CASE 2812

Multi-slice Helical CT imaging of an Adult Ileocolic Intussusception

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Section: Abdominal imaging
Imaging Technique: CT
Case Type: Clinical Cases
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Patient: 69 years, female

Clinical History:

3 months history of cramping abdominal pain and diarrhoea. A right iliac fossa mass was palpable.

Imaging Findings:

The patient presented with a 3 months history of cramping abdominal pain and diarrhoea. A right iliac fossa mass was palpable on clinical examination. A multi-slice helical CT scan of the abdomen and pelvis with intravenous and oral contrast was performed. This demonstrated an ileocaecal intussusception. Following the radiological diagnosis, the patient underwent a right hemicolectomy. The lead point of the intussusception was a partly ulcerated infiltrative nodular tumour involving the lateral wall of the caecum adjacent to the ileocaecal valve. This was histologically a moderately to poorly differentiated adenocarcinoma.

Discussion:

Intussusception is defined as prolapse of a segment of bowel (the intussusceptum) into an adjacent one (the intussuscipiens). Whilst childhood intussusception is idiopathic in up to 90% of cases, the reverse is true for adult intussusception, where an underlying cause is found in over 90%. The aetiology can be classified broadly into the major headings of

1) neoplastic disease,
2) post-surgical complication (eg. adhesions, bowel wall oedema),
3) miscellaneous pathology (eg. Meckel’s diverticulum, coeliac disease, AIDS related gastrointestinal disorder) and
4) idiopathic. Approximately 60% of adult intussusception are secondary to neoplasm where there is a higher rate of malignancy in the colon than in the small bowel.

Adult intussusception is an uncommon condition in the western population although its prevalence does show regional variation throughout the world. Its clinical presentation can be acute, sub-acute or chronic. Symptoms include abdominal pain, abdominal distension, nausea and vomiting, and change in bowel habit. Bowel obstruction is said to be uncommon.

The role of plain abdominal radiograph is limited in adult intussusception where findings are usually non-specific. There may or may not be signs of bowel obstruction with an associated soft tissue mass. Barium contrast study and sonography are useful imaging modalities to demonstrate the intussusception, and the classical radiologic features when present are well recognised and described.

The CT appearance of intussusception is characteristic and allows a confident diagnosis to be made. The cardinal
features are:
1) Thickening of the affected bowel loop due to telescoping of two bowel segments. This produces a “target” or “sausage” shaped mass-like lesion depending on the orientation of the intussusception.
2) Eccentrically located fat attenuation areas within the intussusception representing invaginated mesentery.
3) Demonstration of the leading mass of the intussusceptum surrounded by air or contrast.

Although the diagnosis can usually be made on axial images alone, with the use of a multi-slice helical CT scanner, we were able to produce some coronal and sagittal images through the region of interest to better illustrate the abnormality.

Further management following the diagnosis of intussusception in adults is almost invariably surgery. Given the high rate of malignancy, surgical resection of the affected bowel segment without reduction is usually undertaken.

Differential Diagnosis List: Ileocolic intussusception secondary to caecal adenocarcinoma

Final Diagnosis: Ileocolic intussusception secondary to caecal adenocarcinoma

References:
Agha FP.

Intussusception in adults.
Lorigan JG, DuBrow RA.

The computed tomographic appearances and clinical significance of intussusception in adults with malignant neoplasms.

Intussusception in adults: CT diagnosis.
Dmovsek V, Ruff MB, Riehl PA, Plavsic BM.

Gastrointestinal case of the day.
Description: Leading mass of the intussusception is shown surrounded by contrast. Origin:
Description: Telescoping of bowel segments producing a classic "target" appearance of the intussusception. Origin:
Description: Fat attenuation areas (arrow head) within the intussusception representing invaginated mesentery. Origin:
**Description:** Sagittal reconstruction image demonstrating the ileocaecal intussusception

**Origin:**
Description: Coronal reconstruction image demonstrating the ileocaecal intussusception Origin: