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The Tales From Down Under:

Discussing the Myths and Mysteries of Pediatric & Adolescent Gynecology

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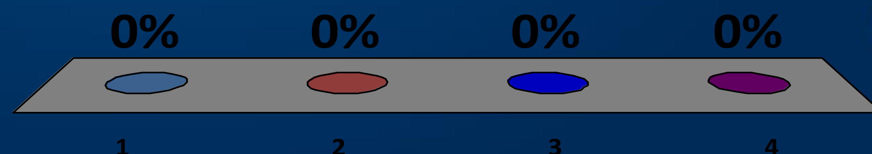
CASE #1

An 18 month old comes to see you with 30% adhesion of posterior labia minora. She has used estrogen cream bid x 2 weeks with no improvement and now complains of darkening of skin of her vulva. What should you recommend?

1. Continue with estrogen for 2 more weeks
2. Stop all medication and observe
3. Refer for surgical management
4. Stop the estrogen and start betamethasone cream



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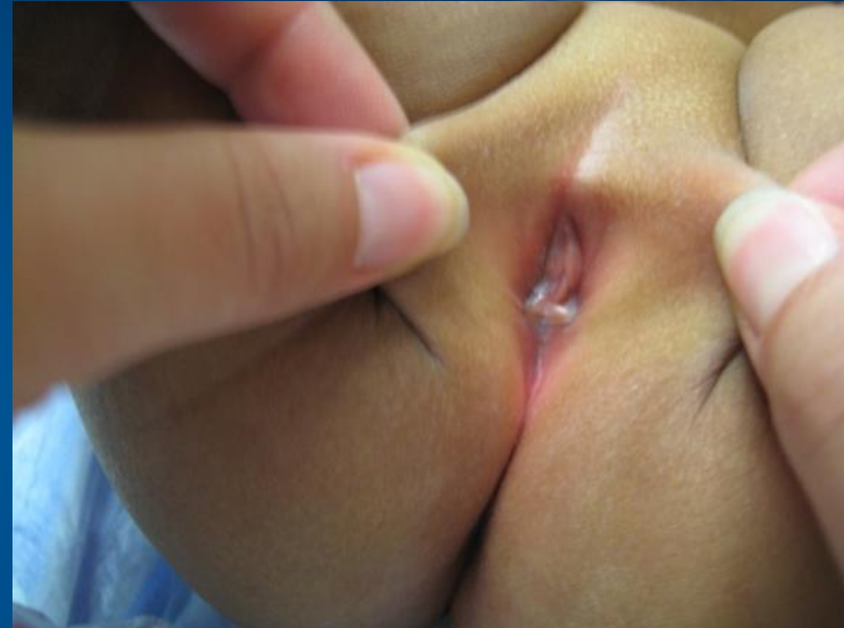
LABIAL ADHESIONS

- Most commonly occur between ages 3 month – 6 years of age
  - Peak incidence 13 months – 23 months
- Incidence 0.6-5% of pre-pubertal girls
  - May affect up to 38.9%
- Unknown etiology
  - Hypoestrogenic state
  - Chronic irritation



McCann J, Wells R, Simon MD, et al. Genital findings in prepubertal girls selected for nonabuse: a descriptive study. Pediatrics 1990;86:428

