Two restrained back-seat taxi passengers suffered from sternal fracture as a result of head-on collision with another car. They were wearing shoulder-lap seat belts at the time of the collision. Both of them also complained of upper back pain one day after admission. Computed tomography of the thorax showed fracture of the thoracic spine in both of them. We performed literature search, analysing the mechanism of sternal fracture and its association with spinal fracture. A management guideline in the emergency department is proposed to handle this injury. (Hong Kong j.emerg.med. 2006;13:94-99)

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Keywords: Seat belt syndrome, spinal fractures, spinal injuries, thoracic vertebrae

Case 1

A 36-year-old female Filipino back-seat taxi passenger wearing shoulder-lap seat belt presented with chest wall pain after head-on collision with another car in September 2003. On arrival, her blood pressure was 122/76 mm Hg and her pulse rate was 102 beats per minute. Physical examination did not reveal any external lesions except mild sternal tenderness. X-rays of the chest (CXR) and sternum showed sternal fracture (Figure 1) and a crack fracture of the left 6th rib. There was no pneumothorax. She was admitted to the surgical ward for management. However she complained of back pain and tenderness over the thoracic spine one day after admission. X-rays showed a compression fracture of the thoracic vertebrae at