Gynecologic Issues for Girls with Fanconi’s Anemia

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August 2012
Objectives

- Anatomy and Puberty
- Normal GYN care
  - Children (≤ 12 years)
  - Adolescents (13-21 years)
  - Women (>22 years)
- Fanconi effects
Fanconi effects

- Chronic illness
- Treatments
- GYN cancer
- Fertility / Premature Menopause
What is Pediatric and Adolescent Gynecology?

- Specializing in the Gynecologic and reproductive health care of girls from birth to age 22*
  * Older if chronic illness

http://www.cincinnatichildrens.org/svc/alpha/g/gynecology/
Reproductive Health?

- Preserving the future!
- Prevention of:
  - Ovarian problems
  - Sexually transmitted diseases
  - Cervical and vulvar cancer
- Timing of pregnancy
Problems with Anatomy

- Discovered at birth or puberty
- Common:
  - Hymen variations
  - Labial asymmetry
- Rare:
  - Absent vagina
  - Absent or malformed uterus
Hymen variants

Affects:
1 in every 500 -1000 girls
Uterine abnormalities

- Normal
- Septate
- Bi-cornuate
- Didelphus
- Unicornuate

Affects:
1 in every 1000-5000 girls
FA effects on anatomy

- Largely unknown:
  - Few reported cases of anomalies—unicornuate uterus
  - ? 25% with gonadal problems
Normal Puberty: average

- Breast buds: avg age 10 (range 8-13)
  - Vaginal discharge
  - Labial changes
- Armpit and pubic hair: age 8-13
- Menses:
  - Average 2 years after breast buds
  - Age 12.1 years in US
- Height peaks before menses
What’s too early?

- Breast buds: $\leq$ age 7
- Armpit and pubic hair: $\leq$ age 7
- Menses: $\leq$ age 9
- Teenage attitude: ???
What’s too late?

- No breast buds by age 13
  - (14 if low body weight)

- No menses by:
  - 3 years after breast buds
  - or
  - age 16
Factors that affect puberty timing

- Family history - early or late bloomers
- Any chronic illness
- Weight
  - Underweight - delayed
  - Overweight - earlier
- Medications
FA Factors that affect puberty:

- Chronic illness
- Thyroid problems:
  - 40% of FA patients
- Weight
  - underweight
- Medications
  - Androgens
  - Steroids
Typical Adolescent GYN Issues

- Periods:
  - Too many, too few, too painful, etc
- Hormones
  - Acne, hair growth
- Sexual behavior
  - Abstinence
  - Protection for non-abstinent teens
    - STDs
    - Pregnancy
    - Cervical cancer
Normal Periods

- **Regular cycles:**
  - usual 28-30 days
  - Range 21-42 days

- **Duration:**
  - \( \leq 7 \) days

- **Flow:**
  - usual 3-4 pads per day
  - \( \leq 1 \) pad per 2 hours

- **Cramps**
  - Controlled by over the counter medicine (ibuprofen)
Period Tracker-
free app for cell phones
“No, little girl, Barbies don’t get yeast infections.”
Periods Not Normal?

- Family history
- Chronic illness-
- Weight
- FA Medications
  - Thyroid
  - Androgens
- Non-FA meds
  - Resperidone
  - Spironolactone
Hormone changes

- Acne
  - Mild = normal
  - Severe:
    - entire face
    - chest, back
    - Cysts or scarring

- Hair growth
  - Any mustache or facial hair: Call us !!!
Sexual behavior

- Abstinence
- Protection for non-abstinent teens
  - STDs
    - Risk reduction
    - STD screening every 6 months
  - Pregnancy
  - Cervical cancer
    - HPV vaccine
    - Pap smear
Medical uses of oral contraceptive pills (OCPs)

- Regulate menstrual cycles
- OCPs decrease:
  - Acne
  - Hair growth
  - Cramps
  - Heavy bleeding
- Suppress periods / prevent any bleeding
  - Also can use Depo-provera, Lupron
Side effects of OCPs

- Decreased risk of:
  - Anemia
  - Ovarian cancer
  - Endometrial cancer

- No increase in breast cancer
- May decrease ovarian cysts
- May increase blood clots - exceedingly rare
OCP and FA

- Unknown.....
FA concerns in texts

- Gonadal abnormalities 3-25%
  - males
- Delayed puberty
  - Induction of puberty to achieve normal growth
- Irregular menses
- Early menopause
FA concerns for women

- Irregular menses
- Treatment goals:
  - Menstrual regulation or suppression
  - Prevent anemia, cysts, etc
- Abnormal/ heavy bleeding
  - Low platelets
  - Bone marrow transplant
Treatment in FA women

- OCPs
  - Estrogen/ progestin
  - Monthly cycles
  - Continuous suppression
- Oral progesterone only pills
- Depo-provera
  - Injections every three months
- Lupron
  - “pseudo” menopause
FA concerns: fertility

- Decreased fertility
  - 29% of FA females in one series conceived

- Pregnancy after BMT better than expected:
  - 101 girls > age 16 s/p transplant
  - 10 women, 14 pregnancies
    - 5 had signs of ovarian failure after BMT recovered
    - No affected babies
      - (Nabhan 2010)
FA: Fertility options

