

To the Editors:

Rupture of the tympanic membrane following assault: a retrospective study of victims of violence who presented to the private sector

The tympanic membrane can rupture due to many causes (Table 1). The most common cause of rupture is assault over the ear squarely with the hand. This occurs frequently as a sequel to domestic violence. No study has been done to evaluate the nature or extent of the problem in this country. The purpose of this study was to assess the population characteristics of the victims of assault, their assailants and nature of the victims' otological manifestations.

Table 1. Causes of rupture of the tympanic membrane

<i>Traumatic causes</i>	<i>Infective causes</i>
Assault	Middle ear infection
Fracture base of skull	External ear infection
Bomb blasts ¹	
Foreign bodies in the ear	
Barotrauma	
General anaesthesia with nitrous oxide ²	
Lightening ³	
Insertion of ventilation tubes in children ⁴	

Data were collected from individuals who presented to the outpatient clinic of a private sector hospital. They presented to the surgeon 1 to 30 days after the assault. A total of 25 patients were assessed, and 23 patients (92%) were females. They fell within an age range of 16 to 62 years.

A majority of the victims were housewives (n=9). Of the 23 female victims 17 were assaulted by their husbands (n=16). The only two male victims in the study, who were both students, were each assaulted by a fellow student. The other female victims in the study were assaulted by their relatives eg. the father, brother, son-in-law. The housemaid was assaulted by her employer. These details are summarised in Table 2.

A majority of the assailants were males. Their ages were in the age range of 8 to 68 years. There was only one female assailant, an 8-year old child. Most victims were assaulted following a family disagreement (n=21). Two female victims were injured following accidental striking of the ear by children aged 8 and 10 years.

Following assault a majority of the victims (n=17), complained of tinnitus in the affected ear. The second common complaint was blocking of the ear (n=14). The other presenting complaints in descending order of frequency were headache, deafness, pain in the ear and vomiting (12%).

Twenty four patients had a perforated tympanic membrane and one patient did not have any visible damage to the ear drum. 12 patients had bilateral afflictions. The posterosuperior quadrant was most commonly affected, followed by the posteroinferior quadrant, anteroinferior quadrant and the anterosuperior quadrant. Larger perforations as well as those that involve the posterosuperior quadrant of the membrane gave rise to a more profound hearing impairment and took a greater time to heal (5). Although all patients were requested to present themselves for follow up 2 weeks after the initial consultation only 7 did so.

Table 2. Occupations of the victims and their assailants

<i>Victims</i>		<i>Assailants</i>		<i>Relationship between female victims and their assailant</i>
Housewife	9	Businessman	12	Husband
Clerk	6	Office peon	3	Other relative
Student	4	Student	3	Father
Banker	2	Child	2	Brother
Housemaid	1	Police officer	1	Son-in-law
Teacher	1	Private security officer	1	Employer
Garment worker	1	Banker	1	
Computer operator	1	Retired government servant		
		Unemployed	J	

Most victims sustained tympanic membrane rupture as a consequence of domestic violence, and a majority of the victims were females. The presence of a ruptured tympanic membrane in a female patient in the absence of a history of assault should alert the clinician to the possibility of physical abuse in a domestic setting.

References

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