The purpose of this article is to evaluate the efficacy and improved clinical differences in the treatment of glaucoma patients by using mitomycin C.Obtained related papers published in the past by searching MEDLINE, EMBASE, China Biomedical Literature Database, and Cochran Library. there are total 8 clinical controlled trials were included in the meta-analysis after screening. Compare the percent drop in tension, the success rate of treatment, the total success rate of treatment, and complications between combined use and no use of mitomycin C in non-penetrating trabecular surgery, and conduct statistical analysis. Results shows that the weighted mean difference in the percentage of tension drop is 5.24%. (95% CI, -3.24~13.72), 8.31% (95% CI, 4.33~12.30), 9.56% (95% CI, 4.88~14.24), 14.45% (95% CI, 9.02~19.88) in the combination of non-penetrating trabecular surgery with mitomycin C and simple non-penetrating trabecular surgery at 5, 12, 24, and 36 months after operation, There were statistically significant differences between the two groups at all other time points except 6 months after surgery (P<0.05).The complete success rate of non-penetrating trabecular surgery combined with mitomycin C was higher than that of the non-penetrating trabecular surgery group. The combined risk difference of treatment success rate was 1.16 (95% CI, 1.05~1.27), 1.20 (95% CI, 1.05~1.38), 1.30 (95% CI, 1.05~1.61), 1.36 (95% CI, 1.06). ~1.73) at 6, 12, 24, 36 months after surgery. There were no drug-related complications during combined application of mitomycin C. Conclusion: The combination of mitomycin C can improve the efficacy of glaucoma surgery and the tolerance is good.

1. Introduction

Glaucoma is an irreversible blinding eye disease characterized by optic nerve damage and visual field defects, most of which are caused by pathological high intraocular pressure. The pathogenesis

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of glaucoma and better treatment are still important topics in current research. The main method is to reduce intraocular pressure in various ways [1]. For the treatment of glaucoma, there are mainly medical treatment and surgical treatment. Beta blockers, prostaglandin derivatives, parasympathetic drugs, carbonic anhydrase inhibitors. Although drug therapy has achieved good clinical results, drug therapy is not suitable for all glaucoma patients. Surgical treatment of glaucoma can rapidly reduce the patient's intraocular pressure, reduce the patient's pain, and use it more widely. Surgical treatment of glaucoma includes various filtering procedures, laser surgery and new implantable drainage devices. The surgical feature is to do all VIs on the anterior chamber of the sclera so that aqueous humor can be absorbed through the incision 121 and collected into the follicles under the conjunctiva to reduce intraocular pressure [2].

As an important global eye disease, glaucoma is seriously blind, difficult to reverse or irreversible, and extremely harmful. Anti-glaucoma filtration surgery is the main method for the treatment of glaucoma, and the main cause of surgical failure is postoperative fibrous tissue hyperplasia scar adhesion leading to filtration bleb scar. In order to improve the success rate of surgery, many experts at home and abroad have tried different methods to reduce the scar formation of the filtration channel. In one aspect, a drug that inhibits scar formation is used. Implants, on the other hand, are used for surgery, but the deep scleral cavity formed by surgery is maintained primarily by mechanical support. The filtration channel scar is not inhibited, the treatment time is short, and the implant may cause side effects such as immune rejection. Therefore, its application is limited [3]. One of the main ways to improve the efficacy of glaucoma filtration surgery is to improve the implant material and choose biocompatibility. The biopolymer functional material, which slowly degrades the eye, has a certain inhibitory effect on the growth of fibroblasts; or transplants a drug that inhibits scar formation onto the implant, and effectively reduces the scar formation of the filter bleb by continuously releasing the drug. On a global scale, glaucoma is the main cause of irreversible blindness. However, many patients with glaucoma do not understand their disease, and these diseases are reported to affect their ability to successfully treat their condition. The purpose of the feasibility study was to conduct research to provide information for future randomized controlled trials to provide patients with the effectiveness of group-based education to improve compliance with glaucoma eye drops. The main goal is to understand the current information provided in routine nurse-led glaucoma counseling, and to provide group-based education through training nurses at multiple hospital sites to explore the possibility of providing patient information in accordance with clinical criteria and to explore and consult in general. Information is provided as compared to the acceptability of collective education for nurses and patients. The study used quantitative and qualitative research methods in a continuous design of three hospitals in England and Wales. Information on 112 glaucoma patients currently available to three hospitals and compared to information recommended in clinical standards. Then, six nurses were trained to provide group-based education. Subsequently, the level of information was reassessed according to clinical criteria, as a total of 16 patients were provided with a group-based education program in three hospitals. Interviews were conducted with all nurses and 6 patients to explore the experience of group-based educational programs [4]. The main information provided during routine nurse-led counseling involves the management of glaucoma and, at a minimum, information about the prognosis of the disease and related support services. The nurse was trained to implement group-based education for the patient. Nurses provide more information about all clinical standards when providing group-based education. However, the patient's motivation to participate was negatively affected, mainly because of the delay in providing the third stage of education, and most of them were mature patients. The participating nurses and patients found it useful and comprehensive. This feasibility study indicates that the proposed intervention for randomized controlled trials (group-based education) is beyond the scope of current information, is

consistent with clinical standards, and can be implemented in multiple locations. This bodes well for future randomized trials, but the following points need to be considered to ensure success: independent research, training and delivery at each site, timely patient care, including new patients, and consistent nurse training .

Liu S explored the clinical efficacy of trabeculectomy combined with mitomycin C (MMC) in the treatment of glaucoma [5]. 57 patients with primary glaucoma (95 eyes) were randomly divided into two groups, 31 patients (54 eyes) with trabeculectomy, MMC (T + MMC) group, and trabeculectomy at the surgical site, 0.2 mg/ In the ml MMC trabeculectomy (T) group, 26 patients (41 eyes). Observe anterior chamber, herpes, intraocular pressure (IOP) and complications. The postoperative follow-up time ranged from 4 to 6 months. The mean intraocular pressure at 1d in the T+MMC group was 11.24±3.73mmHg. There was a significant difference compared with preoperative intraocular pressure (iP/i0.01), but no difference with T group (iP/i0.05) [6]. At the final follow-up, IOP was significantly different between the TOP and T groups (16.15 ± 3.62 mm Hg ivs / i 18.79 ± 5.27 mmHg, iP / 0.05). The herpes formation rates in the T+MMC group and the T group were 94.44% and 80.48%, respectively (iP/i0.01). Postoperative complications are rare, anterior chamber hemorrhage and corneal edema are eventually cured. Glaucoma MMC trabeculectomy can effectively reduce the scar formation after filtration channel, reduce intraocular pressure to target level, and have fewer complications. Almobarak F evaluated the effect of mitomycin C (MMC) concentration on the outcome of trabeculectomy in uveitis glaucoma [7]. A retrospective comparative study included 50 patients who underwent MMC-enhanced trabeculectomy for uncontrolled uveitis glaucoma. Patients were divided into two groups according to the concentration of MMC used in trabeculectomy (high [0.04%] or low [0.02%]). The primary outcome measures included: intraocular pressure (IOP), the number of anti-glaucoma drugs, the need for further glaucoma surgery, and the success of trabeculectomy. There was no difference in intraocular pressure and anti-glaucoma medications. The success rates were 76.0% and 68.0%, respectively, while the failure rates for the 0.02% and 0.04% MMC groups were 24.0% and 32.0%, respectively. A low (0.02%) increase in MMC concentration in trabeculectomy appears to have comparable results in uveitis glaucoma compared to high concentrations (0.04%). Saeed A M provides a viable solution to glaucoma surgery failure [8]. The goal was to evaluate the effectiveness and safety of the additional effects of the combined surgical approach. This method enhances the use of trabeculectomy and mitomycin C (MMC) by the addition of subconjunctival bevacizumab injection. The results were compared to trabeculectomy with only assisted MMC. A randomized controlled prospective clinical trial included 28 eyes diagnosed with keloid failure after previous trabeculectomy. The eyes were divided into two groups: combination A, "trabeculectomy with adjuvant MMC and subconjunctival bevacizumab"; and control group B, "only trabeculectomy with assisted MMC". The primary outcomes included cumulative probability of successful surgery, intraocular pressure (IOP) values, and the number of ocular hypotensive drugs required to achieve the target IOP [9]. The cumulative probability of complete success in group A was 0.769; and reasonable success was 0.231; at the end of the 24-month learning period; the cumulative probability of group B was 0.538 and 0.308, respectively. The mean IOP of group A was lower than that of group B. There were fewer anti-glaucoma drugs at the follow-up, but this lower value did not reach statistical significance (Pgt; 0.05). There were no statistically significant differences between the two groups in terms of best corrected visual acuity, visual field parameters, surgical and/or postoperative complications, and other interventions. The combination method did not cause significant adverse reactions [10]. Bevacizumab has not been found to be very helpful in the long-term efficacy of conventional trabeculectomy. MMC can be used as a solution to the problem of scar failure. Zhou M assessment of whether thrombospondin-1 (TSP-1) levels in aqueous humor can predict the prognosis of trabeculectomy in patients with primary angle-closure glaucoma

