Pregnancy Outcomes: Population Based Studies

<table>
<thead>
<tr>
<th></th>
<th>IBD</th>
<th>UC</th>
<th>CD</th>
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<tbody>
<tr>
<td>Preterm birth</td>
<td>X</td>
<td>X</td>
<td>XX</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>X</td>
<td></td>
<td>XX</td>
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<tr>
<td>Small for gestational age</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Fonager K et al. Am J Gastroenterol. 1998;93:2426-2430. (n=510 CD)
Dominitz JA et al. Am J Gastroenterol. 2002;97:641-648. (n=107 UC, 155 CD) – Knight, no c

Birth Outcomes in Women with IBD

- 1833 UC, 1220 CD babies vs 470,100 HC
- Increased risk for preterm birth, risk higher in those with active disease
- SGA, hypoglycemia and low Apgar scores also seen
- Stillbirth in active CD 4.48 (1.67-11.9)
- Thiopurine exposure did appear related to preterm birth in CD, disease activity higher

Effect of IBD on Birth Outcomes

- Kaiser database 2000-12
- Outcomes both UC and CD (N = 512)
  - SGA 1.46 (1.14-1.88)
- Outcomes for UC only (N = 384)
  - Preterm birth 1.32 (1.00-1.76)
  - PROM 1.95 (1.26-3.02)
  - Ischemic placental disease 1.32 (1.03-1.69)
- Able to account for medication use


Major Congenital Anomalies in Women with IBD

- National mother-child database in UK
- All pregnancies with IBD and info on 5-ASA, thiopurine, steroid use 1990-2010
- Proportions of women taking each during preg
- 1703 vs 384,811 children born to mothers without IBD compared
- 2.7% vs 2.8% overall

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR</th>
<th>CI</th>
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<tbody>
<tr>
<td>Any CA</td>
<td>0.98</td>
<td>0.73-1.31</td>
</tr>
<tr>
<td>5-ASA</td>
<td>0.82</td>
<td>0.42-1.61</td>
</tr>
<tr>
<td>CS</td>
<td>0.48</td>
<td>0.15-1.5</td>
</tr>
<tr>
<td>TP</td>
<td>1.27</td>
<td>0.48-3.39</td>
</tr>
</tbody>
</table>

Ban L. Gastroenterol 2014; 146:76-84.
Safety of Colonoscopy in IBD

• Case control of pregnant IBD patients matched to age, meds, and disease activity
• 42 women underwent 47 lower GI procedures 2008-2014
• Median birth weight lower in cases but no difference in SA, gestational age, birth defects, or APGAR scores


Corticosteroid use during pregnancy and risk of orofacial clefts

• No statistically significant increased risk of orofacial clefts associated with the use of corticosteroids:
  • Cleft lip with or without cleft palate OR 1.05 [0.80–1.38]; cleft palate alone OR 1.23 [0.83–1.82]
  • OR for cleft lip with or without cleft palate associated with the use of dermatologic corticosteroids was 1.45 (95% CI 1.03–2.05)

Hviid et al *CMAJ*. 2011 April 19; 183(7): 796–804
Pregnancy Outcome with Steroid Exposure

- 969 women from PIANO surveyed
- Maternal steroid use not associated with infection at 4 or 12 months
- No difference in congenital anomalies nor developmental delay
- Maternal steroid use associated with gestational DM (OR 2.8, 1.3-6.0) and low birth weight (OR 2.8, 1.3-6.1)


Outcome of Pancreatitis in Pregnancy

- Retrospective study of all singleton pregnancies in California from 2005-08 diagnosed with pancreatitis
- 342 identified, etiology not specified
- Pancreatitis associated with:
  - Preeclampsia OR 4.2 (2.99-5.93)
  - Preterm delivery OR 3.31 (1.93-5.56)
  - IU Fetal demise OR 4.35 (1.8-10.55)
  - SGA OR 2.26 (1.64-3.11)