- Do not delay childbearing
- Infertility treatments
- Adoption
- Advanced assisted reproductive technology
  - Surrogacy, donor eggs, cryo preservation
FA concerns: POF

- Premature ovarian failure (POF)
  - ≤ age 40
  - occurs in 1-4 % of normal women
- Early menopause increased in FA
- Treatment:
  - Estrogen replacement
  - Bone health
  - Cardiovascular risks
Why do we care about HPV?
Genital HPV and females

- 50% normal females acquire HPV
- >90% of HPV infections are transient
- Only persistent HPV causes pre-cancerous changes or cancer
- What sexual behaviors (besides sexual intercourse) transmit HPV?
HPV and GYN cancer

- Not all HPV causes cancer!
  - >30 types found in genital skin
  - ~15 types associated with cervical cancer
- “High risk” Types (16, 18)
  - cause 70% of cervical cancer
- “Low Risk” Types (6, 11)
  - cause 90% of genital warts
HPV and Other cancers in women

- Less common, less known
  - Vulvar cancers
    - HPV in 50%, most 16,18

- Head and neck cancer:
  - HPV related in:
    - 20-30% of normal pts (type 16,18)
    - 80% of FA pts
FA and Cancer

- Increased risk of solid tumors
  - head neck esophagus
  - gyn- vulva, cervix
  - skin
  - each brain, breast

- Increased risk of ovarian CA based on FANC-BRCA link?
FA and GYN cancer

- Case reports of gyn cancer
  - vulva or anus
  - cervix
- All cases were in sexually active women
- Earlier onset in FA compared to non-FA
FA women: Higher risk

- Relative risk of cancer FA vs Non FA
- Cervix 200: 1
- Vulva 4000 : 1
HPV and Fanconi’s - questions

- Past cases of cancer were not tested for HPV
- Does vulvar/ cervical cancer require HPV in FA?
- Are some “low risk” HPV types capable of producing cancer in FA girls?
- Will FA girls respond to HPV vaccine?
- How will BMT affect GYN cancers?
Cervical Cancer/ HPV Prevention for all women

- Limit lifetime number of partners
- Use condoms
- HPV vaccine (women age 9-26)
- Pap smear
  - **First pap: Age 21**
  - Annual pap / HPV testing
Cancer/ HPV prevention for FA girls: counseling

- Limit lifetime number of partners
- Abstinence
  - oral
  - vaginal
- Condoms till long term monogamy
- Complete the HPV vaccine prior to sexual debut
- NO SMOKING
Cancer/ HPV prevention for FA women: Testing

- Expert opinion Chicago 2008
  - Stratton, Ghebre, Huppert
- GYN Examination
  - Clinical exam yearly
  - Vulvoscopy / Colposcopy if abnormal pap or visible lesions
- Pap smears
  - First pap: Within 1 year after first sexual intercourse OR Age 18
What is colposcopy?

- Viewing the area (vulva, vagina or cervix) with a scope that magnifies 10-100 X.
- Apply dilute vinegar and look for skin changes.
- Use a green light to highlight abnormal vessels.
Limitations to colposcopy

- May require anesthesia in virginal / pediatric patients
- Operator dependent
- Not sensitive - will miss HPV infection
- Not specific - if changes seen, requires a biopsy
Future Surveillance for GYN Cancers

- FA / HPV interactions unknown
- HPV types that cause disease may differ
- May need HPV screening rather than colposcopy / vulvoscopy
- No good way to screen for Ovarian cancer in any women
GYN for young FA Girls

- Primary MD
  - Anatomy
  - Puberty
  - History of sexual abuse

- Baseline GYN visit
  - Age 13  * FA handbook * ACOG
  - Sexual history
  - External exam
  - Discuss GYN issues
GYN for FA Teens

- Primary MD
  - Confidential assessment of sexual behavior
- GYN visit annually
  - Discuss GYN issues
  - Confidential assessment of sexual behavior
  - Thorough exam of external genitals
  - Internal exam and pap if sexually active, or age 18
TALK ABOUT IT

- Unlike being violent, becoming a sexual person is a normal part of growing up.
- We do not talk with adolescents about physically and emotionally safe ways to explore their developing sexuality; we just tell them not to "do it."
  - D. Tolman, Ed.D.
- We need to talk to our teens!
GYN for FA women

- Annual exam, pap
- Breast cancer screening beginning at age 25
- Contraception / fertility
- Menopause/ Premature ovarian failure
  - Hormone replacement
  - Bone health
Cincinnati Resources

- Fanconi Anemia Comprehensive Care Center
  - 513-636-3218 or robin.mueller@cchmc.org.

- Pediatric and Adolescent Gynecology
  - 513-636-9400

- Physician Priority Link
  - 1-888-636-7997
There’s no one like you in my town...

- Pediatric and Adolescent Gynecology
  - www.naspag.org

- Gynecology
  - www.acog.org

- Adolescent Medicine
  - http://www.adolescenthealth.org/
Other resources

http://www.youngwomenshealth.org/index.html

http://www.4girls.gov/

http://www.pofsupport.org/
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