(PACG) [11]. This case-control study involved 26 patients with PACG who underwent trabeculectomy failure (case group) and 78 age and gender-matched PACG patients who underwent successful trabeculectomy (control group). Aqueous fluid was collected during trabeculectomy and TSP-1 and TGF-β2 levels were measured by enzyme-linked immunosorbent assay. Logistic regression models were used to assess risk factors for failed trabeculectomy. The mean TSP-1 level in the case group (20.67±9.79 ng/ml) was significantly higher than that in the control group (5.17±2.29 ng/ml) ($P < 0.001$). The concentration of transforming growth factor-β2 (TGF-β2) in the case group and the control group was 3633.25 and 1090.24 pg / ml, respectively ($P < 0.001$). Logistic regression analysis showed that TSP-1 levels were an independent risk factor for trabeculectomy failure (OR=3.540; 95% CI = 1.092-11.482). The levels of TSP-1 and TGF-β2 in aqueous humor of patients with PACG who failed trabeculectomy were higher than those of successful trabeculectomy for 1 year. The aqueous TSP-1 level is an independent risk factor associated with trabeculectomy failure.

Glaucoma is a common refractory disease in clinical ophthalmology. For this reason, timely diagnosis and treatment are of great significance. Currently, trabeculectomy combined with mitomycin is mainly used to treat glaucoma. However, the combination of the adjuvant drug mitomycin during and after surgery often leads to postoperative filtration bleb leakage and increases the incidence of complications such as endophthalmitis and hypotonia. This article is mainly for mitomycin treatment in patients with glaucoma, and by analyzing the situation after surgery. The treatment of adverse reactions, the correlation between analytical methods and postoperative complications, further improve the clinical efficacy of patients. There were no drug-related complications during the intraoperative application of mitomycin C. Conclusion the combination of mitomycin C can improve the efficacy of glaucoma surgery, and it is well tolerated, which fundamentally improves the complications.

2. Glaucoma and mitomycin

2.1. Glaucoma Problems and Types

As a blinding eye disease, it can lead to progressive depression and visual function of the nipple, especially visual field damage, which is difficult to reverse or irreversible. It is extremely harmful and has a certain genetic predisposition. According to research data, there were approximately 181 million people worldwide suffering from visual impairment in 2014. About 38 million people are blind, and about 12.3% of blind people are caused by glaucoma. The area caused by cataracts is about 47.8%. By 2020, the number of blind eyes caused by glaucoma is expected to reach 8.4 million, and by 2025 this number will increase to 11 million. According to statistics from some areas in China, more than 7 million people in China have primary glaucoma, and more than 600,000 of them are glaucoma patients who are completely blind. These numbers do not yet include some patients with secondary glaucoma. Damage caused by glaucoma diseases causes great losses to individuals, families or society, especially in developing countries where socio-economic conditions and medical facilities are not yet perfect. And because it effectively controls other eye diseases, it is more prominent.

There are four main types of glaucoma: primary glaucoma, congenital glaucoma, mixed glaucoma, and secondary glaucoma. The clinical manifestations and glaucoma characteristics of various types of glaucoma vary. The main cause of visual impairment in glaucoma is elevated intraocular pressure, the higher the intraocular pressure, the greater the likelihood of optic nerve damage and visual field defects. Therefore, the usual method of treating glaucoma is to reduce the intraocular pressure of the patient with drugs and surgery.

2.2. Mitomycin

(1) Mechanism of action of mitomycin C

Mitomycin C is an antitumor antibiotic produced and isolated from streptomycin which has an alkylation. It inhibits the synthesis of RNA-dependent DNA, thereby effectively inhibiting the proliferation of fibroblasts and inhibiting the proliferation of cells in various stages and in resting cells. It reduces scar formation in the subconjunctival and filtration channels. Mitomycin C can destroy the mitochondria of the ciliary epithelium, leading to ciliary nerve damage, resulting in decreased function, resulting in decreased secretion of aqueous humor, resulting in low intraocular pressure after surgery. At present, mitomycin C is widely used in glaucoma filtration surgery, which can effectively prevent scar formation and occlusion filtration, and improve the success rate of glaucoma surgery.