Hacker F. Am J OBGyne 2015; July [Epub ahead of print]
Vedolizumab in Pregnancy

- VDZ clinical program data
- 27 females (25 IBD, 2 HC), 20 pregnancies in partners of male patients
- 11/24 live births (2 premature)
- 1 agenesis of corpus collosum in HC
- 9/16 partner live births, 2 SA, 2 elective Ab

Dubinsky M. P563 at ECCO 2015 Barcelona, 2015 ACG Hawaii

Neonatal Immune Response

- 26 infants from Czech Republic prospectively recruited after known exposure to anti-TNF
- 23 had vaccinations, 15 had TB
- All converted vaccinations normally
- 17 had cellular immunity checked all normal
- 7 had mild decrease in IgA or IgG levels, none of clinical consequence

Think Twice about that C-Section

- 31-year-old with J pouch delivered via C-section (her third) presented with obstructive symptoms 3 weeks post partum
- Barium study showed stricture at pouch inlet, laparotomy revealed loop of nonviable pre-pouch ileum incarcerated by thick adhesive band
- Risk of adhesions 45% after 3 C-sections
- Risk of adhesions with SBO after IPAA 25%


Mode of Delivery

- 61 pregnant women with established perianal disease vs 61 nonpregnant controls
- 36% pts had symptomatic flare of disease over 1 year, no difference between pregnant and non-pregnant, nor mode of delivery

Cheng AG. Inflamm Bowel Dis 2014; 20:1391-98.
Does Having a C-section increase Risk of Developing IBD?

- CS disturbs normal bacterial colonization of newborn's intestine\(^1\)
- Swedish Case-Control study 1536 cases\(^2\)
  - CS increased risk of pediatric CD among boys (OR = 1.25, 95% CI 1.01-1.54) but not girls, (OR = 0.99, 95% CI 0.76-1.29)
- Danish Population Based study\(^3\)
  - 32.6 million person-years of follow-up
  - CS increased risk of IBD at age 0-14 years (IRR 1.29, 95% CI 1.11-1.49)
  - Assuming causality, an estimated 3.2% of IBD cases before age 15 years were attributable to cesarean section
- Henderson: increase in IBD risk nearly boys\(^4\)
  - IRR=1.26 (1.15,1.37) vs. 1.06 (1.15 among girls)
  - Higher for UC than CD


Mode of Delivery and Risk of IBD

- Systematic review/meta analysis 7 studies
- 4 retrospective cohort, 3 case control
- IBD in CS group 0.249% vs. 0.322% in controls
  - OR 1.00 (0.75-1.33)
- Conclusion: No significant difference in risk for IBD in offspring born via CS

CS Not Risk Factor for IBD

- Manitoba Database 1671 IBD vs. 10,488 controls
- More urban than rural moms delivered by CS for both IBD and controls
- No difference in percentage of IBD cases born by CS than not
- Men with CD more than women born via CS (13.5% vs 8.4%)
- In multivariate analysis no association

Bernstein CN. Clin Gastroenterol Hepatol 2015; Aug 8

Nursing and Disease Activity

- Prolactin up-regulates TNF production
- In RA, breastfeeding increases risk for disease activity
- In IBD, only 55/122 (44%) breastfed\(^1\)
- 23/55 (43%) had a flare of disease
- Disease activity associated with cessation of medication, not nursing per se

\(^1\)Kane S. Am J Gastroenterol 2005; 100(1):102-5.
Nursing and Disease Activity

- Questionnaire study from U of Manitoba IBD Research Registry
- 64.7% response rate
- 83.3% IBD patients nursed vs. 77.1% of general population (p > 0.05)
- Rate of disease flare similar in both groups, OR 0.58 (0.24-1.43)


Herbal Therapies and Nursing

- Fenugreek is an herbal supplement used by Asian-Indian women for centuries to increase milk production
- Popular with certain lactation experts
- Causes rectal bleeding—mechanism thought to be related to its warfarin-like components
Take Home Points

- A healthy mother is the best prognostic indicator for a good outcome
- Most of the news is positive on medications used to treat active disease
- Data still unclear as to effect of mode of delivery on natural history
- The majority of pregnancies are harder on you than on your patient!