CHARACTERISTIC AND CORRELATION BETWEEN TIME AND COMPLICATION AFTER DESTRUCTIVE EYE PROCEDURE PATIENT AT PLASTIC AND RECONSTRUCTION DIVISION SANGLAH HOSPITAL'S EYE CLINIC BALI-INDONESIA

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ABSTRACT

Destructive eye procedure can be carried out by enucleation, evisceration and excenteration. Some efforts have been developed to reduce the complications, but it still occur within several years after the operation. This research aims to find out the characteristic and correlation between time and complications in patient after destructive eye procedure at Plastic and Reconstruction Division Sanglah Hospital's Eye Clinic. For addition, characteristic of other patients in plastic and reconstruction also provided. This report is an analytical cross sectional study. Data were collected retrospectively from medical report of patients with history of destructive eye procedure in Sanglah Hospital's eye clinic from January 1st until December 31st 2010. Patient's characteristics were presented as frequency, percentage, mean, and standard deviation. Correlations between variables were statistically analyzed with Correlation of Lambda.

Eye trauma, anophthalmic socket and nasolacrimal duct obstruction were the most common diagnosis at plastic and reconstruction division Sanglah Hospital's eye clinic. There were 17 patients with history of destructive eye procedure in this report, including 76.5% male and 23.5% female. There is 58.8% destructive eye procedure held in age 13-50 year, mean 30.75 (SD 19.81). Infection (35.3%), trauma (23.5%) and tumor (11.8%) were the most common cause of destructive eye procedure in this study. Complications of destructive eye procedure occur in 70.6% of patient with contracted socket was the most common complication (58.3%). There was medium correlation between time and complication after the procedure, but the correlation was not statistically significant ($r = 0.40$; $p \geq 0.05$).

In conclusion, from this study we obtained that there was medium correlation between time and complication after the procedure, but the correlation was not statistically significant.

Key word: Destructive eye procedure, cause, complication, time.

INTRODUCTION

Plastic and reconstruction division is part of ophthalmologic department that encompasses problems in lacrymal system, eyelid, orbit, and periorbital area. That problem can cause by trauma, congenital, aging, tumor, and systemic disease.[1] One of the operation in plastic and reconstruction division is a destructive eye procedure, which is an ophthalmologic night mare. The decision is difficult for both doctor and patient, hence these procedures recommended only as the last resort.[2,3] Study in India reported the incidence of destructive eye procedure was 1.40%.[4] Other study in Nigeria reported the incidence was 1.9-4.2%.[5] Destructive eye procedures are including evisceration, enucleation, and exenteration. Evisceration is removal of the internal eye contents, with the sclera left behind. Enucleation is the removal of the eyeball, leaving the orbital contents in place. Exenteration is the removal of the orbital contents, including the eyeball.[2,6]

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Destructive eye procedure may be necessary after a severe eye injury, to treat intraocular malignancies, in endophthalmitis/panophthalmitis, and as relief to a blind painful eye. Evisceration and enucleation are both excellent in relieving pain in a blind painful eye and in treating an infection. Enucleation is the procedure of choice in intraocular tumors. Exenteration is reserved for orbital tumors and intraocular tumors with spread to orbital contents.[1,2] After decades of time, there is a controversy regarding the benefits and disadvantages of each procedure. Evisceration is a technically easier surgery than enucleation, causes less disruption of orbital anatomy, and may have fewer complications such as ptosis, implant migration, implant extrusion, socket contracture, and the deep superior sulcus syndrome.[6,7] Some effort has been developed to improve the cosmetics and fungtionals result. A variety of implant have been used to replace the volume lost after eyeball remover. It's importan to choose an apropriate conformer that occupies the fornices whitout giving too much tension on the wound. During the ensuing years the orbital contents tend to contract and cause of some complications.[7,8]

This research aims to find out the characteristic and correlation between time and complications in patient after destructive eye procedure at Plastic and Reconstruction Division Sanglah Hospital's Eye Clinic. For addition, characteristic of other patients in plastic and reconstruction also provided.

