Nurse Practitioner Case Studies and Quality Assurance Review

Satellite Conference and Live Webcast
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Produced by the Alabama Department of Public Health
Video Communications and Distance Learning Division

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Objectives

- List specific areas of documentation where improvement is needed
- Recognize possible etiologies of primary amenorrhea
- Identify management modalities including referrals and appropriate contraceptive methods

Objectives

- Increase awareness of medical complications which impact contraceptive management

Quality Assurance Review

- Documentation is <u>much improved</u> since the QA Audit process began October 2006

Quality Assurance Review

- Medical History
  - Patient medical/family/sexual histories more complete (CHR#12A page 1) plus family breast cancer history
    - Specify age of occurrence
  - Pap smear status updated
    - Indicate last 3 pap results

Quality Assurance Review

- Contraceptive history completed
  - Current method/desired method
- *If* RN or NP needs to make a change or an addition on the CHR 12A(1), do so in the "additional comments" section

Quality Assurance Review

- Deferred Physical
  - Utilize the CHR 12A page 1 and CHR 12B
  - Do not use the CHR 12A page 2 at the time of the deferred PE
  - If supplies are given, this should be written on the CHR 12B since this page will be used for counseling

Quality Assurance Review

- If NP is writing an order for a contraceptive method the day of the deferred PE, write the order on the CHR 12B in the notes section
- Day of PE
- Update history (CHR 12 A, page 1) in the "additional comments" section

Quality Assurance Review

- To avoid a discrepancy in dates, the PE form (CHR 12A, page 2) should not be printed until the day the PE is actually done

Quality Assurance Review

- Physical Assessment (CHR 12A page 2)
- Document any additional information voiced by the patient in the "Comments" section at top of CHR 12A page 2 or on the CHR 12B
- Always address patient concerns, needs, and complaints

Quality Assurance Review

- For example
  - C/O painful urination/frequent urination
  - C/O vaginal discharge
    - Describe your observations and always do a wet prep
  - C/O headaches
    - Specify if migraines with or without aura

Quality Assurance Review

- Document descriptive findings on Physical Assessment CHR #12A(2)
- Avoid generic documentation
  - Individualize
  - Paint a picture

Quality Assurance Review

- For example general appearance
  - Frail, small build, quiet, obese (BMI>30), overweight, appears older than stated age, talkative, college student, smells of ETOH (or smoke)
  - Describe what you observe
  - Poor dentition, grills, moles, facial acne, tattoos, scars, piercings

Quality Assurance Review

- CHR 12B
  - If more space is needed to document PE on the CHR 12A(2), go to the CHR 12B "Continuation Notes From Health Assessment"
    - Do not write in the margins

Quality Assurance Review

- Physical Assessment (CHR 12A Page 2)
- Breast documentation much improved!!!
  - Remember to describe the normal breast as well as the "abnormal" breast

Quality Assurance Review

  - When describing the "abnormal" breast, use a "clock-face" as point of reference and be descriptive
    - For example 1 X 1cm, non-tender, firm, mobile, R breast nodule at 2 o'clock, 2cm from nipple, L breast no masses palpable

Quality Assurance Review

- Interesting recent case
  - 29 year old with abnormal CBE
  - Patient was referred at the time of the PE for an U/S and surgical consult
  - U/S and mamm results: BiRads 2
  - A biopsy was done
  - Patient was diagnosed with breast CA

Quality Assurance Review

- Dr. Victoria Green's Satellite Conference Series

June 29, 2005	"Applying Risk Prevention Documentation to Everyday Practice"
August 4, 2005	"Exam Documentation: Adapting a Risk Management Mindset"
November 10, 2005	"Components of a Family Planning Chart Review – Would Your Chart Stand Up to Scrutiny"

Quality Assurance Review

- Go to ADPH home page
- Look at Quick Links (left side)
- Click on "Live Satellite Conferences and Webcasts"
- Click "On Demand"
- Complete Chronological List "2005"

Quality Assurance Review

- Do not alter medical records
  - Never use white out
- Do not write in margins
  - It can appear that information was added after the fact
    - Do not scratch out errors

Quality Assurance Review

- All corrections must have a single line drawn through the error and initialed
- Do not leave blank lines (draw a line)
- Place check marks carefully
- Document n/a to indicate area was addressed (history)