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LABIAL ADHESIONS

Treatment

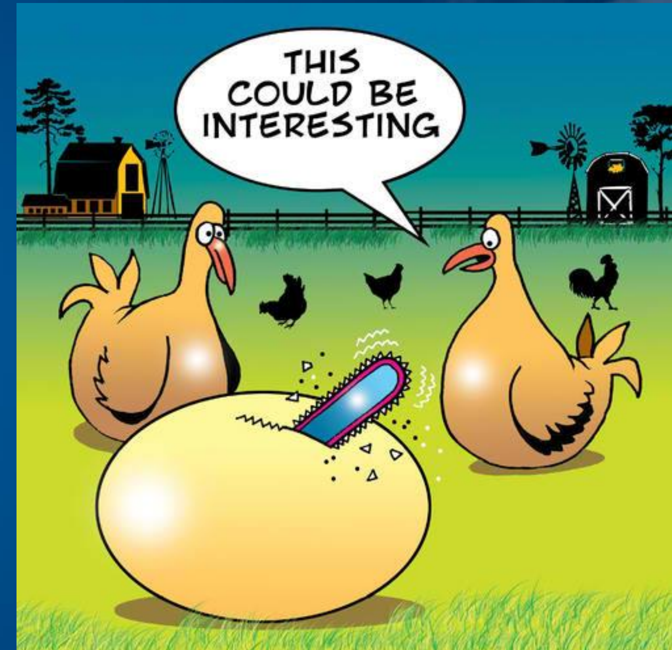
- Based of symptoms or severity of adhesions
- Prepubertal spontaneous resolution reported to occur
- Estrogen cream usually first line
  - Success rate 50%-88%
  - ~ 50% of successful treatment will occur within 2 weeks
  - Use of Premarin cream for up to 4 weeks is safe
  - Side effects with long term treatment
    - Can occur within first 2 weeks

Pokorny SF: Prepubertal vulvovaginiopathies. Obstet Gynecol Clin North America 1992;19:39

LABIAL ADHESIONS

Betamethasone 0.05%

- Treatment for phimosis
- Shown efficacy for labial adhesions
- Twice a day for up to 12 weeks
- Side effects minimal



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LABIAL ADHESIONS

Betamethasone Retrospective Study

19 subjects
14/19 previously treated with E2
3/19 previously had surgical lysis

68% success rate
- 1/19 partial success
- 2/19 chose surgical intervention
- 3/19 loss to follow up

No significant side effects

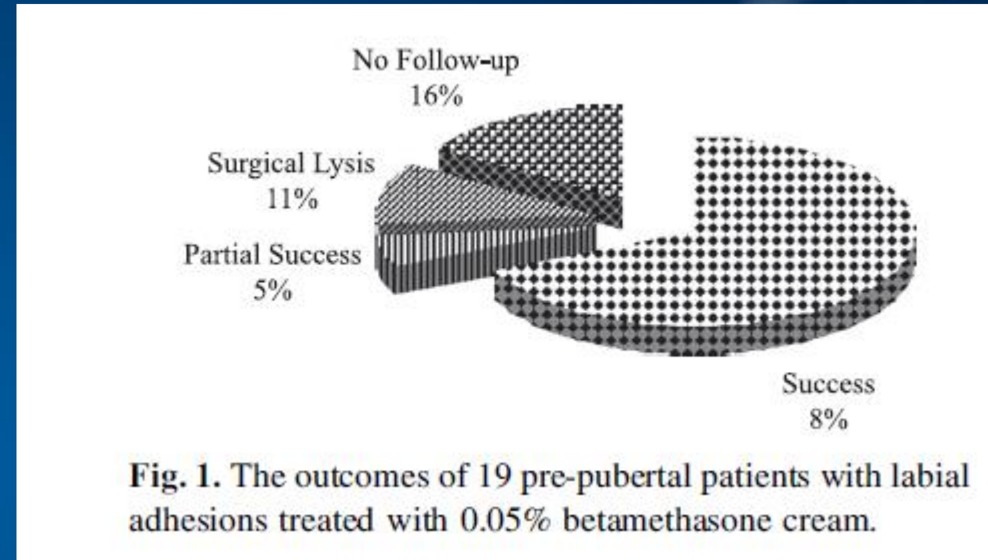

Fig. 1. The outcomes of 19 pre-pubertal patients with labial adhesions treated with 0.05% betamethasone cream.