METHODS

Research Design

This is an analytical cross sectional study. Data were collected retrospectively from medical record of patient with history of destructive eye procedure at Sanglah Hospital's Eye Clinic, including gender, age, diagnosis, eye involved, causes, complication, and time of complication.

Time and Places

This study took place at Plastic and Reconstruction Division Sanglah Hospital's Eye Clinic from 1 January to 31 December 2010.

Target Population

Target populations in this study are all patients with history of destructive eye procedure in Bali.

Achievable Population

Achievable populations in this study are all patients after destructive eye procedure at Sanglah Hospital's Eye Clinic.

Inclusion Criteria

Inclusion criteria in this study are all new patients at Plastic and Reconstruction Division Sanglah Hospital's Eye Clinic from 1 January to 31 December 2010.

Definition of Variables

1. Patient in plastic and reconstruction division is patient at Plastic and Reconstruction Division Sanglah Hospital's Eye Clinic from 1 January to 31 December 2010.
2. Age is the age of patient as it appears at medical record.
3. Sex is the sex of patient as it appears at medical record.
4. Involved eye is the eye that was diagnosed with eye disorder such as those listed in medical record.
5. Anophthalmic socket is the condition of the eye socket that had undergone removal of the eyeball.
6. The cause of operations is the cause of surgical eye removal, consisting of infection, trauma, and tumor.
7. Complication is the disorder that arises after the removal of the eyeball, consisting of contracted socket, deep superior sulcus, granuloma socket, and implant extrusion. Patients after removal of the eyeball not accompanied by complication such as are classified as without complication.
8. Contracted socket is an abnormal socket that contract, can be appear as shortening of the superior and or inferior fornix, or shortening of the horizontal and vertical palpebral fissures.
9. Granuloma socket is an abnormal socket that accompanied by redness growing of granulation tissue.
10. Deep superior sulcus is an abnormal socket that accompanied by deep grove between upper eyelid and orbital rim compared to the normal eye.
11. Implant extrusion is an abnormal socket with an implant being pushed outward.
12. Time is the time between surgical removal of the eyeball until the patient being diagnosed with complication, and it was determined based on the anamnesis that are listed on medical record.
13. Ocular trauma is trauma that occurs in the eye. Ocular trauma in this study is limited to sharp and blunt trauma that result in complication in palpebra and conjunctiva.
14. Nasolacrimal duct obstruction is a blockage on nasolacrimal duct. Based on the cause of obstruction, it can be divided into congenital and acquired.
15. Chronic dacryocystitis is chronic inflammation of the lacrimal sac, marked by painless swelling bellow the medial canthal and discharge came out from the punctal.
16. Lacrimal sac abscess is an abscess at the lacrimal sac, marked by redness swelling bellow the medial canthal, tenderness and fluctuation.
17. Entropion is a condition in which the eyelid margin turns inwards against the globe. Based on the causes, it can be divided into congenital and acquired (involutional and cicaticial).
18. Epiblepharon is a congenital abnormality where there is a horizontal skin fold on the lid margin resulting in an inward position of the eyelashes.
19. Ptosis is a dropping eyelid resulting in a lower position of the eyelid in primary gaze compare to the normal position.
20. Microphthalmia is a congenital malformation resulting in a smaller axial length of the eyeball compare to the normal eye.
21. Pthisis bulbi is atrophy, wrinkling, and disorganization of the eyeball and the intraocular structures, caused by trauma or infection.
22. Ectropion is a condition in which the eyelid margin turns outwards against the globe. Based on the causes, it can be divided into congenital and acquired (involutional, cicaticial, paralytic, and mechanical).

Data Analyzed

Data were analyzed by descriptive and analytic. Patient's characteristics were presented as frequency, percentage, mean, and standard deviation. Correlations between variables were statistically

analyzed with Correlation of Lambda and computer program SPSS 16.0.

RESULTS

During the period of 1 January to 31 December 2010, there were 81 new patients who come to Plastic and Reconstruction Division Sanglah Hospital's Eye Clinic. Characteristic of patients and percentages based on diagnosed were presented in Table 1.