Quality Assurance Review

- Best practice documents
  - Is legible
  - Is comprehensive and accurate
  - Minimizes use of abbreviations and acronyms
  - Uses professional language

Quality Assurance Review

- Consults: FYI
  - Gather all information from patient and do physical exam before consulting Dr. Thomas or Dr. Miller
  - The information you share with them when you call, should be the same as information given in the written consults

Quality Assurance Review

- Examples of documentation on actual medical records
  - Patient's medical history has been remarkably insignificant with only a 40 pound weight gain in the past three days
  - Healthy appearing decrepit 69 year old female, mentally alert, but forgetful

Quality Assurance Review

- Patient has two teenage children, but no other abnormalities
- She stated that she had been constipated for most of life until she got a divorce

Quality Assurance Review

"If it's not written, it didn't happen."

Quality Assurance Review

"So… Let's make it happen!!!"

Primary Amenorrhea Case Study

- This is a 16 year old who presents with complaint of not having started menses and desires oral contraceptives
- She gives a history of normal physical growth and development and states that she is sexually active

Primary Amenorrhea Case Study

- Her physical exam findings revealed BMI 24, BP 126/76, normal breast exam (Tanner Stage 5 mature adult breast), abdominal exam without masses

Primary Amenorrhea Case Study

- Pelvic exam revealed normal external genitalia with sparse pubic hair growth, speculum examination revealed no visible cervix, vaginal walls pink and moist, without lesions, bimanual examination revealed no palpable cervix, uterus, or adnexal masses

Primary Amenorrhea Case Study

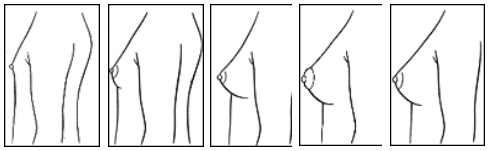
- NP Assessment/Plan
  - Primary amenorrhea secondary to possible congenital defect
  - Consult to collaborative physician
  - No hormonal contraception issued, encouraged condom use
  - Referred to OB/GYN for evaluation

Physician's Recommendations

1. Refer to OB/GYN for evaluation
2. Diagnosis: 1º (primary) amenorrhea due to endocrinologic and/or anatomic disorder vs. delayed menarche

Primary Amenorrhea Case Study

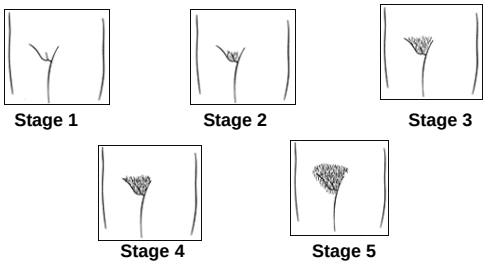
Tanner Scale – Breast Development



Stage 1 Stage 2 Stage 3 Stage 4 Stage 5

Primary Amenorrhea Case Study

Tanner Scale – Genitalia



Stage 1 Stage 2 Stage 3 Stage 4 Stage 5

1º Amenorrhea vs. Delayed Menarche

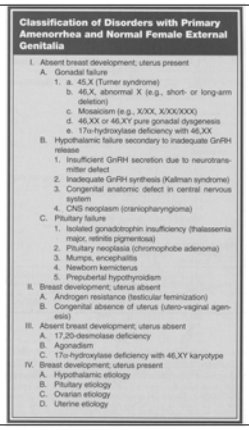
- Primary amenorrhea
  - Defined as the absence of spontaneous menses in a woman by 16.5 years of age
- Delayed menarche
- Onset of menses in females older than 16.5 years who have no reproductive abnormalities

1º Amenorrhea vs. Delayed Menarche

- Usually will have sufficient estrogen to produce some breast development
- Reassure girls who exercise strenuously that onset of menses will be delayed but this is not a health issue

Classifications of 1º Amenorrhea

- Many used for the various etiologies of 1º amenorrhea
- Grouped according to whether secondary sexual characteristics and female internal genitalia are present or absent
- Physical exam can alert the clinician to possible causes and indicate which lab tests to perform



Classification of Disorders with Primary Amenorrhea and Normal Female External Genitalia

I. Absent breast development; uterus present
- A. Gonadal failure
  - 1. a. 45,X (Turner syndrome)
  - b. 46,X, abnormal X (e.g., short- or long-arm deletion)
  - c. Mosaicism (e.g., X/XX, X/XX/XXX)
  - d. 46,XX or 46,XY pure gonadal dysgenesis
  - e. 17α-hydroxylase deficiency with 46,XX
- B. Hypothalamic failure secondary to inadequate GnRH release
  - 1. Insufficient GnRH secretion due to neurotransmitter defect
  - 2. Inadequate GnRH synthesis (Kallman syndrome)
  - 3. Congenital anatomic defect in central nervous system
  - 4. CNS neoplasm (craniopharyngioma)
- C. Pituitary failure
  - 1. Isolated gonadotrophin insufficiency (thalassemia major, retinitis pigmentosa)
  - 2. Pituitary neoplasia (chromophobe adenoma)
  - 3. Mumps, encephalitis
  - 4. Newborn kernicterus
  - 5. Prepubertal hypothyroidism

II. Breast development; uterus absent
- A. Androgen resistance (testicular feminization)
- B. Congenital absence of uterus (utero-vaginal agenesis)

III. Absent breast development; uterus absent
- A. 17,20-desmolase deficiency
- B. Agonadism
- C. 17α-hydroxylase deficiency with 46,XY karyotype

IV. Breast development; uterus present
- A. Hypothalamic etiology
- B. Pituitary etiology
- C. Ovarian etiology
- D. Uterine etiology

Classifications of 1º Amenorrhea

- Largest subgroup
  - Absent breast development
  - Uterus present
- Second largest subgroup
  - Absent uterus with breast development
- Absent breasts and uterus is the least common

Classifications of 1º Amenorrhea

- Breast development present and absent uterus
- Two etiologies
  - Androgen Insensitivity Syndrome
  - Congenital absence of the uterus (Mullerian Aplasia)

Signs of Puberty

- Before the onset of menses the normal female goes through a series of morphologic (physical) changes due to increase in estrogen and androgen production
- First sign, breast budding followed by the appearance of pubic hair (peach fuzz appearance) and growth spurt

Signs of Puberty

- Thereafter, breast enlarge, the pelvic contour becomes rounder
- Auxillary hair growth becomes noticeable
- Menarche – last sign of puberty (Tanner stage 5)
- Wide variation as to the timing of these events

Signs of Puberty

- Some young women can progress from breast budding to menarche in 18 months, while others may take 5 years
- Arbitrary age for 1º amenorrhea of 16.5 years
- If an adolescent of 14 years or older presents with absent breast budding, evaluation is in order

Signs of Puberty

- Ratio of fat to both total body weight and lean body weight is probably most relevant factor in onset of puberty and menses
- Well nourished adolescent with prepubertal strenuous exercise regimens have less total body fat
  - Delayed onset of puberty

Signs of Puberty

- Research has determined stress is not the result of delayed menarche in exercising girls, as girls of the same age with stressful music careers did not have delayed menarche

Signs of Puberty

- Before puberty low, circulating levels of FSH and LH
- Critical body weight is reached
- GnRH released in greater amounts in FSH and LH

Embryology

- Female reproductive organs consist of
  - External genitalia
  - Gonads
  - Internal duct system
    - Mullerian ducts develop preferentially over Wolffian ducts
  - Mullerian ducts persist

Embryology

- Fallopian tubes, uterus, cervix, and a portion of the vagina
- Mullerian ducts appear approximately 37 days after fertilization
- Continue to grow and fuse in the midline
- Urogenital septum forms, which eventually disappears

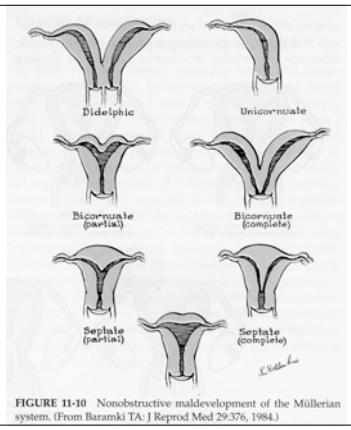


FIGURE 11-10 Nonobstructive maldevelopment of the Müllerian system. (From Baramki TA: J Reprod Med 29:376, 1984.)

