Early predictors of traumatic glaucoma after closed globe injury- Trabecular pigmentation, widened angles and higher baseline intraocular pressure.


3.4% cases develop glaucoma after ocular contusion within 6 months. This increases to 10% during 10 years after trauma. The aim of this study was to evaluate the eyes prospectively to find the risk factors leading to post traumatic glaucoma. Eyes that had sustained with closed globe injury were enrolled. Objective was to analysis clinically and by using ultrasound biomicroscopy the factors that can predict occurrence of chronic traumatic glaucoma during the six months follow-up. 121 eyes with closed globe injuries were enrolled. 92 patients fulfilled the criteria and were used for analysis. Of this, patients underwent goniphotography and ultrasound biomicroscopy after 4 weeks of injury and they were followed up for six months. Eyes with elevated intraocular pressure more than 21mmHg and requiring glaucoma therapy for at least three months after closed globe injury were diagnosed as traumatic glaucoma. The clinical and UBM findings in patients with glaucoma and without glaucoma were compared. Demographic profile was similar in both groups. 40 of 92 patients had persistent glaucoma for at least three months; remaining 52 patients did not have an IOP rise of more than 21mmHg. Visual acuity less than 6/60 at initial examination, elevated mean IOP at presentation, hyphema and trabecular pigmentation more than grade 3 were more in the traumatic glaucoma group. These were of statistically significant. Relative risk of developing chronic glaucoma after closed globe injuries was 20.8 with dark trabecular pigmentation 7.5 with 360° angle recession, 6.9 with hyphema, 3.5 with lens displacement and cataract, and 2.5 with visual acuity less than 6/60. IN UBM large angle opening distance at 250 microns, angle recession area, and a wider distance from sclera spur to iris root predicted chronic glaucoma. On the other hand, presence of cyclodialysis was found to protect against development of glaucoma. In conclusion, the clinical signs of increased pigmentation of angle, elevated baseline IOP, hyphema, lens displacement and angle recession of more than 180° were significantly likely to have chronic glaucoma. In UBM a wider angle and absence of cyclodialysis were likely to have traumatic glaucoma. One drawback of this study was lack of longer follow-up. This is important because glaucoma after blunt trauma has one peak less than one year and in peak after many years. In spite of this drawback, the study gives some insight into the factors predisposing to traumatic glaucoma. This may be useful in clinical evaluation.

Characteristics and outcome of work related open globe injuries


This study was done to evaluate the characteristics and outcome of patients treated for open globe injuries sustained at work and to compare this to the patients injured outside work. A retrospective chart review of 812 consecutive patients with open globe injuries were analyzed. There were a total of 146 patients who sustained work related injuries. 98% of these people were men and average age was 35.8 years. Initial vision was worse than 20/200 in 49.3%, 56.8% had penetrating injury, 27.3% had retained IOFB and 14.4% were blunt injuries. Mechanism of injury was nails in 28.1% and other projectile in 32%. Compared to the control population, the patients injured at work were significantly likely to be male (P = 0.0001). Also younger age group were injured more frequently compared to the control group (P = 0.0016). After the initial evaluation and surgical repair the average follow-up was 281 days. The final visual acuity was 20/40 or better in 63.9%. The study demonstrates that occupational open globe injuries have a better prognosis than the non work related rupture globe. Workers are significantly more likely to have useful vision after surgical repair. Occupational injuries are more likely to be due to sharp or penetrating mechanism when compared to blunt rupture in non-work related open globe injuries. Also occupational injuries were less likely to be associated with retinal detachment. This study showed there was no significant difference in the initial time to presentation between occupational injuries and control group of non occupational open globe injuries. However, it is important to note that 17% of workers took more than 12 hours to present for medical evaluation and 10% presented more than 24 hours after injury. This has to be tackled in occupational eye injuries. Also the article highlights the need for use of safety glasses or other protective equipments. This study also shows a double peak in the time of injury during work day with most injuries occurring either before lunch or near the end of the day. In conclusion, work related injuries can cause significant morbidity in young population. Based on average patient follow-up and final visual acuity, those injured at work is slightly better than those with open globe injuries.
injuries sustained outside the work. There is an increased incidence of retained IOFB in work population emphasizing the importance of use of eye protection at work place.

**Management of ocular trauma in emergency (MOTE) trial: A pilot randomized double blinded trial comparing topical amethocaine with saline in the outpatient management of corneal trauma.**


Corneal abrasion with or without retained foreign body and welding flash burns are the commonest minor ocular trauma requiring out patient management. In these patients, pain may be a problem till the cornea heals. It is unclear whether local anaesthetic drops can be safely used for topical anaesthesia in patients with minor corneal injury who are discharged from emergency department. This study was done to assess whether topical 0.4% Amethocaine is useful in this scenario. It was a pilot randomized double blind trial comparing Amethocaine with topical normal saline. 47 patients were randomized to two groups. 22 received Amethocaine and 25 received normal saline placebo after discharging from the emergency department. The outcome measures include healing of the cornea as well as subjective assessment of pain. Patients were reviewed after 48 hours.

There was significant drop out of patients after two days in this study. The primary outcome was the healing of corneal defect. Potential delay in healing was the main concern with the use of outpatient topical anaesthesia. Complete re-epithelialisation was defined as absence of fluorescein staining at two weeks. Telephonic interview was done to find secondary outcome measures which included use of oral analgesia, unscheduled medical review, visual problem or satisfaction with treatment. Result of the study showed that persisting corneal defect was slightly more in the Amethocaine group than Saline group after 48 hours. None of the patients were given any cycloplegic drugs or eye patching to relieve pain. There was no statistically significant difference between the two groups in corneal healing due to the small number. However, secondary outcome did not differ between the two groups at two weeks. Amethocaine was effective in reducing ocular pain in the first 48 hours. Although topical anaesthesia has been found to be safe and effective in the treatment of post keratectomy pain, there are no published literature on topical anaesthesia used after any uncomplicated minor trauma. The major drawback in this study was significant drop out rate and the small number. This study concludes with topical Amethocaine was an effective method to relieve ocular pain in the first 48 hours but definitely not safe due to the delay in wound healing. Another disadvantage of this study is that it is not comparing non-steroidal and inflammatory drops or cycloplegic or artificial tears which can also alleviate pain.