(2) postoperative complications of glaucoma caused by mitomycin c

Excessive filtration and filtration are common complications of mitomycin C filtration surgery applications, the main feature of which is an abnormal increase in the degree of protrusion and the extent of the filtration area. Excessive filtration is often the cause of complications such as shallow anterior chamber, low intraocular pressure, inflammation and choroidal detachment. The use of mitomycin C can result in low intraocular pressure and shallow anterior chamber. Another report said that strict control of indications, medication time, medication concentration can significantly reduce the incidence of low intraocular pressure (9.5%). In patients with trabeculectomy using mitomycin C, the reason for early postoperative low intraocular pressure is excessive filtration; in addition, mitomycin C can destroy the mitochondria of the ciliary epithelium and damage the ciliary body nerve, leading to its function. Decreased, and excessive water secretion is associated with M1. Filtration-related complications Thin wall filtration blebs occur in thin-walled filter bubbles and filter bleb leakage, mainly related to the use of mitomycin C. Due to the unusually thin filter bubble, the liquid in the bubble can pass through the thin conjunctival epithelium. The fluorescein test confirmed whether the filter bubble leaked and the mass fraction was 0.02. For the occurrence of herpes-related complications, some scholars believe that there is a positive correlation with the time of mitomycin C indwelling, the proportion of complications of conjunctival and scleral mitochondrial C is significantly higher than the proportion of simple placement under the conjunctival flap. This may be due to the fact that mitomycin C is a non-cellular periodic cytotoxic drug. Therefore, mitomycin C can affect the conjunctiva, cornea, sclera, trabecular meshwork and other tissues.

Corneal seven-layer skin lesions In most cases, corneal damage is predominantly epithelial punctate or diffuse defect, a history of high concentrations of mitochondrial C and corneal epithelial damage during surgery in all cases. It may be that the clinical application of mitomycin C is large and inhibits the healing of corneal epithelial cells. Therefore, care should be taken to maintain the integrity of the corneal epithelium during surgery and the concentration of mitochondrial c should not be too high. Low intraocular pressure macular degeneration Low intraocular pressure macular degeneration is one of the most serious complications and can lead to severe incomplete reversal of injury. Lead to visual function and structural changes, the incidence of cattle reported in the literature is 4% to 17%. It is characterized by: retinal folds, choroidal thickening, cystic degeneration, vasodilation and loss of extraretinal cells. At the moment, the exact cause is not fully understood. Predisposing factors include high concentrations of antimetabolites, long-term, young myopia patients with abnormal changes in uveitis and vitreous lesions, scleral stiffness and scleral thickness.

3. Experimental operation

3.1. Clinical Data

This article selected 46 patients (60 eyes) with glaucoma who were treated in our hospital from December to 20, 2016. There were 18 males and 28 females. The age was 25-75 (50.34±4.05) years old, and the primary disease status was 18 eyes with retinopathy, 10 retinal veins blocked, 9 eyes with ocular trauma, and 8 eyes failed glaucoma filtration surgery. All patients observed in the experiment underwent vision, slit lamp examination, and fundus examination, angle examination, etc. for at least 3 months. All patients were visually inspected using an international standard of examination. The slit lamp shows a neovascular membrane on the surface of the iris and trabeculae. A new blood vessel appears in the corner of the corner of the room. In some parts of the fundus, there is occlusive bleeding in the retinal blood vessels, new blood vessels are formed, and the nipple is suppressed by high intraocular pressure. Intraocular pressure measurements were measured using a Schiotz indentation tonometer to achieve high intraocular pressure. According to different surgical treatment methods, patients were divided into three groups: A, B, and C. 20 eyes per group. The visual acuity is almost invisible, the intraocular pressure is greater than 60mmHg, and the ciliary body coagulation examination alone, the intraocular pressure is between 21mmHg and 32mmHg, the visual acuity is usually greater than 0.02, combined with mitomycin C. Most of the patients are in the middle and late stages of NVG. It also includes patients who have failed glaucoma surgery. Glaucoma drainage flap implantation.