Specific Anomalies

- Unicornuate uterus
  - Destruction of 1 Mullerian duct may occur for various embryonic reasons
  - Almost always a missing kidney and ureter on same side
  - Single cervix, single uterine horn with fallopian tube entering the uterus

Specific Anomalies

- Ovary may be present on the opposite side
  - Usually supports a pregnancy
  - May not be diagnosed unless patient has surgery or HSG
- Other anomalies may result in partial or complete duplication of the vagina, cervix and uterus

Specific Anomalies

- Classification
  - Didelphic
    - Complete duplication of vagina, uterus and cervix
  - Bicornuate
    - Single chamber vagina and cervix with complete or partial septate uterus and two uterine bodies

Specific Anomalies

- Septate uterus appears as a single organ but has a midline septum that is either partial or complete

Specific Anomalies

- Arcuate
  - Indentation at upper fundus
  - Nine subdivision of malformed uteri that include duplication of uterus, vagina and cervix with communication between the horns

Management of Uterine Anomalies

- If no obstruction – no therapy indicated
- Septate uteri associated with reproductive loss
- Metroplasty
- Divide septum hysteroscopically/laparoscopically

Back to Our Patient…

- Breast development present and absent uterus
  - Androgen Insensitivity Syndrome (AIS)
  - Mullerian Aplasia, Mullerian agenesis or Mayer-Rokitansky-Kuster-Hauser Syndrome

Androgen Insensitivity Syndrome (AIS)

- Genetic disorder (can also be spontaneous) in which there is an absence of androgen receptor synthesis or action at tissue or end organ
- XY Karyotype & normally functioning male gonads
- Present with 1^{o} amenorrhea

Androgen Insensitivity Syndrome (AIS)

- Spectrum of defects in androgen action
- Subdivided into three broad phenotypes
- Complete AIS – typical female genitalia

Androgen Insensitivity Syndrome (AIS)

- Partial AIS – with predominantly female, predominantly male ambiguous genitalia
- Mild AIS – with typical male genitalia

Clinical Description of AIS

- Normal female external genitalia
- Present either before puberty with masses in the inguinal canal (that are subsequently ID as testes)

OR

Clinical Description of AIS

- At puberty with 1º amenorrhea
- Sparse or absent pubic or axillary hair
- Sexual identity and orientation are affected in patients with partial AIS and ambiguous genitalia

Clinical Description of AIS

- Determining the sex of rearing becomes an issue for families of patients with partial AIS
  - Multidisciplinary approach
    - Mental health professional, pediatrician, genetics counselor
- Testosterone level in the male range confirms this diagnosis

AIS Management

- Increased risk of gonadal malignancy
- Remove testes after puberty when feminization is complete
  - Partly occurs by testicular estrogen and peripheral conversion of androgen to estrogen

AIS Management

- Testicular malignancy seldom occurs before puberty
- Short vaginal length may require dilatation (to avoid dyspareunia)
- Unable to become pregnant
- Questions of how much to tell individuals with AIS and when to tell them, have not been resolved uniformly

AIS Management

- Should be done in supportive environment with family members, health care professionals and resource of other affected individuals

Mullerian Aplasia

- 46 XX Karyotype, normal female phenotype
- Normal development of secondary sexual characteristics except menarche does not occur
  - Patients typically present in adolescence with 1^{o} amenorrhea

Mullerian Aplasia

- Remember, it usually takes 2-3 years after breast development until first period
- Congenital absence of the uterus and vagina
- Failure of the Mullerian ducts to develop with resultant anomalies in Mullerian structures

Mullerian Aplasia

- With absence of the vagina there is variation of the presence or absence of the uterus
- Ovaries are from separate embryologic source and are normal in structure and function

Mullerian Aplasia

- The presence of ovarian tissue seen on pelvic ultrasound may serve as a secondary confirmation of diagnosis, excluding AIS

Differential Diagnosis in Patients with Mullerian Aplasia

- AIS
- Imperforate hymen
- Low transverse vaginal septum

Evaluation of the Patient with Mullerian Aplasia

- Concomitant congenital malformations of
  - Abdominal wall – inguinal hernias
  - Urinary tract – ureteral duplication, pelvic kidney
  - Skeleton – scoliosis
  - Small number of patients with hearing impairment

After Diagnosis of Mullerian Aplasia

- Counseling should be offered to stress that a normal sex life will be possible after creation of neovagina
- Infertility (difficult aspect for patients to accept)
- Appropriate to discuss ART and the use of gestational carrier