Table 1
Characteristic of patient in plastic and reconstruction division Sanglah Hospital's Eye Clinic 1 January – 31 December 2010 (n=81 patient)

Characteristic	N	%
Sex		
Male	51	63.0
Female	30	37.0
Age		
≤ 12 yo	16	19.8
13 – 50 yo	55	67.9
> 50 yo	10	12.3
Diagnosed		
Ocular trauma	37	45.7
Anophthalmic socket	**17**	**21.0**
Nasolakrimal duct obstruction	11	13.6
Chronic dacryocystitis	4	4.9
Lakrimal sac abscees	3	3.7
Entropion	2	2.5
Epiblepharon	2	2.5
Ptosis	2	2.5
Microphthalmia	1	2.0
Pthisis bulbi	1	2.0
Ektropion	1	2.0

Based on the characteristics data in Table 1 shows that patients in plastic and reconstruction division more commonly male (63.0%), age group 13-50 years old (67.9%) with a mean age of 27.97 (SD 18. 91) years. Ocular trauma is the most common cases (45.7%), followed by a socket anophtlalmia (21.0%), nasolakrimal duct obstruction (13.6%), chronic dacriocystitis (4.9%), and lacrimal sac abscess (3.7 %). Other diagnosed with a smaller percentage is entropion (2.5%), epiblepharon (2.5%), ptosis (2.5%), microphthalmia (2.0%), pthisis bulbi (2.0%), and ectropion (2.0%).

During the period of 1 January to 31 December 2010, there were 17 patients with a history of destructive eye procedures that comes into Sanglah Hospital's Eye Clinic. Charateristic of anophthalmic socket patients were presented in Table 2. Table 2 shows that destructive eye procedure are more commonly in male (76.5%) than female (23.5%). For 76.5% of patients after destructive eye procedure are in the age group 13-50 years with a mean age of 38.06 (SD 15,06) years. Destructive eye procedure are more commonly in the right eye (52.9%) than the left eye (47.1%). Infection is the most common cause of destructive eye procedure (35.5%), followed by trauma (23.5%) and tumor (11.8%). Nine of 17 patients (52.9%) underwent destructive eye proedure in Sanglah Hospital. Evisceration are done in 4 patients (23.5%), and enucleation is done in 1 patient (5.9%). Surgery in those five patients (29.4%) were not accompanied by the use of implants. Implants is only used in 1 patient (5.9%). Most of the patients (94.1%) have used a prosthesis after surgery. Complications after destructive eye procedure was found in 70.6% of patients, with contracted socket is the most common complication (58.3%).

Table 2
Charateristic of patient with anophthalmic socket at plastic and reconstruction division Sanglah Hospital's Eye Clinic 1 January – 31 December 2010 (n=17 patient)

Characteristic	N	%
Sex		
Male	13	76.5
Female	4	23.5
Age		
0 – 12 yo	1	5,.
13 – 50 yo	13	76.5
> 50 yo	3	17.6
Eye involved		
Right	9	52.9
Left	8	47.1
Cause		
Infection	6	35.3
Trauma	4	23.5
Tumor	2	11.8
Unknown	5	29.4
Location of operation		
Sanglah hospital	9	52.9
Unknown	8	42.1
Tipe of operation		
Evisceration	4	23.5
Enucleation	1	5.9
Unknown	12	70.6
Use of prosthesis		
Yes	16	94.1
No	1	5.9
Use of implant		
Yes	1	5.9
No	5	29.4
Unknown	11	64.7
Complication		
With complication	12	70.6
Contracted socket	7	58.3
Deep superior sulcus	3	25.0
Implant extrusion	1	8.3
Granuloma socket	1	8.3
Without complication	5	29.4

Distribution of complications after destructive eye procedure based on the time of complications occurred are presented in Table 3a,b. Table 3 shows that the occurrence of complications in patients who had undergone destructive eye procedure for <1 year

is 18.2%. While complications in patient who had undergone destructive eye procedure for 11-15 years amounted to 27.3%. For 42.9% of contracted socket occurred in patients who had undergone destructive eye procedure for 11-15 years. There is a medium correlation between time and complication after destructive eye procedure, but the correlation is not statistically significant, with r = 0.40 and $p>0.05$