Myers J, Sorensen C, et al. Betamethasone Cream for the Treatment of Pre-pubertal Labial Adhesions. J Pediatr Adol Gyne 2006; 19:407-11

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LABIAL ADHESIONS

Retrospective Study

- 151 patients with labial adhesions
- Betamethasone resolved adhesions quicker
  - Premarin 2.2 months vs. Betamethasone 1.3 months
- Betamethasone had lower rates of refractory to therapy
  - Premarin 27.4% vs. Betamethasone 15.8%
- Betamethasone had lower rates of recurrence
  - Premarin 35% vs. Surgery 26% vs. Betamethasone 15.8%

Mayoglou L, Dulabon L, Martin-Alguacil N, et al. Success of Treatment Modalities for Labial Fusion: A Retrospective Evaluation of Topical and Surgical Treatments. J Pediatr Adolesc Gynecol 2009; 22:247-250

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LABIAL ADHESIONS

- Manual Separation
  - Thicker adhesions (3-4 mm in width)
  - Recurrence reported (39%) within 4 months – 2 years
- Surgical lysis rarely indicated
  - Recurrence reported
  - Less likely to respond to medical therapy in future

Bacon J. Prepubertal labial adhesions: Evaluation of a referral population. Am J Obstet Gynecol 2002; 187(2):327-332
Muram D. Treatment of Prepubertal Girls with Labial Adhesions. J Pediatr Adolesc Gynecol 1999;12:67-70

LABIAL ADHESIONS

Myth #1 – Estrogen cream can only be used for up to 2 weeks

Myth #2 – Surgical intervention is a good first line treatment option

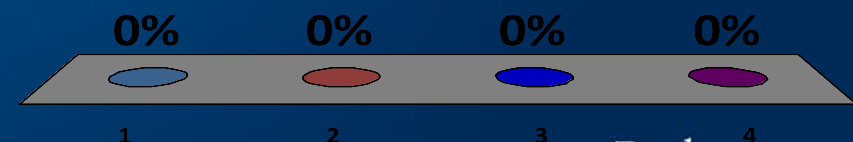
Myth #3 – Estrogen cream is the only medical therapy available for treatment

Myth #4 – Parents know how to apply the cream correctly

CASE #2

A 6 year old comes in for evaluation of recurrent yeast infections. She complains of vaginal discharge and has been treated for yeast 3 times in the last 3 months. What do you do?

1. Treat for yeast infection with the same medication
2. Treat for a possible UTI
3. Do a vaginal culture
4. Prescribe a different antifungal than used before



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VULVOVAGINITIS

- Inflammation of vulva and/or vaginal tissues
- Most common gynecologic problem in prepubertal girls
  - Between ages of 2 and 7 years of age
- Typical complaint – vaginal discharge, vaginal itching or vulvar redness
- Most cases are non-specific vulvovaginitis (up to 75%)
  - Main causative agents: Strep B hemolytic group (S. pyogenes) and H. influenzae

Kokotos F, Adam H. Vulvovaginitis. Pediatrics in Review. 2006; 27(3):116-117
Fischer G. Chronic vulvitis in pre-pubertal girls. Australasian Journal of Dermatology. 2010; 51:118-123

VULVOVAGINITIS

Risk Factors

- Anatomy
  - Lack of labial fat pads and pubic hair
  - Thin, sensitive vulvar skin
  - Thin vaginal epithelium
  - Low in glycogen
  - Neutral vaginal pH → good bacterial culture medium
  - Non-production of cervical mucus
  - Proximity of vulva to anal region
- Hygiene
  - Poor hand washing
  - Improper cleansing of vulvar and rectal areas
  - Auto-inoculation of bacterial from upper airways
  - Exposure to vulvar irritants
- Foreign body

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VULVOVAGINITIS

- Sample of discharge should be collected
  - Distinguish between non-infectious and infectious causes (specific pathogen)
- Vaginal irrigation

Treatment

- Improved hygiene
- Sitz baths
- Avoid vulvar irritants
- Loose fitting clothing
- Antibiotics for growth of specific organism

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VULVOVAGINITIS

115 girls, ages 2-8 years of age

Vaginal cultures taken

38 of the 115 had a positive culture (33%)

- 21 Group B Strep
- 5 H. influenzae
- 3 E. coli
- 2 Enterococcus species
- 1 Staph aureus
- 1 Proteus mirabilis
- 1 Strep pneumo

Sikanic-Dugic N, Pustisek N, et al. Microbiological findings in prepubertal girls with vulvovaginitis. Acta Dermatovenerologica Croatica. 2009; 17(4): 267-72