First, the patient is anesthetized to ensure that the intraocular pressure is as normal as possible, and the corresponding anesthesia is performed at the adhesion point of the superior fascia and the superior rectus muscle. At the same time, an appropriate concentration of mitomycin is infiltrated under the scleral flap, washed after a period of time, and then a small opening is formed in front of the house under micromanipulation. After a small amount of waterproofing, the trabecular tissue and the surrounding tissue at the root of the red membrane were removed, and the scleral flap and conjunctival flap were sequentially sutured after the operation. The corresponding postoperative medication was performed and the patients were followed up. Postoperative care and long-term follow-up surveys were performed to analyze follicular morphology, visual acuity and intraocular pressure. If a mucus purulent substance is found in the hair follicle or anterior segment of the eye during a follow-up survey of 1 to 3 months, it indicates that follicular inflammation has occurred; if the patient has pre-hospital empyema or vitreitis, it indicates the presence of infectious intraocular Inflammation; if the patient has multiple complications, it indicates that there is a comprehensive follicular complication that requires timely treatment.

3.2. Method

Group A: simple ciliary body condensation: Place the patient on the operating table, routinely disinfect according to ophthalmology, towels, and exposed eyes, and post-ball injection for 3.5 ml of oxybuproca and lidocaine. At 2.5 mm behind the limbus, the cryostat is perpendicular to the plane of the sclera, starting at 6 o'clock every hour of the "character type", freezing time is 1 minute, freezing head temperature (60-75)℃, freezing range is 2/3 quadrant. The subconjunctival injection of amikacin injection and dexamethasone injection was 0.1ml each, and the eye was coated with sputum eye cream. Complete surgery.

Group B: The sputum was placed in the sputum, and the superior rectus muscle was pulled out after anesthesia under the conjunctiva. A 5 mm x 4.5 mm superficial scleral flap was made by making a conjunctival incision on the limbus of the palate as the base. A mitomycin C cotton sheet having a concentration of 0.49/L was cut into 4 mm × 4 mm, and embedded in the scleral flap for

3-5 minutes, and then taken out. The area of the scleral flap and surrounding tissue are washed with a large amount of Ringer's solution. The scleral flap was continuously separated into the limbus by 1.0 to 1.5 mm, and a 3.3 mm long deep corneal bed incision was made from the parallel angle sclera. The parallel angle sclera was made into a 2 mm wide incision while the trabecular region was used as the trailing edge incision of the trabecular tissue. New blood vessel formation on the surface of the iris resection area was burned before the iris root was removed. In the case of exudation in the iris resection area, an appropriate amount of viscoelastic agent is injected into the area to stop bleeding. At both ends of the conjunctival incision, the 10-0 nylon thread was tightly sutured and ligated.

Group C: Place the patient on the operating table, sterilize according to the ophthalmic procedure, and place a towel. According to the valve hemostasis, the lateral rectus muscle and the superior rectus muscle are suspended, fixed, exposed to the sclera, and the valve drainage tube is smoothed with a dose of about 10 ml. The drainage valve is fixed at the edge of the cornea 10 mm, and the absorbable line is firstly applied. The drain valve (5-0) is fixed and then mixed with a 10-0 absorbable wire to secure the drain. The clear limbus was punctured at 1 l point, and the tip of the valve was implanted and repaired to approximately 45 degrees, placed 1 mm behind the edge of the pupil. Note that the position of the nozzle is not in contact with the corneal endothelium and the aqueous humor at the valve is slowly flowing out. The fixed drainage tubes were all covered with a 6 x 4 mm scleral flap, the four corners were fixed to the sclera with absorbable wires, and the conjunctival flap was sutured. Subconjunctival injection of dexamethasone injection and amikacin injection 0.1ml each, apply eye cream to apply eye, bandage surgery eye, surgical treatment.

4. Discussion

4.1. Comparison of Three Groups of Patients

The mean intraocular pressures in group A, group B and group C were (52.35±4.02) mmHg, (56.34±3.54) mmHg, (30.38±4.08) mmHg, respectively, and (25.78±3.62) mmHg, (3.78±3.62) mmHg, 15.14 ± 3.44) mmHg, (14.13 + 4.01) mmHg. The intraocular pressure of the three groups was significantly lower than that of the three groups ($P<0.05$). The average intraocular pressure of the three groups was (20.78±2.34)mmHg, (20.34±3.21). mmHg, (20.48±4.05) mmHg, the average intraocular pressure in the three groups after surgery was (20.78±2.34) mmHg, (20.34±3.21) mmHg, (20.48±4.05) mmHg, and the average intraocular pressure of the three groups was significantly lower than that of surgery. Before, but higher than the third day after surgery. See Table 1 for details. Table 1 Comparison of mean intraocular pressure (X ±s, mmHg) before and 3 months after surgery.

