

## CONTRA COUP PELVIC INJURIES

H. N. KRIGE, D.M.R.E. (CANTAB.), *Department of Radiology, University of Stellenbosch and Karl Bremer Hospital, Bellville, CP*

Pelvic fractures as a result of a traffic accident are described. A bus conveying Coloured females to work was involved in a head-on collision with a heavy sand-laden lorry and the X-rays were reported on by me on the afternoon of the recent occurrence. Repercussions involving compensatory proceedings featured in the news. The findings of the rather interesting features of the traumata have prompted me to record these observations.

The bus was a converted lorry with canopy and had longitudinal bench seats extending along its lateral protrusions. 44 Coloured workers varying in ages from 16 to 60 years were sitting in tight hip-to-hip apposition and a few additional passengers were occupying the central floor space. The 2

vehicles collided at a moderate speed but the impact of the laden lorries was heavy, thus probably resulting in a more sustained momentum. Conduction of a chain impulse along the contiguous anatomies of the passengers appears to be an inevitable deduction, and moderate to severe trauma occurred in, as far as could be ascertained, 36 of the laterally seated occupants. These injuries were all confined to the lower portions of the body with no ascertainable vertebral fractures or displacements. One femur was fractured in its proximal third and 17 fractured pelves were recorded on X-ray examination. Subluxation of a sacroiliac articulation was visible in 2 cases and these two also showed some *protrusio acetabuli*. In all 17 patients, fractures of the pubic and ischial rami were

demonstrated on one or both sides (Fig. 1), but displacement was on the whole not a marked feature and only one or two cases sustained diastasis of the symphysis (Fig. 2). This type



Fig. 1. Bilateral fractures of pubic rami.

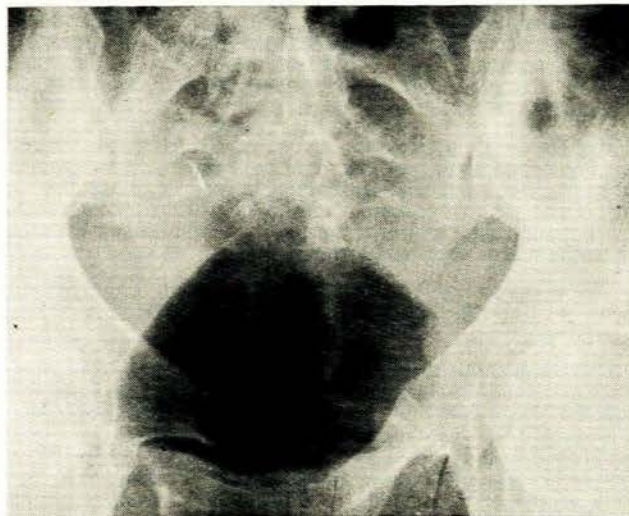


Fig. 2. Fractures of rami with some displacement and protrusion of acetabuli.

of *contra coup* fracture resulting from a lateral impact appears to confirm the vulnerability of the ramic portion of the pelvis.

Only one case (Fig. 3) of an atonia of the bladder was

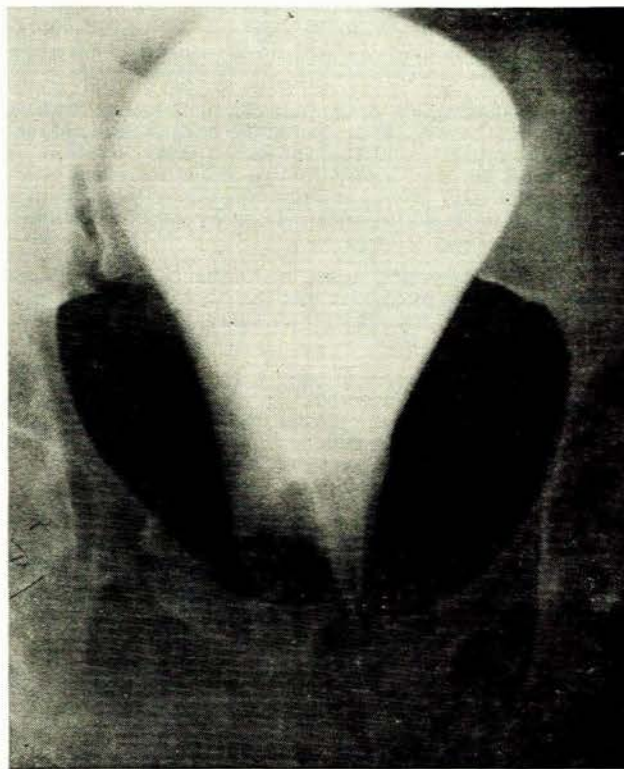


Fig. 3. Unilateral fractures of rami with haematoma and atonia of balloon-shaped bladder filled with contrast medium.

noted, in an elderly female who, incidentally, provided me with an intelligent description of the type of conveyance with its passenger arrangements. No ruptured bladders were later clinically reported.

#### SUMMARY

A lorry accident resulting in numerous pelvic fractures is described. No upper body injuries or fatal results were recorded.

The chain reaction features as an interesting traumatic factor in this type of *contra coup* injury and clearly demonstrates the weakest portion of the pelvic architecture.