

Distracted pedestrian sustains orbital fracture while on cell phone

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Abstract: Use of cell phones in the general population has become increasingly commonplace. The distracting effects of cell phones among automobile drivers are well established, and legislation prohibits the use of handheld cell phones while driving in several states. Recent research has focused on the similar distracting effects of cell phones in the pedestrian population. In this report, an older gentleman suffered extensive facial trauma requiring surgery as a direct effect of cell phone use at the time the trauma occurred. This case highlights the role that portable electronic devices can play as a cause of ocular trauma.

Keywords: orbital fracture, ocular trauma, orbital floor fracture, cell phone distraction, pedestrian safety

Case report

A 72 year old man presented with new-onset pain with eye movement and diplopia. One day prior to presentation, he had accidentally struck his face on a metal fence while walking on a city street at night. He reported using a handheld cell phone device when the incident occurred. While actively engaged in conversation, he had walked into the corner pole of a metal fence and struck his left eye area. He was wearing spectacles at the time, which were scratched, but not shattered. He reported that he was not intoxicated and did not notice the object until after the trauma. He reported double vision on upgaze and pain in the left eye in all fields of gaze. Visual acuity was 20/20 OD and 20/20 OS. There was no relative afferent pupillary defect. Ocular range of motion was restricted in the left eye on upgaze with diplopia. No oculocardiac reflex or facial hypesthesia was apparent. There was minimal cutaneous ecchymosis and periorbital edema. Noncontrast computed tomography of the head and orbits revealed a depressed fracture of the left orbital floor with entrapment of the inferior rectus muscle (Figure 1). He was evaluated by an oculoplastic specialist for clinically significant left orbital floor fracture and advised to undergo exploration and repair of the fracture. The patient underwent transconjunctival exploration of the left orbital floor. Intraoperatively, a depressed defect in the orbital floor was noted, with herniation of the inferior rectus muscle into the maxillary sinus. The entrapped muscle and surrounding orbital fat were released from the fracture and forced ductions revealed satisfactory delivery of the tissue. Postoperatively, the patient regained full ocular range of motion without residual diplopia. He was returned to the care of his general ophthalmologist for further management.

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Figure 1 Preoperative coronal computerized tomography scan demonstrating a left inferior floor fracture with herniation of the inferior rectus and orbital fat contents inferiorly.

Discussion

Cell phone use has become ubiquitous worldwide over the past decade. In the United States, an estimated 80% of the population owns a cell phone.¹ Several studies have demonstrated an increase in accident rates among drivers distracted by handheld cell phones, and legislation now limits the use of handheld cell phones by drivers in several states, beginning with New York State in 2001.^{2,3}

Only more recently have the distracting effects of cell phones been examined in the pedestrian population. In a study of passers-by in a large urban university campus, pedestrians talking on cell phones were significantly less likely than pedestrians holding cell phones but not engaging in conversation to recall planted objects set along a predefined route. Pedestrians talking on cell phones also displayed unsafe road-crossing behavior at cross-walks significantly more often than did pedestrians without cell phones or pedestrians listening to portable music players.⁴ These findings were confirmed in subsequent analyses of college-aged pedestrians using handheld devices.^{5,6} The distracting effect of cell phones seems to be amplified in older individuals.⁷

Discussion of cell phone-related pedestrian morbidity has made its way into the public arena as well. A recent article in a major urban newspaper highlighted the story of a woman who suffered minor injuries after walking into a parked truck while talking to a family member on her cell phone.⁸ Interest has not only been directed to talking on cell phones; “text-walking” is becoming a popular term for pedestrians, often not attentive to their surroundings, who text while on the go.⁹ It is now apparent that texting while walking affects not only gait velocity but lateral deviation as well, placing

text-walkers at risk for encountering unintended obstacles resulting in injury.¹⁰ In New York, former Senator Carl Kruger sponsored a bill that would make crossing a city cross-walk while using an electronic device punishable by a \$100 fine, citing an incident wherein a young man was crushed by a truck after he stepped into the street while distracted by loud music on his headphones.¹¹ A similar bill proposed in Arkansas was later dropped by Senator Jimmy Jeffress after it failed to gain popularity with constituents.

The number of pedestrians using cell phones in public traffic areas may only be expected to rise as these increasingly versatile devices gain even wider popularity. Ocular trauma among pedestrians and other road users associated with the use of electronic devices represents an increasing mode of injury of which ophthalmologists should be aware.

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Disclosure

The authors report no conflicts of interest in this work.

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