# Surgico-Pediatric Conference
## September 12, 2006

Nuthapong UKarapol, MD

## Peptic Ulcer disease in children

- Primary PUD – uncommon in childhood
- 2% (52 out of 2550)
  - 10 Gastric ulcer
  - 42 Duodenal ulcer
- Mean age 10.5 yr
- No specific symptoms and signs
- Associated with Hp in 54%

Roma E, et al. Eur J Pediatr 2001;160:497.

## Alarm symptoms and signs

- Involuntary weight loss
- Deceleration of linear growth
- Gastrointestinal blood loss
- Significant vomiting
- Chronic severe diarrhea
- Persistent right upper or right lower quadrant pain
- Unexplained fever and family history of IBD

## Leading points in childhood intussusception

- Found in 31/567 cases – 5.4%
- Average age is twice that of children whose intussusceptions are idiopathic
- Harder to diagnose
- Duration of symptoms and signs is longer than is usually seen
- Barium enema as a treatment modality is usually not successful
- More common in small bowel intussusception (40%)
- Higher morbidity

Ein SH. J Pediatr Surg 1976;11:209

## Leading points in childhood intussusception

| LEADING PATHOLOGY | N (total 30) |
|---|---|
| Meckel's diverticulum | 14 |
| Polyp | 8 |
| Ileum | 6 |
| Cecum | 1 |
| Colon | 1 |
| Duplication | 5 |
| Ileum | 2 |
| Cecum | 2 |
| Jejunum | 1 |
| Henoch-Schonlein purpura | 1 |
| Suture line | 1 |
| Appendix | 1 |
| Lymphoma | 1 |

Ein SH. J Pediatr Surg 1976;11:209

## Intussusception due to GI lymphoma

- Found in 11/1200 cases – 0.9% (1953-1984)
- Age seems to be as important a clue
- Longer duration of symptoms
- Rarely be reduced by hydrostatic barium enema

Ein SH. J Pediatr Surg 1986;21:786

## Intussusception due to GI lymphoma

| Intussusception vs lymphoma | |
|---|---|
| Age, yrs mean (range) | 7 (3–13) |
| Site | |
| Small bowel intussusception | 73% |
| Colonic intussusception | 27% |
| Duration, days mean (range) | 42 (1–180) |
| Symptoms | |
| Abdominal pain | 91% |
| Abdominal mass | 73% |
| Mortality rate | 73% |

Ein SH. J Pediatr Surg 1986;21:786

## Intussusception in Adults

- 5% of all intussusception
- 1%–5% of all causes of intestinal obstruction in adults
- Over 90% is associated with precipitating causes
- Clinical presentation is more chronic (57%)
- Palpable mass and rectal bleeding are less likely to be observed (<1/3), compared to children
- Only half (52%) of the cases can be correctly diagnosed preoperatively
- CT scan seems to be the most useful diagnostic tool for this group of patients

Goh BKP, et al. World J Surg 2006;30:1300

## Intussusception in Adults

| TYPE of intussusception | % |
|---|---|
| Enteric | 51.7% |
| Jejunojejunal | 20% |
| Ileoileal | 6.7% |
| Ileocolic | 25% |
| Colonic | 48.3% |
| Ileocecal-colic | 13.3% |
| Colocolic | 23.3% |
| Sigmoidorectal | 6.7% |
| Appedicocecal | 5.0% |

Goh BKP, et al. World J Surg 2006;30:1300

## Intussusception in Adults – Benign leading points

| Small bowel intussusception | Colonic intussusception |
|---|---|
| Peutz-Jegher polyp | Adenoma |
| Adenoma | Inflammatory pseudopolyp |
| Leiomyoma | Lipoma |
| Crohn's disease | |
| Lipoma | |
| Inflammatory pseudopolyp | |
| Neurofibroma | |
| Meckel's | |
| Tuberculosis | |
| Indeterminate polyp | |

Goh BKP, et al. World J Surg 2006;30:1300

## Intussusception in Adults – Malignant leading points

| Small bowel intussusception | Colonic intussusception |
|---|---|
| Metastatic lung carcinoma | Adenocarcinoma |
| Metastatic melanoma | Lymphoma |
| Metastatic gastric carcinoma | Metastatic melanoma |
| Adenocarcinoma | Malignant GIST |
| Lymphoma | |
| Malignant GIST | |

Goh BKP, et al. World J Surg 2006;30:1300

## Intussusception in Adults – Predictive factors for malignancy as a leading point

| | Benign (n=32) | Malignant (n=28) | P | P |
|---|---|---|---|---|
| Age, yrs; median | 50.2 | 69.0 | 0.009 | |
| Sex (M:F) | 1:1 | 1.8:1 | 0.265 | |
| Duration of symptoms | | | 0.265 | |
| Acute (<14 d) | 16 | 10 | | |
| Chronic (>14 d) | 16 | 18 | | |
| Rectal bleeding or melena | 5 (15.6%) | 9 (32.1%) | 0.131 | |
| Anemia (Hb <12 g/dl) | 6 (18.8%) | 20 (71.4%) | <.001 | 0.001 |
| Site | | | 0.001 | 0.004 |
| Enteric | 23 (71.9%) | 8 (28.6%) | | |
| Colon | 9 (28.1%) | 20 (71.4%) | | |

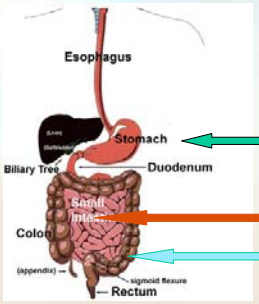
Goh BKP, et al. World J Surg 2006;30:1300

## Intussusception in Adults

- Advocate en bloc resection in all patients with colonic intussusception because of its high malignancy rate (69%) and furthermore 16 of 20 malignant lesions (80%) are primary malignancies
- Reduction followed by resection may be applied to small bowel lesion, as only 26% of these lesions are malignant and 6 of 8 (75%) are metastatic cancers or lymphoma

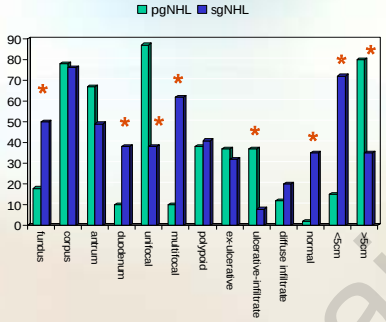
Goh BKP, et al. World J Surg 2006;30:1300

## GI Non-Hodgkin's lymphoma




Halme L, et al. Acta Oncologica 1997;36:69

## GI Non-Hodgkin's lymphoma




Kolve M, et al. Gastrointest Endosc 1999;49:307.

## GI Non-Hodgkin's lymphoma

- Helicobacter pylori infection
- HIV (Burkitt's lymphoma)
- Solid organ transplantation
- Celiac disease
- Inflammatory bowel disease (colonic lymphoma)
- HCV infection – controversial

Halme L, et al. Acta Oncologica 1997;36:69

## Take Home Message

- Carefully look for alarm symptoms in any patient presenting with chronic abdominal pain, in order to offer proper management
- Anemia, hypoalbuminemia, edema, and chronic abdominal pain support chronic blood loss (protein losing enteropathy) in this patient
- Unidentified intussusception by barium enema cannot exclude small bowel intussusception
- Intussusception in older children and adults need further investigation to find out a possibility of leading points
- Although malignancy as a cause of leading point for intussusception is rare in children, it should be considered, particularly in a patient with anemia.