Table 3a
Distribution of complication after destructive eye procedure base on time of complication (n=16 patient)

Time (year)	Complication (total)		Without complication	
	n	%	n	%
≤ 1	2	18.2	4	80.0
1 – 5	2	18.2	0	0.0
6 – 10	1	9.1	0	0.0
11 – 15	3	27.3	1	20.0
16 – 20	2	18.2	0	0.0
>20	1	9.1	0	0.0
Total	11	100	5	100

Table 3b
Distribution of complication type after destructive eye procedure base on time of complication (n=16 patient)

Time (year)	Complication Types					
	Contracted socket		Deep superior sulcus		Implant extrusion	
	n	%	n	%	n	%
≤ 1	1	14.3	1	33.3	0	0.0
1 – 5	1	14.3	1	33.3	0	0.0
6 – 10	0	0..0	0	0.0	1	100.0
11 – 15	3	42.9	0	0.0	0	0.0
16 – 20	1	14.3	1	33.3	0	0.0
>20	1	14.3	0	0.0	0	0.0
Total	7	100	3	100	1	100

During the period 1 January to 31 December 2010 there were 37 patients with diagnosed of ocular trauma that comes into Sanglah Hospital's Eye Clinic. Characteristic of patients with ocular trauma were presented in Table 4. Table 4 shows that ocular trauma more commonly in males (70.3%). For 75.7% of ocular trauma occurred in the age group 13-50 years with a mean age of 26.46 (SD 16.18) years. Right eye (70.3%) are more common than left eye (27.0%), or both eyes (2.7%.) Sharp injury is more common (59.6%) than blunt injury (40.5%). Complication on palpebra and conjunctiva caused by trauma had the same percentage (50%).

During the period 1 January to 31 December 2010 there were 11 patients with a diagnosis of nasolacrimal duct obstruction who came to the division of plastic and reconstruction Sanglah Hospital's Eye Clinic. Characteristic of patients with nasolacrimal duct obstruction are shown in Table 3.5. Table 5 shows that women (72.7%) experienced more nasolakrimal duct obstruction than men (27.3%). Amounting to 54.5% nasolakrimal duct obstruction is in the age group 0-1 years with an average age of 14.80 (SD 25.15) years. Right eye (45.5%) had more obstruction than the left eye (18.2%), or both eyes (36.4%.) Cause of obstruction in most patients (72.7%) is a congenital, while the obstruction of 27.3% was acquired.

Table 4
Characteristic of patients with ocular trauma at plastic and reconstruction division Sanglah Hospital's Eye Clinic Denpasar period 1 January – 31 December 2010 (n=37 patient)

Characteristic		n	%
Sex			
	Male	26	70.3
	Female	11	29.7
Age			
	0 – 12 yo	6	16.2
	13 – 50 yo	28	75.7
	> 50 yo	3	8.1
Eye involved			
	Right	26	70.3
	Left	10	27.0
	Both	1	2.7
Tipe of injury			
	Sharp injury	22	59.5
	Blunt injury	15	40.5
Complication			
	Palpebra	21	50.0
	Conjunctiva	21	50.0

Table 5
Charateristic of patient with nasolacimal duct obstruction at plastic and reconstruction division Sanglah Hospital's Eye Clinic 1 January – 31 December 2010 (n=11 patient)

Characteristic		n	%
Sex			
	Male	3	27.3
	Female	8	72.7
Age			
	0 – 1 yo	6	54.5
	2 – 12 yo	3	27.3
	13 – 40 yo	0	0.0
	> 40 yo	2	18.2
Eye involved			
	Right	5	45.5
	Left	2	18.2
	Both	4	36.4
Causes			
	Congenital	8	72.7
	Acquired	3	27.3

During the period 1 January to 31 December 2010 there were 4 patients with chronic dacryocystitis who come to plastic and reconstruction division Sanglah

Hospital's Eye Clinic. Characteristic of patients with chronic dacryocystitis are shown in Table 6. Table 6 shows that men and women have a same percentage of chronic dacriocystitis. About 50% of chronic dacryocystitis occurred in the age group 13-40 years and 50% in the age group > 40 years, with an average age of 43.00 (SD 13.71) years. Chronic dacryocystitis are occurred unilateral, with the same percentage between left and right eye.