Table 1. Comparison of mean intraocular pressure between preoperative and postoperative 3 months in each group

Group	Preoperative	Three Days after Surgery	One Week after Surgery	Three Months after Surgery
A Group	52.35	25.78	18.01	20.78
B Group	50.34	15.14	15.27	20.34
C Group	50.38	14.13	14.45	20.48

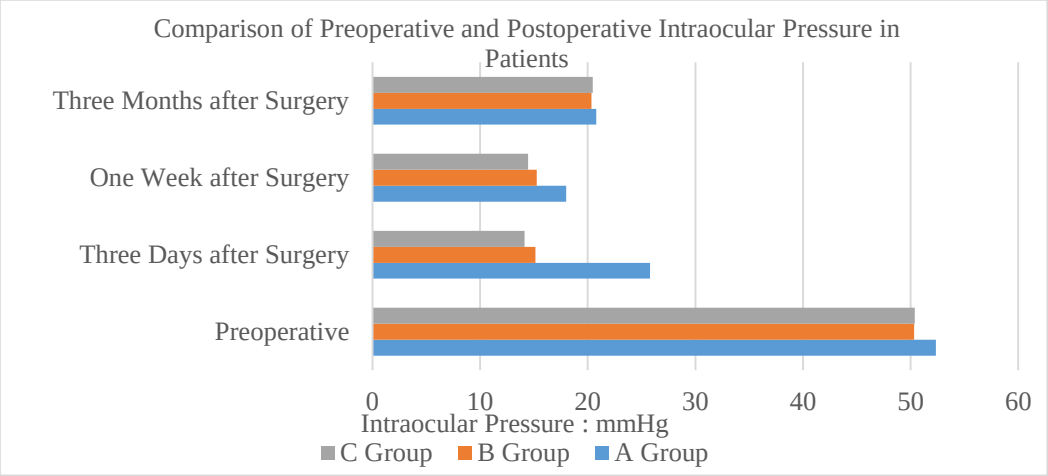

Figure 1. Comparison of mean intraocular pressure between preoperative and postoperative 3 months in each group

During the 3 months of follow-up, we observed and tested the patient's vision. Two of the patients in group c found a decrease in visual acuity and an improvement in visual acuity in two eyes. There was no significant difference between the preoperative and postoperative groups in group B (P>0.05). See Figure 2 for details.

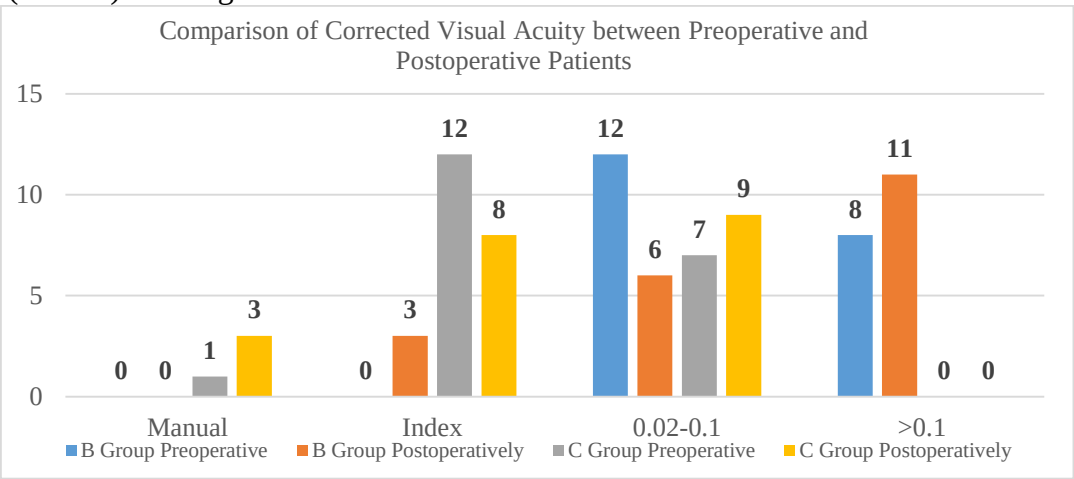

Figure 2. Comparison of corrected visual acuity between preoperative and postoperative patients