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VULVOVAGINITIS

Genital candidiasis

- Conditions which favor vulvovaginal candidiasis:
  - Antibiotic therapy
  - High estrogen levels
  - Impairment in immunity

Hammerschlag MR, Alpert S, Rosner I, et al. Microbiology of the vagina in children: normal and potentially pathogenic organisms. Pediatrics. 1978; 62:57-62

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VULVOVAGINITIS

- Cultures taken from 379 symptomatic girls between 0-12 years of age

- 22 tested positive for Candida species (6%)
  - 12 were inpatients (28.6%)
  - 3 outpatient/day ward patients (2.8%)
  - 7 general practice (3%)

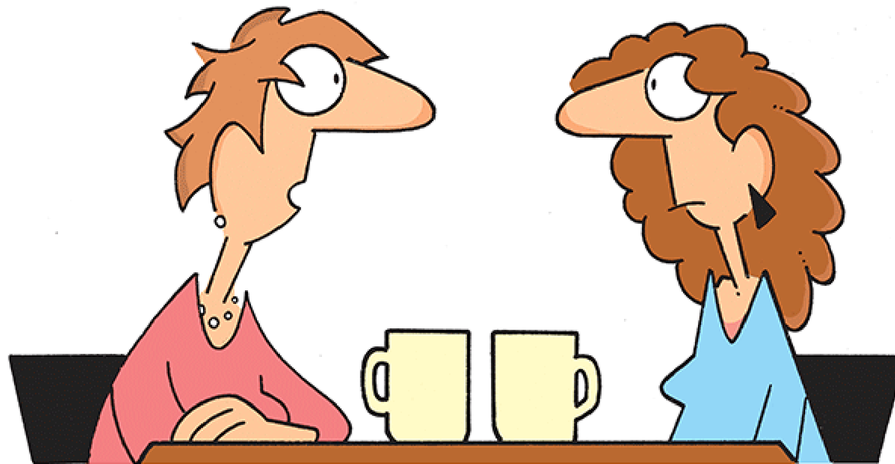
- Combined < 1% of specimens submitted by outpatient and general practice were positive for Candida

Banerjee K, Curtis E, et al. Low prevalence of genital candidiasis in children. Eur J Clin Microbiol Infect Dis. 2004;23:696-698

VULVOVAGINITIS

Myth #1 – All cases of vulvovaginitis should be treated with medication

Myth #2 – Candida is a common cause of vulvovaginitis in the prepubertal girl



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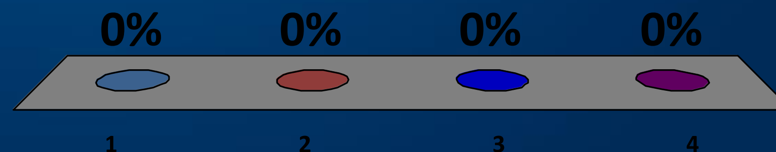
CASE #3

A 10 year old has an abdominal/pelvic MRI to evaluate abdominal pain. The radiologist notes that she has polycystic appearing ovaries. On exam she is Tanner I Breast and Tanner I GU.

What do you do?

1. Order an ultrasounds
2. Order hormonal labs
3. Nothing
4. Refer to ped gyn and/or ped endo



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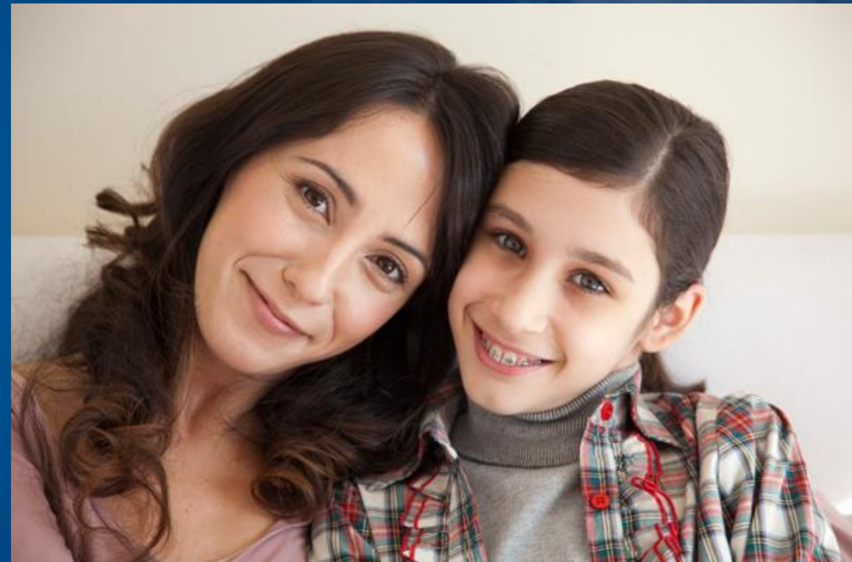

