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Survival From Transabdominal Fence Post Impalement

George Testerman MD
Valley Hospital Trauma Center, gmt0@charter.net

Laith A. Al-Balbissi MD
laithalbalbissi@yahoo.com

Chad Moss MD
utdoc09@gmail.com

Hao D. Pham MD
zhdp14@mail.etsu.edu

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Abdominal impalement is an uncommon injury usually involving significant morbidity and mortality. Impalement injury has been reported in ejected occupants of motor vehicle crashes striking elongated objects. We present an unusual case of a twenty-four-year-old female restrained driver involved in a motor vehicle crash who survived a transabdominal fence post impalement. The patient was transfixed by a wooden fence post that had passed through the car door (Figure 1) into her abdomen from the left upper flank to the right lower flank. Remarkably, she extricated herself from the impaling fence post and was flown by aeromedical helicopter from the accident scene in Kentucky to the level one Trauma Center in Kingsport, Tennessee.

The patient arrived at the trauma center with normal vital signs and an eight centimeter penetrating wound in her left flank. She had minimal abdominal tenderness. There was no exit wound. A preoperative CT scan (Figure 2) revealed bilateral soft-tissue flank injuries and gas bubbles in the retroperitoneum. She underwent exploratory laparotomy and left colectomy for descending colon injuries and debridement of flank wounds. Her recovery was uneventful.

Type 1 impalement injuries result from the impact of the human body and an immobile object, such as an ejected motor vehicle occupant striking a picket fence resulting in impalement. Type 2 impalement results from a mobile object becoming intentionally lodged in a stationary patient and may result in rectal or vaginal injuries. Efforts should be made to leave the impaled object in position during transport to preserve any internal tamponading effect of the impaled object and to prevent splintering of the object and render its complete removal more hazardous. Cutting the impaled object just above the skin level and modified positioning on the operating table may be necessary.

Management of abdominal impalements depends of the object, its location, and in general follows published practice management guidelines for penetrating abdominal trauma. Most patients with transperitoneal abdominal impalement require exploratory laparotomy to rule out concurrent hollow or visceral organ injuries as well as hemorrhage control. With perineal involvement sigmoidoscopy should be used to rule out rectal injuries. Fecal or urinary diversion may be required in complex cases. All impalement sites should be thoroughly debrided and generally left open to prevent wound infections and necrotizing fasciitis.

Transabdominal impalement injuries pose peculiar challenges in prehospital care, transport to trauma centers, and management. The surgical community may benefit from reporting these rare injuries in order to develop better treatment strategies.

References:

Figure 1.

Fence post impalement through driver’s car door.

Figure 2.

CT scan shows transabdominal impalement injury.