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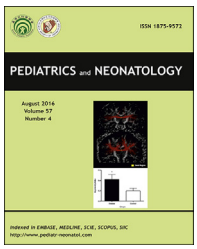

Images

Easily missed pediatric handlebar injury

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A 12-year-old girl, who fell from her bicycle, presented to the emergency department with severe epigastric pain and vomiting. Physical examination revealed torso contusion with a circular handlebar bruise over the upper anterior abdomen (Fig. 1a). Focused assessment with sonography for trauma (FAST) revealed no obvious fluid accumulation. Laboratory tests indicated elevated serum amylase (252 U/L) and lipase (>400 U/L) levels. Therefore, intravenous contrast-enhanced computed tomography (CT) with oral water-soluble contrast medium was performed to assess for any internal traumatic injury. CT images depicted a distended stomach, which was filled with hyperdense oral contrast medium. This creates the radiographic beam hardening artifacts with various linear hypodense stripes, making nearby subtle lesions more difficult to detect, such as the pancreas (Fig. 1b). After contrast enhancement, a focal, ill-defined, and poorly-enhanced lesion at the pancreatic head was observed, where the contusion injury was impressed (Fig. 1c). Follow-up serum amylase and lipase levels reached peak values in 2 days (amylase: 1041 U/L; lipase: >400 U/L) and gradually decreased to normal throughout the admission period. Abdominal Doppler sonography on the third day revealed a hypoechoic lesion at the pancreatic head (Fig. 1d). The patient received conservative treatment with total bowel rest and was discharged after two weeks.

Handlebar injuries are the most common cause of pancreatic injuries in children and are often easily missed and underestimated.[1] With distinct abdominal bruises and abdominal pain, concerns of traumatic perforation or gastrointestinal tract vascular injuries are often worrisome. A negative point-of-care FAST result alone cannot preclude further diagnostic work up.[2] Moreover, the use of oral contrast medium before CT examination remains debated between facilities.[3] CT examination alone is sufficient to detect hollow organ perforation. Additionally, it provides better diagnostic value for vascular induced ischemic injuries at mucosa after enhancement. The radiopaque oral contrast, which filled up the gastrointestinal tract, might mask subtle lesions in CT study. Oral contrast omission prompts to save time and cost, and decreases the risks of aspiration.[3]

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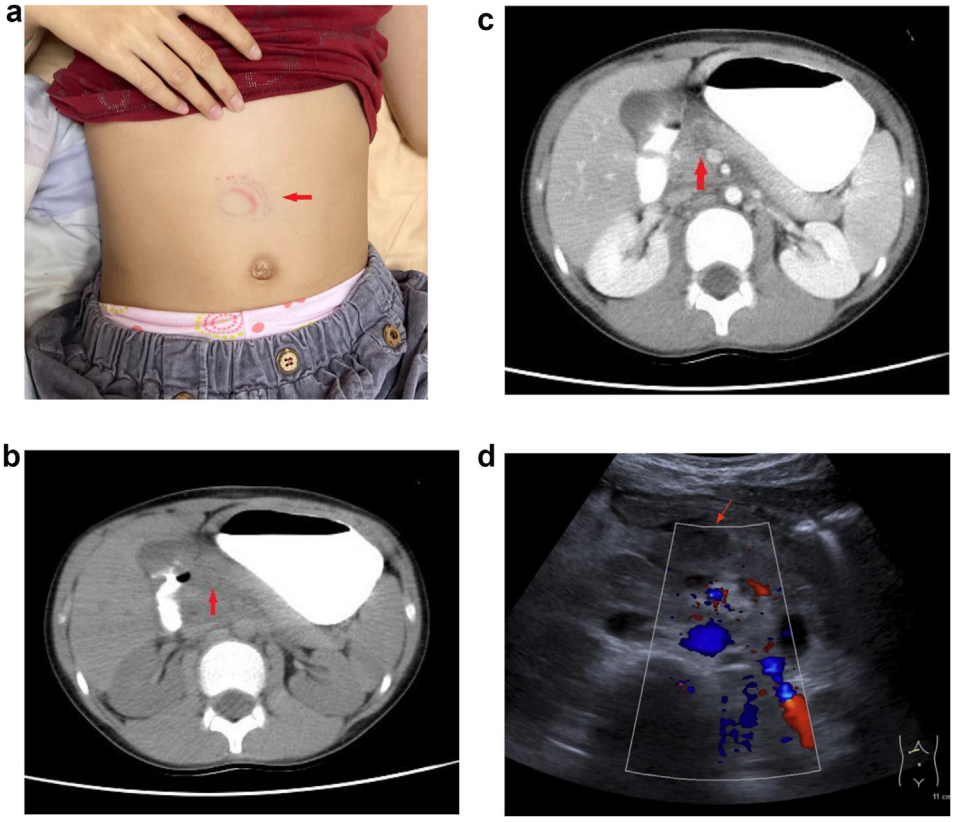

Figure 1 A: Torso handlebar bruise over the upper abdominal quadrant, B: Non-enhanced abdominal computed tomography revealed a distended stomach filled with radiopaque oral water-soluble contrast medium, which masked the subtle pancreatic head lesion (arrow) as seen. C: Intravenous contrast-enhanced abdominal computed tomography revealed a focal ill-defined poorly-enhanced pancreatic head contusion injury (arrow). D: Abdominal Doppler sonography on the 3rd day showed a focal hypoechoic pancreatic head lesion (arrow).

Declaration of competing interest

The author has no conflicts of interest relevant to this article.

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