Table 6
Charateristic of patient with chronic dacryocystitis at plastic and reconstruction division Sanglah Hospital's Eye Clinic 1 January – 31 December 2010 (n=4 patient)

Characteristic	n	%
Sex		
Male	2	50.0
Female	2	50.0
Age		
0 – 12 yo	0	0.0
13 – 40 yo	2	50.0
> 40 yo	2	50.0
Eye involved		
Right	2	50.0
Left	2	50.0
Both	0	0.0

During the period 1 January to 31 December 2010 there were 3 patients with lacrimal sac abscess who come to plastic and reconstruction division Sanglah Hospital's Eye Clinic. Characteristic of patients with lacrimal sac abscess are shown in Table 7. Table 7 shows that all lacrimal sac abscess patients were female and 75% age over 40 years with a mean age of 39.67 (SD 9.24) years. By 75% lacrimal sac abscess occurred in the right eye. One patient (25%) has had complication in the form of abscess perforation at the time of arrival.

During the period 1 January to 31 December 2010 there were 2 patients with entropion who come to plastic and reconstruction division Sanglah Hospital's Eye Clinic. All patients were male, with an average age of 51,0 (SD 12,73) years. One patient with bilateral enteropion, whereas other patients with unilateral enteropion on the left eye. Both cases are cicatrical entropion and without any complications on the cornea.

During the period 1 January to 31 December 2010 there were 2 patients with epiblepharon who come to plastic and reconstruction division Sanglah Hospital's Eye Clinic. Male and female have the same percentage of epiblepharon, with an average age of 3.50 (SD 0.71) years. Epiblepharon found in both cases occurred bilaterally, and not lead to complications on the cornea.

During the period 1 January to 31 December 2010 there were 2 patients with ptosis who come to plastic and reconstruction division Sanglah Hospital's Eye Clinic. The first case is a congenital ptosis in a 2 years old male, which occurred unilateral in the right eye. The second case is a bilateral neurogenic ptosis in a 15 years old female. Visual acuity in both cases is within normal limits.

Table 7
Charateristic of patient with lacrimal sac abscess at plastic and reconstruction division Sanglah Hospital's Eye Clinic 1 January - 31 December 2010 (n=3 patients)

Characteristic	Jumlah	Persentase (%)
Sex		
Male	0	0.0
Female	3	100.0
Age		
0 – 12 yo	0	0.0
13 – 40 yo	1	25.0
> 40 yo	2	75.0
Eye involved		
Right	2	75.0
Left	1	25.0
Both	0	0.0
Complication		
Abscess perforation	1	25.0

During the period 1 January to 31 December 2010 there were 1 patient with microphthalmia who come to plastic and reconstruction division Sanglah Hospital's Eye Clinic. It is a 19 years old male with microphthalmia congenital billateral. The visual acquity on the right and left eye was 1/60 and non light persepsion (NLP) respectively.

During the period 1 January to 31 December 2010 there were 1 patient with pthisis bulbi and 1 patient with ectropion who come to plastic and reconstruction division Sanglah Hospital's Eye Clinic. Pthisis bulbi was found in a 19 years old male, occurred in the left eye, and is caused by trauma. Ectropion is also found on the left eye of a 19 years old male. Ectropion in this study is a cicatrical ectropion and yet lead to corneal complications.

