

Role of X-ray in Road Traffic Accident (RTA)

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Abstract: Road traffic accidents are a major health hazard in Hail City ,Saudi Arabia, particularly during workdays. The trauma has increased in direct proportion to the increase in the number of road vehicles, introduction of seat belt legislation and stricter law enforcement should lead to a rapid reduction in morbidity and mortality on the roads in Hail City ,Saudi Arabia..

Keywords: road traffic accidents (RTA), morbidity and mortality; injury rates,vehicle speeding.

1. Introduction

Road traffic accident (RTA) The nightmare of every motorist All over the world. The trend is to decline in our country, The problem of road traffic accidents (described by the WHO as a cost of modernization) is becoming an internationally recognized concern. Road traffic accidents ,i.e. accidents involving a motor vehicle with another vehicle, animal or pedestrian are becoming increasingly common in Hail City Saudi Arabia.They are a major cause of morbidity and mortality at a rate which is on a level with heart diseases and cancer.^{2,3} There has been a progressive increase in vehicle accidents within Hail City ,Saudi Arabia which corresponds to the increase in the number of registered vehicles due to a number of events including the Hail Rally

2. Materials and Methods

Data collection sheet and retrospective review of trauma patients from Traffic and major hospitals in Hail city.

Instrumentations

X-ray machine and PACS System

Head Injuries

After trauma Skull conventional x –rays basic projections AP and Lateral should be done , CT scans for detection of intracranial injuries; and to interpreted abnormal head CT.

Chest

There are many reasons for chest X-ray after trauma. trouble breathing, or a cough that will not go away, this type of X-ray can help determine if patient have a problem with the lungs or other respiratory structures. Chest x-rays are also useful for diagnosing pneumonia, collapsed lung, rib fractures, enlarged heart, and osteoporosis. If the patient scheduled for surgery, He might have a preoperative chest X-ray to make sure he do not have any heart or lung conditions that would make surgery unsafe. This type of X-ray shows the shape and size of the heart, position of the large arteries, and condition of the lungs, so it is a useful tool for determining whether the patient is healthy enough to have surgery or Not.

Abdomen

Abdominal X-ray is used to visualize the organs of the digestive tract. this test if the patient have persistent nausea,

abdominal pain, or possible urinary tract problems and might show a fluid collection in the abdominal cavity, a hole in the intestines or stomach, intestinal blockage, foreign body in the digestive tract, abdominal injury,This test can be used also to diagnose or monitor the progression of several different medical conditions. They include the following: Acute kidney failure ,Kidney stones , Gallstones, Biliary atresia and Renal artery stenosis

Pelvis

The pelvis contains several structures that can fracture or break down over time. An X-ray of the pelvis makes it possible to determine if the patient have any fractures, or degenerative conditions of the pelvis or hip joint. These X-rays are also useful in diagnosing ankylosing spondylitis or sacroilitis. but should be know if the patient is pregnant before undergoing this type of test. The safety of the patient and unborn fetus is our utmost concerns Now, and we take appropriate measures to achieve this goal. the reviewing of X-ray images To enable the patient to get proper treatment.

Vertebral Column

Over many years, our necks are subjected to repeated stress and minor injury. These injuries may not cause pain at the time of injury. However, repeated injuries add up, and can eventually result in degeneration of the cervical spine, causing neck pain. Most neck pain is due to degenerative changes that occur in the neck. The overall condition of the cervical spine usually determines how fast the patient recover from an injury, and whether the neck pain will become a chronic problem.For chronic neck pain, there may not be a quick fix or complete cure. The patient will need to work with health care team to try to improve the problem causing pain and to slow down the degenerative process. The physician's role in the treatment of neck pain is to find the main causes that need treatment right away. He or she will also try to keep the patient neck pain from becoming a chronic condition by teaching the patient how to slow down the degenerative process and prevent further injury.

