

Contemporary Themes

Go-kart Injuries at a Fairground

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Summary

Twelve serious go-kart injuries were seen in three months. Almost all of these were caused by the steering wheel and all could have been prevented or their severity reduced by the use of a seat belt.

Introduction

During three months in the summer of 1972, 12 people sustained severe injuries while driving go-karts at a fairground (fig. 1). Four of these required inpatient hospital treatment while the other eight were treated as outpatients at the casualty department of the Aberdeen Royal Infirmary.



Case Reports

Case 1.—A 19-year-old medical student crashed while driving a go-kart and struck his perineal region against the steering wheel. Afterwards he was unable to pass urine and blood was issuing from his urethral meatus. Extensive perineal bruising was present. Under general anaesthesia a catheter was manipulated into the

bladder and satisfactory drainage of urine was achieved. The perineal haematoma was drained. It was concluded that this patient had sustained a partial tear of the spongy urethra. On removal of the catheter after eight days there was no difficulty in passing urine. The possibility of future development of a urethral stricture remains, however, and long-term supervision has been arranged.

Case 2.—A 15-year-old schoolboy was at a fairground with a school outing when he crashed a go-kart at a bend in the track (fig. 2). The steering wheel struck his abdomen, and thereafter he complained of increasing abdominal pain. On admission to hospital he was shocked and complained of generalized abdominal and left shoulder tip pain. There was diffuse abdominal tenderness and guarding. At laparotomy the findings included a complete transection of the mid-jejunum associated with diffuse soiling of the peritoneal cavity and a large haematoma in the small bowel mesentery. The bowel ends, after trimming, were anastomosed end-to-end, the peritoneal cavity was washed out with noxythiolin solution, and the abdomen closed with drainage. Recovery was uncomplicated and the patient was allowed home on the 10th postoperative day.



Case 3.—This 21-year-old woman student was celebrating the completion of her degree examinations when the go-kart she was driving collided with a crash barrier and she was thrown against the steering wheel. Injuries were sustained to the right side of the abdomen, chest, and right ankle. On admission she complained of right-sided abdominal pain, of pleuritic right-sided chest pain, and right shoulder tip pain. There was an abrasion over the right lower ribs. Tenderness and slight rebound tenderness were noted in the right subcostal region but the abdomen was soft with no guarding and bowel sounds were normal. Management was conservative and, over the next three days, there was gradual disappearance of the signs and symptoms. It was concluded that she had suffered a fairly severe contusion to the chest and abdomen and there was a possibility from the clinical findings that there had been a small tear of the surface of the liver.

Case 4.—An 18-year-old woman factory worker crashed while driving a go-kart, the steering wheel striking the perineum and left groin. On admission she was noted to have a large vulval haematoma about 10 cm in diameter and bruising of the left thigh. Under general anaesthesia the haematoma of the vulva was incised

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and a large amount of blood evacuated. Progress was satisfactory and the patient discharged four days later.

Case 5.—A 24-year-old man sustained steering wheel injury, producing contusion of the left lower chest and bruising of the perineum. X-ray examination showed a fracture of the inferior pubic ramus on the right side.

Case 6.—A 22-year-old man crashed while driving a go-kart, throwing him against the steering wheel, which caused contusions of the groin and testicle on the left side.

Case 7.—An 18-year-old man sustained contusions of the right lower chest when thrown against the steering wheel in a go-kart crash.

Case 8.—A youth aged 16 sustained contusions and abrasions of the sacral region when his go-kart crashed.

Case 9.—An 18-year-old woman struck her left knee against the steering wheel when hit from behind by another go-kart. She sustained contusion and abrasion of the knee.

Case 10.—A woman aged 26 had her face and right knee contused by the steering wheel when her go-kart crashed.

Case 11.—A 16-year-old youth sustained contusions and lacerations of the right ankle when it was caught between the wheels of two go-karts.

Case 12.—A man aged 17 was injured by the steering wheel of a crashed go-kart which caused contusion and abrasions of the front of the chest and contusion of his right elbow.

Discussion

Legislation does not exist to enforce stringent safety checks or the reporting of accidents at fairgrounds. There is no statutory obligation to report non-fatal accidents to the police or to the Inspector of Accidents, and it is difficult for any

authority to build up a comprehensive picture of the incidents.

After the big dipper crash at Battersea in May 1972, when five children were killed, some local authorities decided to introduce their own code of safety standards until suitable legislation had been passed. The Home Office has stated that its review of the law governing safety at fairgrounds is continuing, but that there is no early prospect of legislation (*The Times*, 1972).

Conclusions

Though no fatalities are recorded in this series each accident involved a young person and produced a severe injury. In two of the patients admitted to hospital there is the possibility of future disability.

Almost all the injuries were caused by the steering wheel and could have been prevented or reduced in severity by the wearing of a safety belt. At the particular fairground studied seat belts are now provided, and it is hoped that this measure will reduce the rate of injury.

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Reference

The Times, 14 September 1972, p. 2.

Medicine in Old Age

Urinary Tract Diseases

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Four aspects of urinary tract diseases have been chosen for this article—uraemia, prostatic disease, urinary tract infection, and incontinence—and attention is drawn to some features of these conditions of particular importance in the elderly.

Uraemia

The finding of a moderately raised blood urea (50-70 mg/100 ml) in elderly patients is so common as often to be regarded as normal—in the sense that it requires no immediate correction and is not accompanied by identifiable symptoms. Its presence, however, suggests an ageing kidney with progressive nephron depletion in the absence of other causes of a raised blood urea.

The other causes of uraemia may be divided into three parts—prerenal, renal and postrenal—but all these, of course, may

be superimposed on existing nephron loss in an ageing kidney.

PRERENAL URAEMIA

Prerenal uraemia is due to inadequate glomerular filtration caused usually by such factors as haemorrhage, loss of extracellular fluid, or severely impaired cardiac output. In the elderly, minor states of dehydration are common, based on inadequate intake, and any further factor such as diarrhoea and vomiting or a silent myocardial infarction can produce an acute uraemic state, with confusion often as its leading symptom. The blood urea level may be as high as 200-250 mg/100 ml and will rapidly fall with adequate rehydration. A distinguishing feature in such cases is the maintenance of a normal or only moderately reduced plasma bicarbonate level.

RENAL URAEMIA

Any diffuse renal disease may be present in the elderly but probably the most common is chronic pyelonephritis. Diabetic nephropathy is less common, though diabetes is a common condition. The various forms of glomerulonephritis have their incidence chiefly earlier in life, and likewise hypertensive renal disease is relatively uncommon.

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