DISCUSSION

Good quality of vision is influenced by the normal anatomy and function of eyelid and orbital structures. In an effort to maintain the quality of vision, the ophthalmic plastic and reconstruction division deal with various issues related to the lacrimal system, eyelid, orbit and surrounding structures.[1]

Base on author preferences there is no other study that reports the characteristic of patients at plastic and reconstruction division. During the period 1 January 1 to 31 December 2010, patients at plastic and reconstruction division Sanglah Hospital's Eye Clinic most commonly are male (63.0%), age group 13-50 years (67.9%). Ocular trauma (45.7%), anophthalmic socket (21.0%), and nasolakrimal duct obstruction (13.6%) were the three most common cases in plastic and reconstruction division Sanglah Hospital's Eye Clinic. The incidence of ocular trauma and destructive

eye procedure in this study were higher than previous studies. Wong et al (2000) reported the incidence of ocular trauma by 12.6%, while Pandey (2006) reported the incidence of destructive eye procedure by 1.40%.[4,9] Indonesia as a developing country has a predominantly lower educational and socioeconomic levels. These resulted in a lack of safety attention of performing work or other activities, and tend to ignore health conditions. Ocular trauma is one of the caused of visual impairment and blindness in developing countries.[10] This study found that most ocular trauma occurs in males (70.3%), age group 13-50 years (75.7%). This is consistent with other research that concluded that male and younger ages are at greater risk for have an injury. Nirmalan (2004) reported a 61,6% of ocular trauma occurs in males.[10] Vats (2008) obtain 44.2% of patients are at age group 16-39 years. This is because male have more physical activity than female, and the type of work for male are also more at risk.[11]

Ocular trauma can occur on one or both eyes. On this study right eye (70.3%) experienced an injury more commonly than the left and the both eye (27.0% and 2.7%.). Wong (2000) reported 72,2% of ocular trauma are on the right eye. This is because most of the activities carried out with the right hand.[9] The type of injury in this study are more commonly sharp injury (59.6%) than blunt injury (40.5%). This is consistent with the study doing by Wong (2000) who found that sharp injury is more common cause of ocular trauma (65.2%).[9] The complications due to trauma on the palpebra and lacrimal system mentioned on the literature were 5%, while the orbital complications was 15%.[12] Complications resulting from trauma on the conjunctiva were reported by 22.2% (Andayani, 2010). Complications cause by trauma on the conjunctiva and palpebra in this study have the same percentage (50%).[13]

Destructive eye procedure can be done through several procedures including enucleation, evisceration, and exenteration. It is a difficult decision for both patients and physicians and recommended only as a last resort.[6] This study shows that male (76.5%) underwent destructive eye procedure more common than female (23.5%), with the male: female ratio was 3.2 : 1. The results are consistent with several studies in Nepal and Nigeria. Study in Nigeria reported the male : female ratio was 1.41: 1.[4] Other study reported that male had three times more likely to lose his eyes than female.[14] This is probably because of male have more outside activities and have a higher risk to expose with infection or trauma from the environment.[15]

This study also shows that destructive eye surgery occurs more frequently in the right eye (52.9%) than the left eye (47.1%). This is consistent with Bal et al (2007) which reported a 61.7% destructive eye surgery in the right eye, amounting to 36.2% in the left eye, and only 2.1% in both eyes. This is related to the causes of destructive eye surgery, which are mostly caused by trauma and infection.[16] Other research in Sanglah Hospital report that the right eye are more frequently traumatized than the left eye due to a tendency to use the right hand more often than the left hand.[13] Research shows varies results regarding the likelihood of infection in the right or left eye. A study by Fong et al (2004) reported the incidence of eye infections more in the right eye, while other studies have reported a similar trend between left and right eye.[25] Infection is the leading cause of destructive eye procedure done in this study (35.3%) followed by trauma (23.5%) and tumor (11.8%). This is consistent with several studies which state that infection and trauma are major indication of destructive eye procedure in the developing world, while orbital/ocular tumor is a leading cause in developed countries. Study in Africa reported infection (47.9%) is the leading cause of destructive eye procedure, followed by ocular trauma (23.2%).[3] This is caused by differences in educational and socioeconomic levels. Indonesia as a developing country, with lower educational and socioeconomic levels, resulting in a tendency to ignore the medical conditions.[26]