4.2. Analysis of Postoperative Situation in Three Groups of Patients

Complications of the three groups were compared. Group A, group B, and group C showed different degrees of corneal edema and anterior chamber exudation in group A on the first postoperative day. Group B and group C compared the complications of the three groups. Corneal edema, anterior chamber exudation and anterior chamber hemorrhage occurred on the first postoperative day. At the last follow-up, 2 eyes of group A had corneal edema, 1 had a shallow anterior chamber, and 1 had a shallow anterior chamber and atrophy of the eye. Group B cornea 2 eyes, anterior chamber 5 eyes, anterior chamber 2 eyes, shallow anterior chamber 2 eyes; group C corneal edema group, anterior chamber shallow eye, anterior chamber two eyes. Show in Figure 3, Table 3 for details.

Table 2. Comparison of the number of complications in each group of patients after 3 months (%)

Group	Corneal Edema	Anterior Chamber	Eyeball Atrophy	Anterior Exudation
A Group	2(10)	2(20)	5(25)	1(5)
B Group	2(10)	2(10)	0	2(10)
C Group	1(5)	1(5)	0	2(10)

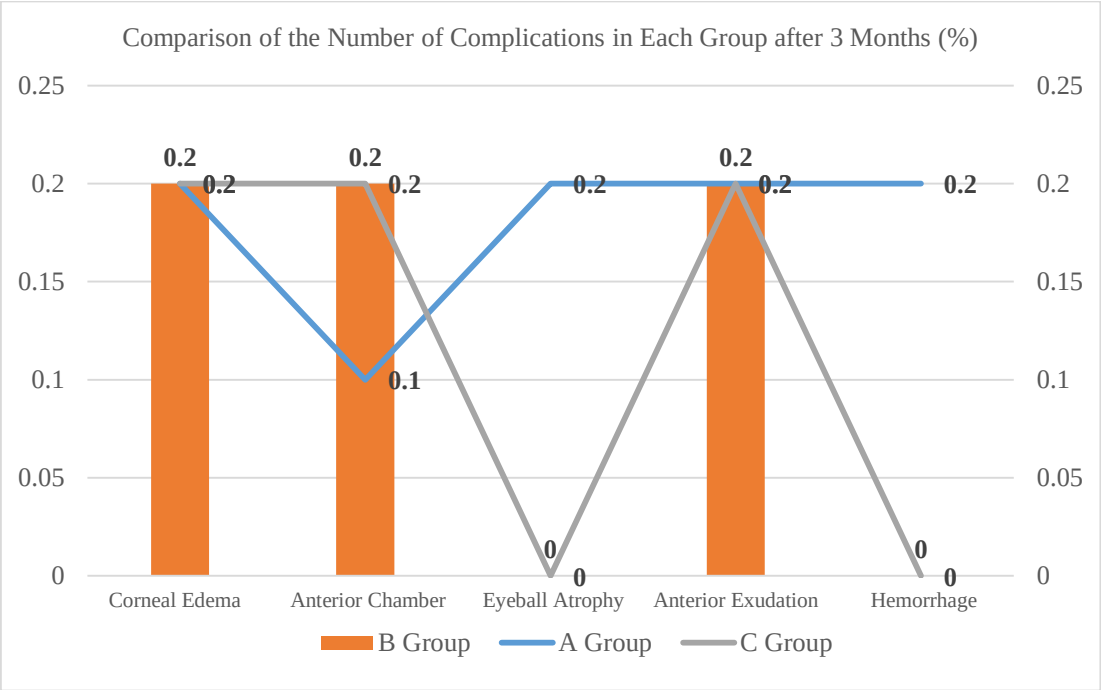

Figure 3. Comparison of the number of complications in each group of patients after 3 months (%)

We observed that the mean intraocular pressure of patients on day 3 after surgery was 25.78 mmHg, and the mean intraocular pressure of patients from one week to three months after glaucoma was within the effective intraocular pressure range. The mean intraocular pressure on day 3 after surgery in group B was 15.14 mmHg. The mean intraocular pressure on the third day after operation in group C was 14.13 mmHg, and the mean intraocular pressure at 1 week and 3 months after surgery was also controlled within the effective intraocular pressure range. At the last follow-up, there were 4 eye pains in group A, and the pain relief rate was 80% (16/20). In the second group, 2 eyes felt uncomfortable, and the patient's eye pain reduction probability was 90% (18/). 20); One group of eyes had a pain relief rate of 95% (19/20). The treatment rate in group A was 80%; the treatment rate in group B was 90%: the treatment rate in group C was 95%. Therefore, we conclude that we have achieved the desired results in the treatment of NVG through three different surgical methods.

