Report on Otological Blast Trauma Cases

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All the OP PAWAN casualties were examined, whether they had ENT problem or not since such injuries may go unnoticed when patients are more concerned about some other major injuries. The incidence, methods of examination, type of injuries, management and their disposal are discussed in this paper.

Keywords : Blast trauma

All the OP PAWAN casualties received in Command Hospital, Bangalore were examined, whether they had ENT problem or not. This exercise gave dividends in that 15.3% cases who did not have any ENT complaints were found to have blast injury effect. Following the screening test by an ENT Specialist, positive cases were put to detailed investigations. Post injury examination time ranged from 1-12 days. Previous ear disease cases were excluded from this study. 23.18% of the total were found to have blast injury effect to the ear. All cases were between 19-47 years of age. 1.4% cases had only external ear injury and were excluded from this study.

Observations

Nature of Blast

From careful history taking from the patients in was obvious that the mine blast (90.6%) was the commonest offender. Other sources were: bomb blast (2.4%), grenade blast (2.4%), Gun fire (2.4%), mortar fire and Rocket launcher (1.1% each).

Symptom Analysis

The commonest symptom was deafness and tinnitus (84.7%) while others were bleeding (18.8%), pain (10.6%), and discharge (8.2%). Facial nerve Paralysis of lower motor neuron type was found in 1 case. Surprisingly no case of vertigo which is one of the commonest symptom in other studies, was observed in our series.

Tympanic membrane (TM) perforations

Otological examination revealed that unilateral and bilateral perforation incidences were not widely apart. Unilateral were 44.7% while bilateral were 37.7%. A total of 82.4% cases had perforations. 95% of patients having perforation of TM had single central perforation; central multiple perforation and attic perforations were 2% each while 1% patients had marginal perforation.

Audiometric Analysis

A total 68.5% cases could be subjected to Audiometric study. Out of this 19.6% had normal Audiogram while 80.4% showed hearing loss.

The commonest type of Audiometric loss was found to be of conductive in nature (54.5%). The mixed and sensorineural(SN) deafness was found in 28.4% and 17.1% respectively. Comparing the TM rupture and SN deafness it was obvious that the cases with TM rupture suffered in mild to moderate degree of SN deafness. This coupled with high incidence of conductive deafness indicates that in this series perforations tended to protect the inner ear from damage.

The quantitative analysis revealed that the incidence of mild conductive and SN deafness was highest, while mixed deafness was highest in moderate and severe range.

In SN Deafness cases, the commonest audiometric pattern was typical of sloping variety (93.3%). Only 6.7% cases had dip at 4 KHz. This finding has been at wide variance from other studies.

Management

All cases were treated conservatively for initial 4 weeks, as chances of spontaneous recovery in traumatic infliction of the ear are very high. Only those cases who remained in the hospital and either did not shown reasonable healing of perforation or had persistent ear discharge were taken up for surgery.

Disposal

65.9% cases were transferred out of ;this hospital because of reasons other than ENT. 21.2% perforations healed spontaneously and only 4.7% needed Myringoplasty. The patient with facial paralysis recovered completely.

Conclusion

To conclude, we highlight the following significant observations of the present series:

i) A significant number of cases, who did not have any ENT complaints, were found to have blast injury effect and thus it is recommended that all battle casualty patients must be examined by ENT specialist irrespective of their complaints.

ii) Attic and annulus tympanicus are not found immune to blast wave injuries in our observations