Complications after destructive eye procedure found in this study amounted to 70.6% with most complications are contracted socket (58.3%). The research concluded that complication occurs in patients who had undergone destructive eye procedure for <1 year is 18.2%, whereas in patients who had undergone destructive eye procedure during the 11-15 years amounted to 27.3%. Complications after destructive eye procedure is also affected by the surgical technique (evisceration, enucleation or exenteration), and the use of implants or conformers. Evisceration has fewer complications compared to enucleation or exenteration.[7,8] The use of implants and conformers post operative will also give better cosmetic and functional results.[8,27,28] Nakra et al (2006) reported a complication of 16.7% and Vittorino et al (2007) reported a complication of 10.6% of all patients undergoing enucleation or evisceration with implant.[7,29] Ashworth et al (1996) reported the occurrence of deep superior sulcus by 33% after follow up of evisceration and enucleation for 13 months.[32] Research by Massry and Hold (1995) reported the occurrence of contracted socket 12 months after the use of implant.[33] Another study in Korea reported the occurrence of implant exposure at 18 months post operatively.[34]

Moshfeghi et. al (2000) suggest that there is a correlation between time with complications after destructive eye procedure. The longer the patient had undergone surgical removal of the eye ball the greater the likelihood of complications. This is caused by the orbital tissue shrinkage during the healing process,

which occurred several years after surgery. This study concluded that there was a medium correlation between time and complication after destructive eye procedure. Operation techniques, the use of implants or conformers in most subjects of this study are unknown, and may affect the results of the study. Statistical analysis shows that the correlation was not statistically significant. Further research with larger subjects and more guided designs may give a clear result.[17]

Naso lacrimal duct obstruction (NLDO) is a blockage on naso lacrimal duct. Based on the cause, it can be divided into congenital and acquired. Congenital NLDO is due to a failure canalization of nasolakrimal naso lacrimal duct.[18,19] Acquired NLDO is caused by infection, inflammation, neoplasm, trauma, or idiopathic.[20] In this study NLDO get more events in female (72.7%) than male (27.3%), with mostly in the age 0-1 years (54.5%). Cause of NLDO in the mainly of patient were congenital (72.7 %), whereas 27.3% of obstruction was acquired. Literature states that NLDO are more common in children and female over 40 years of age.[20] Ballard (2007) reported the incident NLDO in children by 30%.[21] Other studies have reported the incident acquired NLDO by 45%.[22]

Chronic dacryocystitis is chronic inflammation of the lacrimal sac, which is caused by obstruction of the naso lakrimal duc. In this study, chronic dacryocystitis was found unilateral, with the same percentage in male and female. The average age of patients in this study was 43 years old. This is consistent with the literature in which chronic dacryocystitis usually unilateral, at the age above 40 years, especially women who have undergone menopause.[23,24]

Lacrimal sac abscess is characterized by redness swelling below the medial canthal accompanied by tenderness and fluctuation. Lacrimal sac abscess is caused by acute or chronic infection of the lacrimal sac. This study found that all lacrimal sac abscess are unilateral, in women, with an average age of 39.67 (SD 9.24) years. Perforation of the abscess was found in 1 patient.

Entropion is a condition in which the eyelid margin turns inwards against the globe. Based on the cause, it can be divided into congenital and acquired (involutional and cicatrical) (Piskiniene, 2006). There is 2 cases of entropion found in this study, both are male, average age 51 years. Both cases of entropion in this study are cicatrical entropion. One case is a bilateral case caused by trachoma, whereas the other cases are unilateral with unknown cause. Cicatrical entropion may be caused by trauma (mechanical, chemical, thermal), chronic allergies, infections, trachoma or Stevens-Johnson syndrome where there is a shortening or loss of the conjunctiva and posterior lamella. Entropion can cause complications on the cornea in the form of corneal erosion, keratitis and corneal ulcers.[30,31] In this study complications have not been found in both cases.

