Message of the Editor:
Although many life-threatening injuries are apparent on initial presentation in road traffic accidents, some are obscure and may present late. Follow up and re-examinations are important to ensure the best outcome for the patient.

An unusual case of cycling related injury
A 7-year-old girl attended A&E after sustaining a fall off her bicycle. During the fall, the handlebar struck the patient in the abdominal region. Her vital signs were stable, and there was mild epigastric tenderness on examination. FAST (focused assessment with sonography for trauma) show no free intraperitoneal fluid and no obvious solid organ injuries. She was discharged with oral and topical analgesics.

She returned the following day for persistent abdominal pain. The primary survey was intact, but she was lying on a stretcher in pain. Secondary survey revealed a circular contused mark with bruising in the upper abdomen (see photo). A repeat FAST was unremarkable. X rays chest and abdomen were grossly normal. She was admitted to the surgical ward for persistent abdominal pain after the injury.

Her serum amylase level was 600 U/L on admission. CT scan of abdomen and pelvis with contrast was done the next day, which showed peripancreatic collection of fluid, and a suspected laceration of the mid body of the pancreas. She was managed conservatively and her condition gradually improved. Her amylase level returned to normal afterwards. The patient did well and was discharged home on day 5 of admission.

Disclaimer: All the cases that are included in this Bulletin have been adopted from sources including but not limited to: international Journal publications, MPS casebook, AIRS cases from NTWC and other clusters. All the details have been modified to preserve the anonymity of the persons involved. Please send all comments and enquiries to Dr KOO Chi Kwan (Email: koock@ha.org.hk).
Comments of Dr Jeffrey LAI, IMH Associate Consultant (A&E)

Injury prevention strategies for child bicyclists have focused on helmet use to prevent head trauma. Handlebars, however, are another significant cause of injury in pedal cyclists, even in relatively low-speed crashes. As the child loses control of the bicycle, the front wheel rotates into a plane perpendicular to the child’s body. When the handlebar strikes a localized area, it acts as a spear by transmitting a significant amount of force to a small area of the body. The spectrum of direct impact handlebar injuries includes: neck injuries, intra-abdominal injuries (liver, spleen, kidney, pancreas including traumatic pancreatitis, and pancreatic transection, common bile duct and aorta), traumatic abdominal wall hernia, and groin injuries (including common femoral artery). The external signs of trauma, especially to the abdominal wall, can be overlooked in patients with handlebar impact injuries. As illustrated by this case, relatively minor circumstances are associated with potentially serious injuries. Recognition of the mechanism of handlebar-related injuries and maintaining a high index of suspicion aid in avoiding delay in diagnosis and morbidity.

Pancreatic injuries are difficult to diagnose. This is a reflection of the retroperitoneal location of the organ as well as the lack of sensitivity or specificity of most tests. Serum amylase and lipase levels had very poor correlation with either grade of injury or the need for operative intervention. CT scans with multiplanar reconstruction should be used liberally in children, but initial scans could be normal or only peripancreatic fluid can be seen. Even with pancreatic transection, the elastic pancreatic parenchyma resumes its normal contour. The trend of enzyme levels and follow-up CT scans could improve the sensitivity of diagnosing pancreatic injuries. Other imaging modalities such as ERCP or MRCP could help to determine ductal injury.

Optimal treatment of pancreatic injury is controversial. Non-operative management of low-grade injury is widely accepted for children, especially if there is no evidence of ductal injury. Surgical treatments are reserved for patients with high-grade injury, development of peritonitis or clinical deterioration.

Take Home Message

While head injury is still the commonest cause for morbidity in cycling accident, significant injuries related to handlebar trauma can be easily missed in young and fit victims. A delayed diagnosis is the greatest determinant of morbidity. A low threshold for repeat imaging should be maintained.

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