All patients underwent surgery and corresponding postoperative care. However, in a follow-up survey within one to three months after surgery, we found that more than half of the glaucoma patients had some postoperative complications. Among them, 42 eyes had follicular leakage, 2 eyes had recurrent symptoms, and 5 had endophthalmitis complications. The survey found that complications increased over time, as shown in Figure 4:

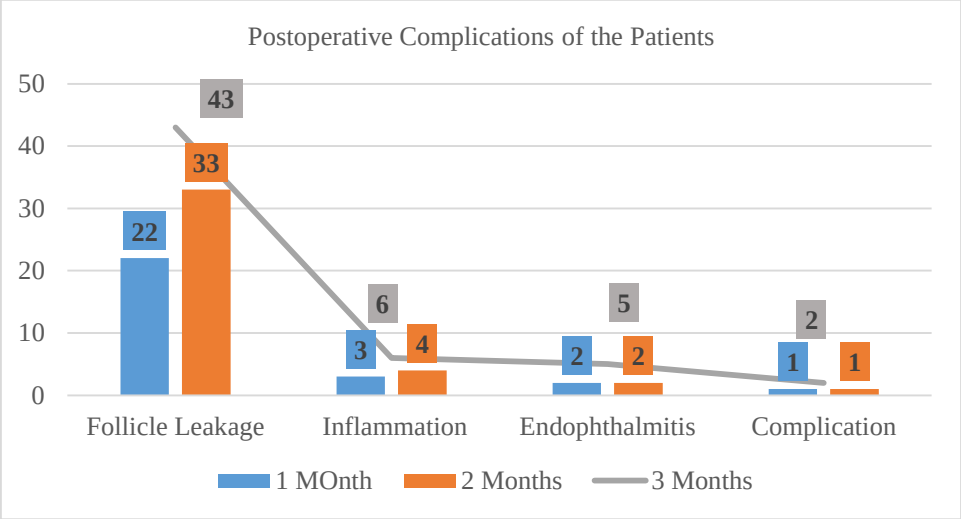

Figure 4. Postoperative complications in patients

Clinically, mitomycin is very common in the treatment of glaucoma. Although this procedure can fundamentally treat the disease, mitomycin used during surgery has a greater risk of postoperative recovery. Studies have shown that mitomycin can cause complications such as filtration, endophthalmitis and low intraocular pressure in patients after surgery. We followed up the patients after glaucoma surgery and observed that the longer the glaucoma surgery, the more serious the patient's complications. Therefore, trabeculectomy combined with mitomycin treatment complications should be closely observed for early intervention. Until now, treatment of all complications due to surgery, usually treated with antibiotics and lens resection, can reduce postoperative complications with great probability.

5. Conclusion

(1) Trabeculectomy combined with mitochondria has a better ocular hypotension effect than normal trabeculectomy, and filtration blebs can last for a long time. However, the side effects caused by mitomycin are also very obvious, so the complications after surgery should not be ignored. The clinical effect of mitomycin is indeed better than the other three surgical methods. The filtered foam is retained for a longer period of time and lower intraocular pressure. In conclusion, trabeculectomy with mitomycin and amniotic membrane is superior to common trabeculectomy and trabeculectomy combined with amniotic membrane or mitomycin in the treatment of canine glaucoma. More worthy of application in clinical treatment of dogs with glaucoma.

(2) trabeculectomy combined with mitomycin for glaucoma surgery for glaucoma in a relatively short period of time is safe and effective, but different situations should be different analysis, glaucoma patients with different conditions, we should use different surgical options to treat patients The visual function is the main purpose.

(3) The continuous low intraocular pressure of mitomycin C after glaucoma filtration can have a certain effect on visual function. Especially when patients find low intraocular pressure macular degeneration, they will produce very large visual impairment, and even lead to changes in eye structure and loss of function. Although many treatments have been proposed to limit excessive filtration and increase intraocular pressure, in particular, home blood treatment and follicular surgery are effective methods for improving intraocular pressure. But preventing it from happening is the key. Combined trabeculectomy can effectively prevent the occurrence of persistent low intraocular pressure and become a new trend in improving glaucoma filtration surgery.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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