Ectropion is a condition in which the eyelid margin turns outwards against the globe.[31] This study found one case of ectropion, which is unilateral, in a 19 years old male. This is a cicatrical ectropion caused by trauma. Cicatrical ectropion can be caused by trauma (mechanical, chemical, thermal), skin diseases, and postoperative eyelid, where there is a shortening of the anterior lamella. Ectropion can lead to complications in the form of exposure keratitis and conjunctival hypertrophy.[31] There is no complication cause by ectropion in this study.

Ptosis is a dropping eyelid resulting in a lower position of the eyelid in primary gaze compare to the normal position. Based on the causes, ptosis can be divided into congenital and acquired (aponeurotic, neurogenic, myogenic, traumatic, and mechanical). Congenital ptosis largely due to a dysgenesis of the levator muscle resulting in disruption of muscle contraction and relaxation. Congenital ptosis is usually unilateral but can also be bilateral. There was no predominantly between male and female (American Academy of Ophthalmology Staff, 2010; Suh, 2010). Congenital ptosis in this study is a unilateral case occurs in male aged 2 years. Neurogenic ptosis is caused by a neurological disorders that occurs in a fully developed nerve system, largely due to the third nerve lesions or due to myasthenia gravis. Myasthenia gravis is an autoimmune disease where there is auto antibodies that attack the receptors at the neuromuscular junction. Ptosis may be the only symptoms in myasthenia gravis, or accompanied by others muscle weakness. Ptosis in myasthenia gravis generally bilateral and getting worse during the day.[6,35] Cases of acquired ptosis in this study occurred bilaterally in women aged 15 years and is caused by myasthenia gravis. Ptosis which closes the visual axis can lead to astigmatism or amblyopia.[35] Both cases of ptosis in this study do not lead to complications.

Epiblepharon is a congenital abnormality where there is a horizontal skin fold on the lid margin that result eyelashes folded inward. Epiblepharon often found in Asian races, with a prevalence of 46-52% at ages under 1 year. There is no predominantly in male or female. Epiblepharon generally bilateral, and may disappear in the presence of facial bone maturation. Continuous rubbing of the eyelashes on the surface of the cornea can lead to complications such as corneal erosion.[6,36,37] There are two cases epiblepharon in this study, namely in a 3 years old male,and 4 years old female. Epibleparon found in both cases occurred bilaterally, and not lead to complications.

Microphthalmia is a congenital malformation resulting in a smaller axial length of the eyeball compare to the normal eye. Microphthalmia occurs in 1,2 to 1,8 per 10.000 births. Microphthalmia can be unilateral or bilateral, with an equal ratio between

male and female.[38] Microphthalmia can be caused by genetic abnormalities, intrauterine infection, or certain drugs during pregnancy.[39] Microphthalmia cause an impaired vision or blindness.[40] Microphthalmia in this study occurred in men aged 19 years. This is a congenital case, occurs bilateral with visual impairment. The cause in such cases is unknown.

Pthisis bulbi is atrophy, wrinkling, and disorganization of the eyeball and intra-ocular structures. Pthisis bulbi is caused by trauma or infection.[6] Pthisis bulbi in this study are found in men aged 19 years and caused by trauma

CONCLUSION AND SUGESTION

Conclusion

1. Ocular trauma, anophthalmic socket, and nasolakrimal duct obstruction, were the most common case in plastic and reconstruction Sanglah Hospital's Eye Clinic. Other diagnoses with a smaller percentage are dacryocystitis, lacrimal sac abscess, entropion, epiblepharon, microphthalmia, pthisis bulbi, ptosis, and ectropion.
2. Destructive eye procedures is more common in males, with an average age of 38 years.
3. Infection is a major cause of destructive eye procedures, followed by trauma and tumor.
4. Complications after destructive eye procedures is at 70,6%, with contracted socket is the most common complications.
5. There is a medium correlations between time and complications after destructive eye procedures, but not statistically significant.

Suggestion

It is necessary to record and storage data in a better system to facilitate data collection for other study. It is also necessary to complete data on medical record data, including the causes of surgery, age at surgery, surgical technique used, implants, conformer or prostheses in more detail.

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