ORIGINAL RESEARCH

Assessment of outcome of vitreoretinal surgery

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ABSTRACT

Background: Retinopathy of prematurity (ROP) is a neovascular vitreoretinal disorder occurring in premature infants. The present study assessed outcome of vitreoretinal surgery. **Materials & Methods:** 50 patients selected for vitreoretinal surgery of both genders were selected. Parameters such as duration of surgery time (min), the degree of pain (by using a 5-points verbal rating score: 0- no pain, 1-mild pain, 2-moderate pain, 3-severe pain, 4-unbearable pain) was recorded at 1 hour, 6 hours and 24 hours was recorded. **Results:** Out of 50 patients, males were 32 and females were 18.ASA physical status (I/II) was 27:23 patients. The mean weight was 62.4 kgs. The mean duration of surgery time (min) was 79.1, the onset time of sensory blocks (min) was 5.2 and the onset time of motor blocks (min) was 9.5. At 1 hour no pain was seen in 15, mild pain in11, moderate pain in 18 and severe pain in 6 patients. At 6 hours, no pain in 25, mild in 10, moderate in 12 and severe in 3 patients. At 24 hours, no pain was seen in 38, mild pain in 10, moderate pain in 2 patients. The difference was significant ($P< 0.05$). **Conclusion:** The most of the patients had no pain following vitreoretinal surgery after 24 hours.

Key words: Retinopathy of prematurity, VRS, vitreoretinal surgery.

INTRODUCTION

Retinopathy of prematurity (ROP) is a neovascular vitreoretinal disorder occurring in premature infants. It is a vision-threatening disease and was first introduced as retrolental fibroplasia by Clifford in 1940 and described by Terry in 1946.[1]In India, the prevalence of ROP in low-birth-weight newborns ranges from 38.9% to 51.9%. Depending on the disease's stage, treatment options include vitreoretinal surgery, antivascular endothelial growth factor (VEGF) intravitreal injections, cryotherapy, laser photocoagulation, and observation.[2]

Vitreoretinal surgery is a subspecialty of eye surgery that treats conditions pertaining to the retina and vitreous, two important parts of the eye. The retina is the light-sensitive tissue lining the back of the eye, while the vitreous is a gel-like substance that fills the center of the eye. Many times, problems that can cause vision loss or impairment are treated by vitreoretinal surgery.[3,4] During a vitrectomy, the clear solution used to replace the vitreous gel is removed by the surgeon. This makes it possible to treat a variety of disorders by having access to the retina. Reattaching the retina may involve techniques like scleral buckle or pneumatic retinopexy. In order to improve vision, the surgeon may remove aberrant tissue in cases of epiretinal membrane or macular hole.[5] The present study assessed outcome of vitreoretinal surgery.

MATERIALS & METHODS

The present study consisted 50 patients selected for vitreoretinal surgery of both genders. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. After a routine preoperative evaluation, all patients were premedicated with 0.1 mg/kg oral diazepam 1 hour before the surgical procedure. Parameters such as duration of surgery time (min), the degree of pain (by using a 5-points verbal rating score: 0- no pain, 1-mild pain, 2-moderate pain, 3-severe pain, 4-unbearable pain) was recorded at 1 hour, 6 hours and 24 hours was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total-50		
Gender	**Male**	**Female**
Number	32	18

Table I shows that out of 50 patients, males were 32 and females were 18.

Table II Assessment of parameters

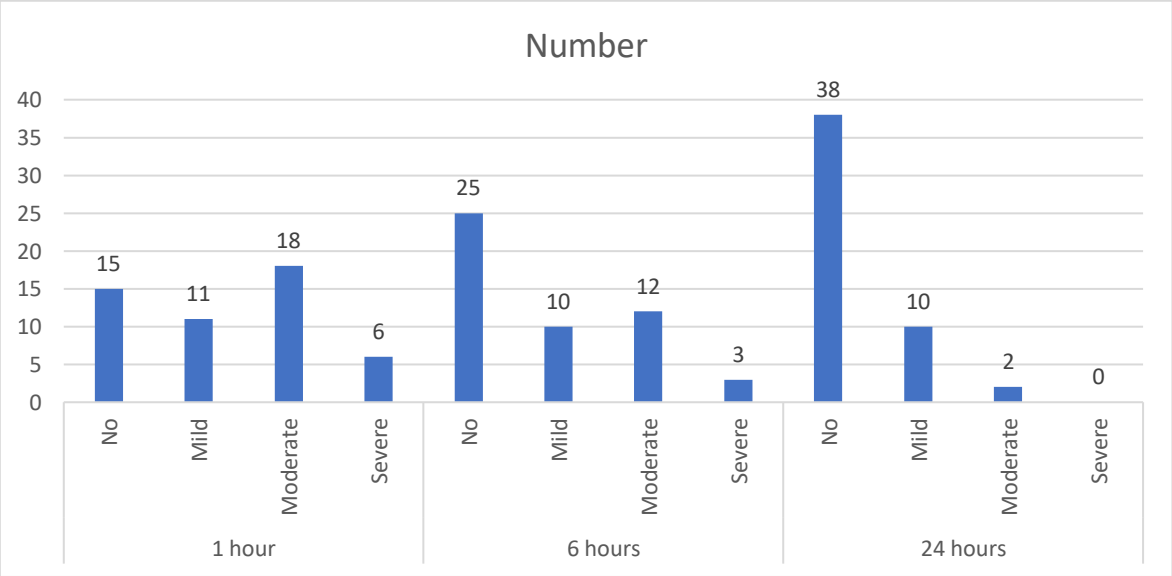
Parameters	Number	SD
ASA physical status (I/II)	27:23	-
Weight (kgs)	62.4	2.3
duration of surgery time (min)	79.1	5.3
onset time of sensory blocks (min)	5.2	1.1
onset time of motor blocks (min)	9.5	1.7

Table II shows that ASA physical status (I/II) was 27:23 patients. The mean weight was 62.4 kgs. The mean duration of surgery time (min)was 79.1, the onset time of sensory blocks (min) was 5.2 and the onset time of motor blocks (min) was 9.5.