After Diagnosis of Mullerian Aplasia

- Patients should be given a brief written summary of their condition to include concomitant malformations
  - Useful if patient requests urgent medical care or emergency surgery from health care provider unfamiliar with dx

Management of Mullerian Aplasia

- Non-surgical creation of vagina
  - First line approach (non-invasive, successful)
- Patients are asked to manually place successive dilators on perineal dimple for 30 minutes to 2 hours daily

Management of Mullerian Aplasia

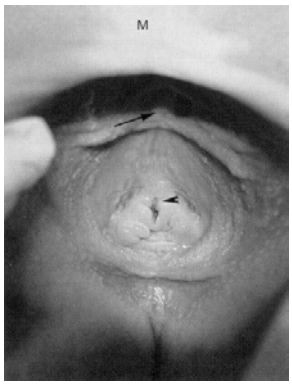
- Surgery an option for patients who are unsuccessful with dilators
- Aim of surgery is to create a vaginal canal of adequate size to facilitate intercourse

General GYN Care

- Patients with h/o Mullerian Aplasia require routine gyn care
- Annual pelvic exams to examine for vaginal stenosis
- Neovagina has the same risk as native vagina for STDs

General GYN Care

- Speculum exam should be performed to look for malignancies (skin grafts or bowel vaginas) and colitis
- No consensus on routine pap test screening



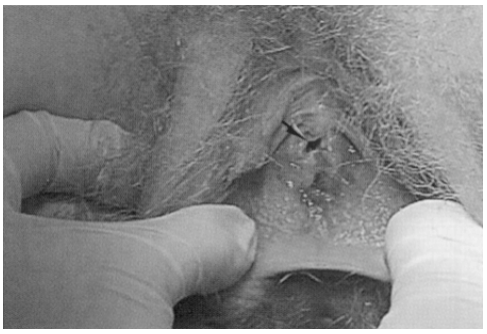


Table 1
Complete androgen insensitivity versus Mayer-Rokitansky-Kuster-Hauser syndrome

Feature	Complete Androgen Insensitivity	Mayer-Rokitansky-Kuster-Hauser Syndrome
Thelarche	Tanner 5	Tanner 5
Pubarche	Tanner 1	Tanner 5
Vagina (dilator or vaginoplasty)	Blind pouch or absent (often)	Absent (often)
Uterus	Absent	Variable
Gonads (gonadectomy)	Testes – Leydig cell replete Sertoli-cell only (yes, after puberty)	Normal ovaries (No)
Testosterone level	Normal male	Normal female
Karyotype	46XY	46XX
Associated anomalies	No	Yes: vertebral/renal
Fertility implications	No childbearing	Egg retrieval with surrogate

References

1. **Comprehensive Gynecology 4th Edition; Stenchever, M, MD et al**
2. **ACOG, Committee Opinion; Number 355, December 2006: Vaginal Agenesis: Diagnosis, Management & Routine Care**
3. **Obstetrics and Gynecology Clinics DF North America; March 2009, Volume 36. Number 1**

HELLP Syndrome Case Study

- **26 year old, G5 P2, LMP 06/23/09, UCG negative, BMI 35 who presents for annual exam requesting to change birth control method from Depo-Provera to Nuva Ring due to weight gain**

HELLP Syndrome Case Study

- **Patient gives history of Cesarean section X2 with second pregnancy complicated with HELLP syndrome**
- **Normal physical exam findings**

HELLP Syndrome Case Study

- NP Assessment/Plan
- Patient with history of HELLP syndrome requesting change in hormonal contraceptive
- Is it OK to switch to combined hormonal contraceptive?
  - Consult with collaborating MD

HELLP Syndrome Case Study

- Physicians recommendations
- Nuva Ring approved with close monitoring
  - Chronic hypertension impacts future contraceptive method

TABLE 4 HELLP syndrome — Sibai criteria

- **Hemolysis:** Abnormal peripheral blood smear; total bilirubin >1.2 mg/dL
- **Elevated liver enzymes:** AST and ALT more than twice the upper limit of normal for the lab
- **Low platelets:** $<100 \times 10^3/\mu L$

HELLP Syndrome Case Study

- Definition
  - HELLP Syndrome is a variant of severe preeclampsia that occurs in approximately 10% of women
  - Potentially causes catastrophic complications of pregnancy and is one of the leading causes of maternal death

