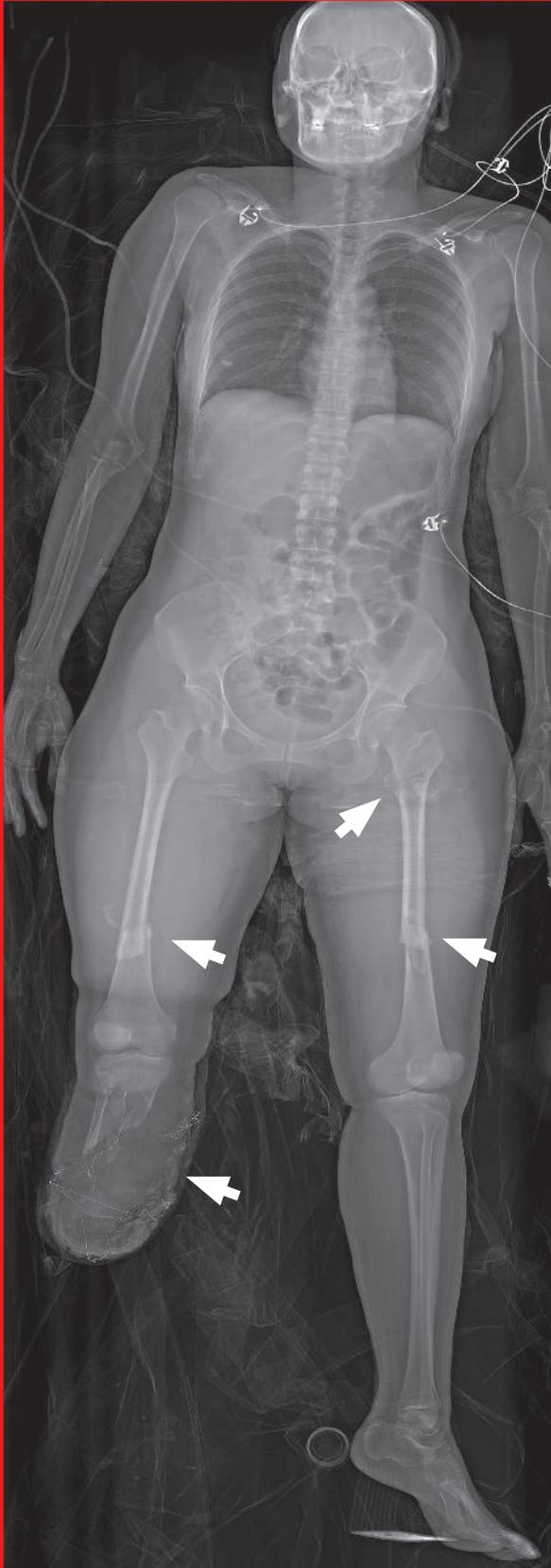


The use of Lodox in evaluating the injuries of an RTA patient.



A case study from the Emergency and Trauma Centre, Rashid Hospital, Dubai.

This centre is a Dubai Health Authority (DHA) facility accredited by Joint Commission International.

Introduction

The unintended collision of one motor vehicle with another, a stationary object, or person, resulting in injuries, death and/or loss of property is referred to as Motor Vehicle Accident (MVA) or Road Traffic Accident (RTA)¹. According to WHO, 3000 people die on the world's roads every day and several million are injured or disabled each year. Road accidents cost governments in different economies² approx \$600 billion per year. According to Dubai Police statistics, there is 154 traffic related deaths per annum,³ 1 death and 8 injuries per day in Dubai and 20 deaths per 100,000 population (compared to 6 per 100,000 for the UK and Sweden)³. This public health problem puts a huge burden on the medical system to provide efficient management.