POLYCYSTIC OVARIAN SYNDROME

Hyperandrogenism and chronic anovulation

- Excluding other endocrinopathies (ex virilizing tumors, nonclassical CAH, hyperprolactinemia, Cushings syndrome)

- 1990 National Institute of Health and Human Development Conference on PCOS

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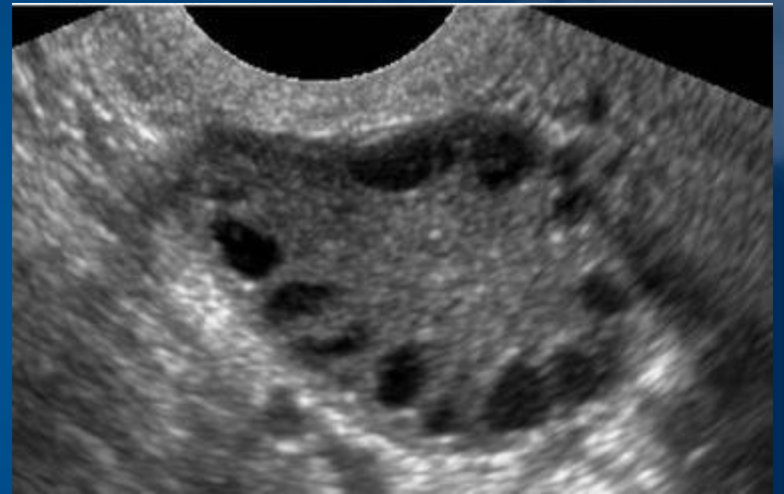
POLYCYSTIC OVARIAN SYNDROME

2003 Revised Rotterdam Consensus
(2 out of 3 parameters)

1. Clinical/biochemical hyperandrogenism
2. Olio-or anovulation
3. Polycystic ovaries on sono



Excluding other endocrinopathies

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POLYCYSTIC OVARIAN SYNDROME

- MENSTRUAL IRREGULARITY
  - As many as 85% of cycles the first year are anovulatory and up to 59% have been shown to be anovulatory at year 3

- HYPERANDROGENISM
  - Acne is common during adolescent years
  - Hirsutism is a better marker

- ULTRASOUND
  - Only 40% of girls with anovulatory bleeding had PCO on sono
  - In adolescents with normal menses PCO are often found on sono
  - Also suggested that maximum ovarian size occurs up to 4 years after menarche

Franks 2008, Hickey 2011, Carmina 2010, Blank 2008, Apter 1998, Van Hooff 2004

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POLYCYSTIC OVARIAN SYNDROME

DIAGNOSIS RECOMMENDATIONS IN ADOLESCENTS:

- All 3 elements of the Rotterdam criteria should exist
- Biochemical hyperandrogenism should be used
- Oligo-amenorrhea should exist for at least two years
- Polycystic ovaries should include increased ovarian size (>10 cm^3)

Consensus on womens health aspect of polycystic ovary syndrome. The Amsterdam ESHRE/ASRM-sponsored 3rd PCOS consensus workshop group. Hum Reprod. 2012;27:14-24

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POLYCYSTIC OVARIAN SYNDROME

Myth #1 – PCOS can be diagnosed by imaging studies alone

Myth #2 – It is important to diagnose PCOS as soon as possible

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QUESTIONS

Thank You!

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