HELLP Syndrome Case Study

  - It is responsible for a large percentage of infants born prematurely
  - Primarily is a disorder of first pregnancies and is usually seen in the extreme ages of the reproductive years (young/old)

HELLP Syndrome Case Study

- Criteria for Preeclampsia
  - Persistent BP > 140/90
  - Proteinuria
  - Oliguria
  - Renal failure
  - Persistent right upper quadrant or epigastric pain

HELLP Syndrome Case Study

- Criteria for Preeclampsia
  - Persistent headache
  - Cerebral or visual disturbance (scotomata/blurred vision)
  - Shortness of breath (pulmonary edema or cyanosis)
  - Impaired liver function

HELLP Syndrome Case Study

- Criteria for Preeclampsia
  - Thrombocytopenia
  - Hemolysis (based on peripheral smear or increased bilirubin
  - Fetal growth restriction

HELLP Syndrome Case Study

- HELLP Syndrome is associated with an increased risk of adverse outcomes including placental abruption, renal failure, hepatic damage, preterm delivery and even fetal or maternal death

HELLP Syndrome Case Study

- Risk factors
  - Chronic hypertension or gestational hypertension in the current pregnancy
  - History of preeclampsia
    - Risk for recurrence with subsequent pregnancies

HELLP Syndrome Case Study

  - Different sex partners due to repeated exposure to specific antigens
  - Multiple gestation
  - Nulliparity
  - Obesity
  - Chronic illnesses: diabetes, lupus, other autoimmune and thrombotic disorders

HELLP Syndrome Case Study

- Pathophysiology
  - The exact etiology is unknown, but general activation of the coagulation cascade is considered the main underlying problem
  - Changes in the interaction of vasoconstrictors and vasodilators causes intense vasospasm

HELLP Syndrome Case Study

- Hematologic changes occur
  - Both thrombocytopenia and hemolysis may occur as part of the HELLP syndrome
- Hepatic function is altered

HELLP Syndrome Case Study

- Treatment is delivery of baby which normalizes lab findings
- LFT's may be warranted if patient has not had PP exam

HELLP Syndrome Case Study

- Steps to minimize risk
  - Preconceptional counseling
  - Behavior modifications
  - Early prenatal care

HELLP Syndrome Case Study

- Take home message
- Is a combined method contraindicated?
  - NO, (based on preeclampsia with HELLP syndrome) HELLP syndrome does not preclude combined hormonal method

HELLP Syndrome Case Study

- Consult
  - Hormonal method depends upon case scenario, thus warrants consult first
- Physicians recommendations
  - Nuva Ring approved with close monitoring (chronic hypertension impacts future contraceptive method)

Pap Report: "Foamy Histiocytes"

- Significant findings
  - 56 year old post menopausal female, LMP 1990, Pap report: Satisfactory, negative for intraepithelial lesion or malignancy, moderate inflammation and "foamy histiocytes" noted

Pap Report: "Foamy Histiocytes"

- Patient denied any discharge or abnormal vaginal bleeding
- **Management/recommendations**
- **In general, if pap otherwise negative and patient without any other complaints, such as post menopausal bleeding, repeat in one year**

Pap Report: "Foamy Histiocytes"

- **Explanation**
  - Cytoplasm looks "frothy" on microscopic examination
- **Definition**
- **"Foamy histiocytes" are large lipid laden macrophages**

Pap Report: "Foamy Histiocytes"

- **Dr. Swedarsky's from PA cytology explanation**
  - Increased histiocyte activity is most often associated with inflammatory conditions
  - Histiocytes may be associated with benign endometrial conditions such as endometritis or IUD use

Pap Report: "Foamy Histiocytes"

- **Most commonly, histiocytes are derived from the cervix, not the endometrium**
- Women with endometrial cancer frequently shed histiocytes
- Women with histiocytes on their pap rarely have endometrial carcinoma

Pap Report: "Foamy Histiocytes"

- **Women with endometrial carcinoma usually have other signs like bleeding**
- **Histiocytes on a pap smear are a poor predictor of endometrial cancer**

Pap Report: "Foamy Histiocytes"

- **Conclusion**
  - The isolated finding of increased histiocytes in the absence of postmenopausal bleeding, endometrial cells or atypical glandular cells on a Pap smear is a poor indicator of uterine disease