Case Presentation

A 32 year old, female patient was transferred to the Emergency and Trauma Centre by ambulance following an RTA. The patient presented with multiple wounds and complaints of pain in both legs. She was hemodynamically stable with a blood pressure of 116/83 and pulse of 110 bpm. She was fully conscious with Glasgow Coma Score of 15/15. Chest examination revealed bilateral equal air entry. Physical examination revealed a tender abdomen, below knee amputation on the right side with deformity and tenderness of the left thigh.

Imaging, Diagnosis and Treatment

Lodox full-body AP X-ray was obtained followed by a trauma CT. The Lodox images revealed; traumatic amputation of the patient's right leg at the level of the proximal shaft of the right tibia and fibula and comminuted displaced fractures at the mid-shaft of the left femur and distal shaft of the right femur. Vertebral body heights, disk spaces and alignments of the entire vertebral column are preserved. Both lungs otherwise appear clear without detectable contusion or any hemopneumothorax. The CT images revealed a fracture of the neck of the left femur. The patient was immediately transferred to the operating theatre to undergo bilateral external femur fixation, debridement and stump closure for right leg below knee amputation. Postoperatively, the patient was admitted and scheduled for further surgeries to remove the external fixators and place femur nailing.

Discussion

The value of incorporating a rapid full-body X-ray imaging tool into any polytrauma management is clearly demonstrated in this case. Imaging adjunct to the primary survey enabling a full body overview and diagnosis in 13 seconds is of essence in the golden hour. In this case with traumatic amputation and severe bleeding, it is imperative to outrule all other injuries before shifting the patient to theatre. Lodox full-body imaging provides the required imaging as per primary survey and more, offering in this case the capability to accurately identify the location and severity of all lower extremities fractures and amputation site.

Conclusion

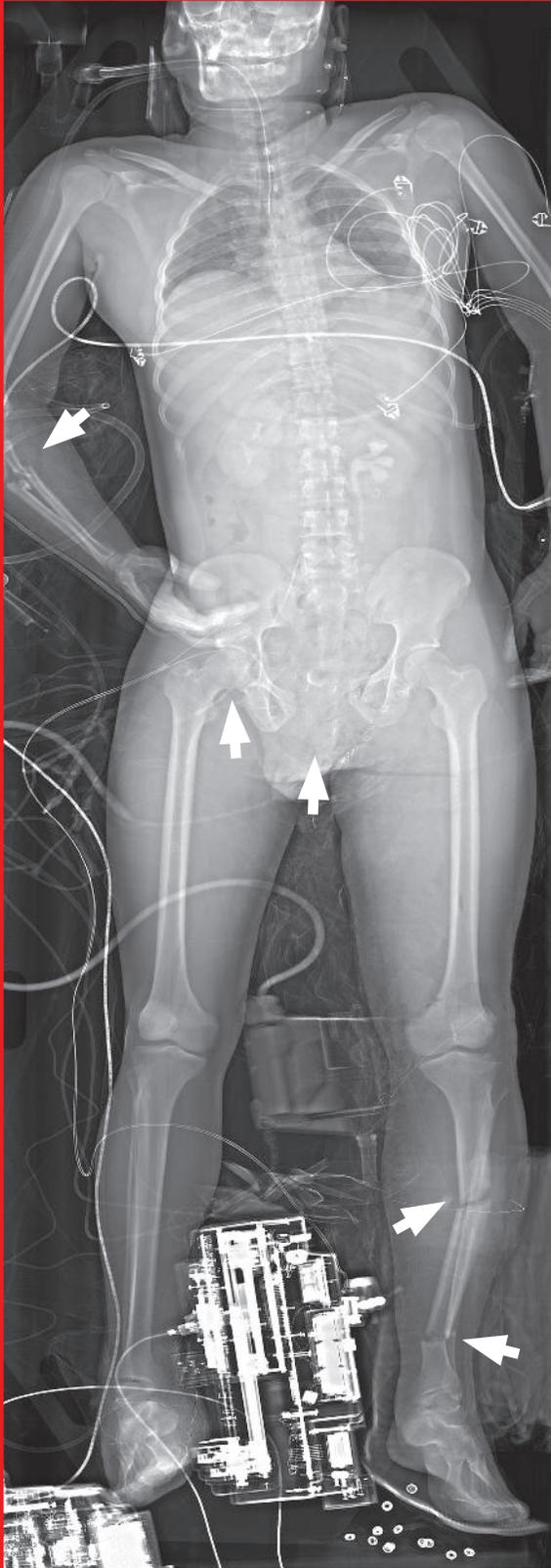
Lodox is a valuable diagnostic tool for patients with multiple fractures and traumatic amputation presenting to any emergency department.