Upper &Lower Limbs

X-rays of the extremities (such as the arm, leg, hand, foot, ankle, shoulder, knee, and hip) may be performed to assess the bones of the extremity for injuries, such as fractures or broken bones, or evidence of other injuries or conditions, such as infection, arthritis, tendinitis, bone spurs, tumors, or congenital

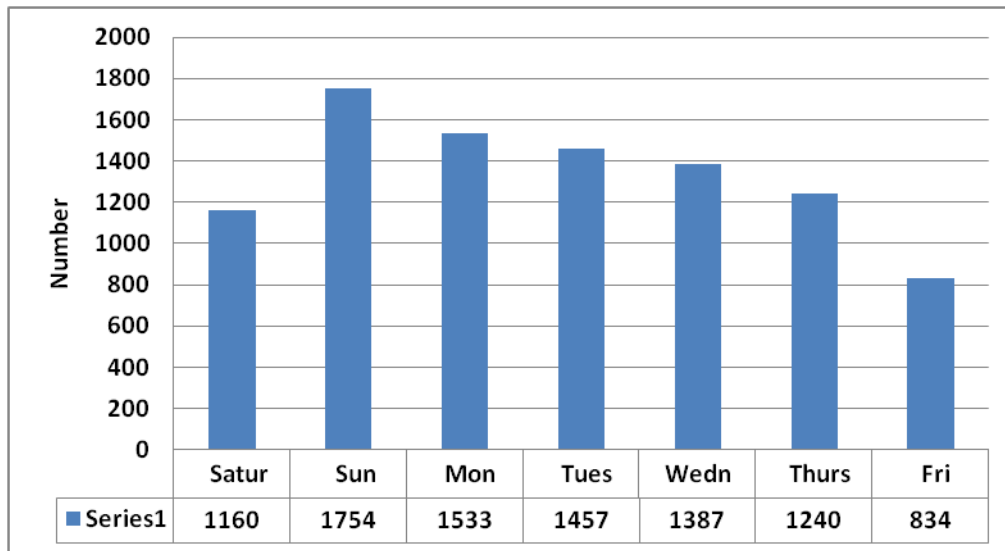
abnormalities. X-rays of the extremities may also be used to evaluate bone growth and development in children, X-rays of joints may be done to evaluate damage to soft tissues, such as cartilage, muscle, tendons, or ligaments, and to assess for the presence of fluid in the joint, and other abnormalities of the joint such as bone spurs, narrowing of the joint, and changes in the structure of the joint, While the X-ray procedure itself causes no pain, the manipulation of the body part being examined may cause some

discomfort or pain, particularly in the case of a recent injury. The radiologic specialist will use all possible comfort measures and complete the procedure as quickly as possible to minimize any discomfort or pain.

3. Results

Number of accidents in day work per year

Accident in Daywork\Year							
Total	Friday	Thursday	Wednesday	Tuesday	Monday	Sunday	Saturday
9365	834	1240	1387	1457	1533	1754	1160



The number of accidents increases in day work due to Streets overstock cars
 The injuries recorded all over body parts
 The most dangerous injuries are , head injuries, neck and spine injuries

4. Conclusions

An X-ray machine uses to take images of the bones and other internal structures. These X-ray images used to record radiographic pathology due to Trauma or any other pathology , but many are now recorded digitally. Bones block the X-ray particles emitted by the machine, so they appear white on the resulting images. Muscle and fat have a grayish on X-ray images, while any structure containing air will be black.

The study recorded that The number of accidents increases in day work due to Streets overstock cars ,The injuries recorded all over body parts ,The most dangerous injuries are head injuries, neck and spine injuries

5. Recommendation

- 1) We recommend the punishment on violators Driving
- 2) Intensify traffic security forces in the days of work
- 3) We recommend carmakers to do extra safety especially to the head and spine .

- 4) We recommend local affairs, follow-up and maintenance of roads

References

- [1] <http://www.radiologyinfo.org/en/info.cfm?pg=chestrad>
- [2] <http://www.healthline.com/health/skull-x-ray>
- [3] http://radiologymasterclass.co.uk/tutorials/abdo/abdomen_x-ray/anatomy_introduction.html
- [4] <http://www.healthline.com/health/pelvis-x-ray#Overview1>
- [5] <http://www.webmd.com/back-pain/guide/spinal-x-ray>

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