Table III Assessment of verbal rating scale

Time	VRS	Number	P value
1 hour	No	15	0.82
	Mild	11	
	Moderate	18	
	Severe	6	
6 hours	No	25	0.03
	Mild	10	
	Moderate	12	
	Severe	3	
24 hours	No	38	0.05
	Mild	10	
	Moderate	2	
	Severe	0	

Table III, graph I show that at 1 hour no pain was seen in 15, mild pain in11, moderate pain in 18 and severe pain in 6 patients. At 6 hours, no pain in 25, mild in 10, moderate in 12 and severe in 3 patients. At 24 hours, no pain was seen in 38, mildpain in 10, moderate pain in 2 patients. The difference was significant (P< 0.05).



DISCUSSION

The sequelae of ROP" may happen either as a result of "regression of disease" or "spontaneous regression" after the acute phase of ROP has been treated. In premature neonates, these aftereffects arise from cicatricial vitreoretinal abnormalities that are still

present.[6] High myopia, ocular motility issues, strabismus, amblyopia, anisometropia, glaucoma, early cataract formation, and retinal abnormalities are a some of the ocular consequences of regressed ROP.[7,8] Retinal changes include pathological changes at the vitreoretinal interface, telangiectatic vessels, incomplete vascularization with abnormal vessel branching, peripheral folds, pigmentary changes, vitreous membranes, lattice-like degeneration, retinal dragging, complex retinal tears, and rhegmatogenous retinal detachment (RRD). The "International Committee for the classification of the late stages of ROP" has also provided a description of these modifications.[9,10]The present study assessed outcome of vitreoretinal surgery.

We found that out of 50 patients, males were 32 and females were 18. Scott et al[11]sought to evaluate postoperative functional status following surgery for rhegmatogenous retinal detachment (RRD), complicated retinal detachment (CRD), and epiretinal membrane (ERM). One interviewer conducted telephone interviews with patients at least six months following surgery to gauge their level of satisfaction and how they perceived the influence of the procedure on their functional status. 146 (78.1%) of the 187 eligible patients were reachable and all consented to take part. After surgery, ninety patients (61.6%) reported being better in two or more of the five activities that were looked into. Only five patients (3.4%) felt that the surgery had not been worth it, whereas twenty-one patients (14.4%) reported having worse postoperative vision than anticipated. A total of 103 patients, or 97.9%, reported that the surgery and its anticipated outcomes were sufficiently explained. Improvements in two or more activities were most likely to occur in patients whose preoperative study eye visual acuity was between 20/40 and 20/200. Greater postoperative satisfaction was linked to lower preoperative worsening of the eyesight and improved final study eyesight. Patient satisfaction or changes in functional status were not predicted by the diagnostic category.

We found that ASA physical status (I/II) was 27:23 patients. The mean weight was 62.4 kgs. The mean duration of surgery time (min) was 79.1, the onset time of sensory blocks (min) was 5.2 and the onset time of motor blocks (min) was 9.5. Gioia et al[12] found that surgical block was achieved after 8 min in the lido-bupivacaine group and after 10 min in the ropivacaine group. A 3-mL supplemental injection 15 min after block placement was required in 6 patients in the lido-bupivacaine group (20%) and in 10 patients in the ropivacaine group (33%) due to inadequate motor block (P 5 0.38). On postoperative day 1, 26 patients in the ropivacaine group (87%) reported no pain at the verbal rating score, compared with 18 patients in the lido-bupivacaine group (60%).

We found that at 1 hour no pain was seen in 15, mild pain in11, moderate pain in 18 and severe pain in 6 patients. At 6 hours, no pain in 25, mild in 10, moderate in 12 and severe in 3 patients. At 24 hours, no pain was seen in 38, mild pain in 10, moderate pain in 2 patients. In vitreoretinal surgery, Seidenari et al[13]assessed the clinical outcomes and effectiveness of local retrobulbar anesthesia with ropivacaine. Based on the level of anesthetic required, three groups were assigned to the operations. Group A comprises 208 vitrectomies performed for perforating trauma or detached retina, together with episcleral surgeries. Group B: All episcleral surgeries (410 vitrectomy-free operations for detached retina). Group C: Vitrectomies without episcleral surgery, comprising 301 procedures for silicone oil removal, proliferative diabetic retinopathy, and macular pucker or hole. 885 patients (96%), had lid oedema; 21 cases (2%) had partial swelling. Thirteen patients (1%), showed no evidence of infiltration. In 801 eyes (87%) there was a complete motor block, and in 118 eyes (12%) there was restricted ocular movement. Taking all three groups together, the degree of anesthesia was as follows: 855 (93%) patients had no pain, 44 (4%) patients had moderate pain, and 20 (2%) patients had extremely strong pain. There were no unfavorable outcomes or side effects noted.

The limitation of the study is the small sample size.

CONCLUSION

Authors found that most of the patients had no pain following vitreoretinal surgery after 24 hours.

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