Ultrasound is a mode of choice to early detection of intussusception in children

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Objective

Intussusception is an important cause of an acute abdomen in children and merits timely ultrasound examination and reduction to preclude significant sequelae including bowel necrosis. The purpose of this study was to verify the reliability of ultrasound for the diagnosis and exclusion of intussusception and to assess the usefulness of various clinical and imaging findings for deter- mining when ultrasound should be used as a diagnostic screen.

Methods

All pediatric patients [age from birth to 14 years of age] coming to radiology department for ultrasounds examinations were included. Intussusception has a characteristic appearance on Sonography; it is usually not mistaken for other bowel abnormalities. Signs to look for in a intussusception are Length of the intussusception, Wall thickness Vascularity of the bowel wall, Identifiable lead point, Signs of obstruction & Signs of peritonitis. Transverse: Target or doughnut sign, with hypoechoic rim (edematous bowel wall) surrounding hyperechoic central area (intussusceptum and associated mesenteric fat). Longitudinal: Sandwich, trident or hayfork sign, with layering of hypoechoic bowel wall and hyperechoic mesentery. Oblique: pseudokidney sign, with hypoechoic bowel wall mimicking the renal cortex and hyperechoic mesentery mimicking the renal fat. Color Doppler may demonstrate mesenteric vessels between the layers of Intussusception, absence of blood flow is indicative of Bowel necrosis. In case of positive diagnosis of intussusception, The Sonographer /radiologist /Radiology receptionist were responsible to enter the data in Panic Alert Log book maintained in the department, including Data, name of patient and MR number, name of person informing and person being informed both are logged. Date and time of ultrasound examination and time of communication of panic alerts to the primary physician/team of Paediatrics were also recorded. Limitation: There is no facility of surgical intervention Study Site: This study will be carried out in the Aga Khan Hospital for Women, Kharadar, The hospital is a 48-bed, ISO 9001-2008 certified, secondary care hospital for obstetrics and gynecology, family planning/infertility, neonatology and pediatrics and child health & facilities of Ultrasound and General Radiology. Study duration: July 2012- June 2013. Inclusion Group: All Children patients coming to radiology department for Abdominal /Upper abdominal ultrasounds examination were included. Outcomes: The Sonographic diagnosis was compared with clinical features [acute abdominal pain, bloody diarrhea, palpable abdominal mass & vomiting] & surgical diagnosis of intussusception.

Results

403 Children underwent Abdominal ultrasound examination during one year. The diagnosis of Intussusception was made in 3 (0. 744%) and in all three this was confirmed by surgery.

Conclusion

Ultrasound is a screening-tool to detect the intussusception in children with acute abdominal pain, bloody diarrhea, palpable abdominal mass & vomiting.