"Lodox enables a quick overview of all injuries associated with RTA patients"

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Management of a patient with a history of fall from height.



A case study from the Emergency and Trauma Centre, Rashid Hospital, Dubai.

This centre is a Dubai Health Authority (DHA) facility accredited by Joint Commission International.

Introduction

In the last 10 years the UAE has witnessed a rapid growth in the construction industry, which is pivotal in setting a pioneering record at economy and tourism growth. The active increase in the number of construction projects in the UAE has caused an alarming number of accidents at construction sites¹. Falling from height is considered at the top of the hazards list of construction sites fatalities². There have been many recorded incidences of falls from height in the last few years, yet unfortunately there is no official registry for the total number of fatalities occurred. According to USA Occupational Safety and Health Administration statistics (OSHA), in 2010, there were 264 fall fatalities out of 774 total fatalities in construction sites². These types of injuries carry a high mortality rate as patients present with multiple fractures and internal injuries.

Case Presentation

A 30 year old construction site employee was transferred to the Emergency and Trauma Center by ambulance after falling from approximately 9 meters. The patient was hemodynamically stable with a blood pressure of 132/73 and pulse of 133 bpm. His Glasgow Coma Score was 15/15. The patient was suffering from bleeding in his left leg due to open fracture, and complained from pelvic pain. Physical examination revealed deformity and tenderness of the left leg and right forearm. There was also a degloving injury in the right foot and laceration wounds in the left thigh, right knee and scrotal area.

Imaging, Diagnosis and Treatment

A trauma CT scan and Lodox full-body X-ray scan was performed. The Lodox images indicated fractures of the left tibia and fibula (middle and lower third), fractures of the proximal aspect of the right radius and ulna, fractures of the right acetabulum and the left inferior pubic ramus. Also, pubic symphysis diastasis was clearly indicated in the Lodox image. The patient was intubated due to the multiple injuries and transferred to the operation theatre for emergency fixation and wound debridement of right knee and left thigh. ORIF symphysis pubis, external fixator bridging of the left knee was also done on the same day along with vacuum sealing of the right foot. Further surgeries were performed including ORIF plating and K-wire of right radial styloid process once the patient was stable.

Discussion

The benefit of acquiring a fast full-body diagnostic image to provide full diagnosis of all major injuries in a short timeframe is evident in this case. Patients with history of fall from height present with complex injuries, often dispersed. Without the capability of producing a one shot full body image, multiple X-ray views are needed to fully assess the patient condition. The use of Lodox reduced the overall radiological examination time significantly, allowing for rapid assessment and movement of the patient to the operating theatre.

Conclusion

In a fast timeframe, Lodox provides full body diagnostic assessment of all injuries that otherwise may not be identified during clinical assessment or in a trauma X-ray protocol.

“The Lodox full-body scan is an ideal imaging tool for evaluating patients with multiple injuries”

ASMHAN AL SAJWANI, RADIOLOGY CLINICAL EDUCATOR &
JUKHA AL BADAWI, PRINCIPLE RADIOGRAPHER & CLINICAL
SUPERVISOR, RH EMERGENCY & TRAUMA CENTRE, DUBAI

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2. United States Department of Labor, Occupational Safety & Health Administration (OSHA), (2010), Retrieved January 15-2012, <http://www.osha.gov/stopfalls/index.html>