

Adenocarcinoma In-Situ: A Case Presentation

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## Case Study 1: Adenocarcinoma In-Situ

### **Preliminary Information**

#### **Selection of Case**

While working in a colposcopy clinic recently, I diagnosed a case of Adenocarcinoma In-Situ (ACIS). I chose to present this case as a case study because I am interested in learning more about ACIS.

#### **Site**

The site of this case study was a Planned Parenthood colposcopy clinic setting located in North Texas.

#### **Type and Number of Encounters**

Patient S.B. came for her third visit for colposcopy on 8/11/2010 and for her fourth visit to discuss the results on 9/1/2010.

#### **Insurance**

S.B. is a private pay patient who does not have insurance. Due to the diagnosis of ACIS, she was able to meet the requirements for emergency Medicaid.

#### **Chief Complaint**

During her third visit, S.B. presented two abnormal Pap smears to the colposcopy clinic for evaluation. The first ASCUS Pap was performed on 8/12/09 and the second ASCUS Pap was performed on 7/16/2010. After these two Pap smears, she was referred for a colposcopy.

#### **History of Present Illness**

When S.B. brings the two abnormal Pap smears (ASCUS x 2) to the clinic, she is asymptomatic and nervous regarding the procedure.

*Evidence: Wright et al. (2007) recommends that the follow up of an ASCUS pap smear should include Reflex human Papilloma virus (HPV) testing, a repeat Pap smear at 6 and 12*

*months, or an immediate colposcopy. If a follow-up Pap is ASCUS or greater, the patient should be referred for a colposcopy. Level C (consensus guideline).*

**Past Medical History**

- S.B. is a 25-year-old G1P0Ab1 who has been using the contraceptive patch for about one year. She reports a negative history for past medical history. She has had one current partner for one and a half years.
- Allergies: No known drug allergies (NKDA).
- Menarche: 12 years old.
- Last Menstrual Period: August 1, 2010.
- Surgical History: Surgical abortion in 2002 at eight weeks gestation.
- Smoking/Drugs: Denies smoking and drug use. She drinks one or two glasses of wine per week.
- Social History: S.B. is 25 years old and lives with her boyfriend in a small apartment in a college town. She is currently a sophomore at a large local university and is doing well in school. She reports that she grew up in south Texas but moved here about one year ago to begin college. She reports that she is the oldest of six children. She is currently uninsured. She is working part-time in a local diner to help supplement the income for her and her boyfriend.
- Family History: S.B. denies a family history of any type of abnormal Pap smear, cancers of any type, diabetes, hypertension, or other disorders. She states that her family is very healthy including her five siblings.
- Sexual history: S.B. has had one mutually exclusive partner for a year and a half. She reports that she and her partner stopped using condoms since becoming engaged one year ago. S.B. reports a history of five previous partners and only

reports the occasional use of condoms. She has had Gonorrhea and Chlamydia screenings that were negative but denies receiving any other screening for sexually transmitted infections in the past. She participates in oral and vaginal intercourse but denies any other sexual contact. All partners have been male. She denies experiencing pain with intercourse, vaginal discharge, abnormal bleeding, or problems with intercourse.

### **Physical Examination**

- Vital signs: B/P 100/76, P-84, R-18.
- General: Healthy female, slightly anxious.
- Weight: 122, Height: 5'2", BMI: 22.3 (a normal weight for this patient).
- HEENT: Wears contact lenses or glasses, normal female, no thyromegaly or nodule noted.
- Respiratory: Her bilateral breath sounds clear. No wheezing or shortness of breath noted.
- Breast Exam: Tanner Stage V, no palpable masses, no nipple discharge, no palpable lymph nodes.
- Abdomen: Soft and non-tender without masses.
- Extremities: Full range of movement.
- Neurologic/Musculoskeletal: No abnormalities noted. No problems with joint pain or movement.
- Psychiatric Reports: Increased anxiety regarding colposcopy procedure as well as the financial aspects of the cost of the treatment and the procedure due to limited resources.

- Gynecologic: LMP 8/1/2010-8/5/2010, normal flow and duration. Denies dysmenorrhea, abnormal bleeding, post coital bleeding, breakthrough bleeding, vaginal discharge, or painful intercourse.

#### **Colposcopic Examination**

- Bimanual examination: Uterus is firm, non-tender, normal size and shape, anteverted, adnexa is non-tender without enlargement. Cervix is normal to palpation without tenderness or nodules.

*Palpation of the uterus allows for the confirmation of expected uterine size and the absence of uterine tenderness. In addition, palpation of the surface of cervix can provide the colposcopist with important cues regarding the shape and texture of the cervix (Carcio & Secor, 2010). Anecdotal evidence regarding cervical palpation with cervical cancer has a cobblestone firmness, which is distinctive for cancer. For the evaluation and pretreatment of cervical cancer (Hancke, Heilmann, Straka, Kreienberg, & Kurzeder, 2008), clinical examination and palpation were better than CT and MRI for the pretreatment evaluation of early invasive cervical cancer. Abnormalities in palpation are also helpful for diagnosing individuals with cervical involvement of endometrial cancer (Pristauz et al., 2009).*

- Vulvar examination by visual inspection as well as by colposcopy shows no evidence of condyloma, molluscum contagiosum, or vulvar lesions.
- Colposcopic cervical evaluation
  - No lesions were apparent on gross examination.
  - Acetic acid solution was applied
- Upon inspection of the cervical portio, an acetowhite area was noted from 7-12 o'clock. Only minor acetowhite epithelium noted. No punctuation or no mosaic or atypical vessels were noted on examination.

- Colposcopy was satisfactory. The squamocolumnar junction was seen fully. The limits of lesion are visible.
- Endocervical curettage completed (ECC). Care was taken to avoid the lesion in the ectocervix. A brush was also used to collect an endocervical specimen to improve the adequacy of the sample and this specimen was sent with the pathology specimen.

*Endocervical sampling is preferred for women in whom no lesions are identified and if colposcopy is unsatisfactory (AII) (Wright, et al. 2007). Bordman, Meinz, Steinhoff, Heber, and Blume (2003) report a specimen inadequacy of 2% when compared to 22% with ECC.*

- After the colposcopic evaluation, both ECC and ectocervical biopsies were performed. Two of the most abnormal areas were biopsied by colposcopic visualization.

*The evidence suggests that the number of biopsies conducted on the ectocervix can increase the sensitivity of CIN2/CIN3 when more than one biopsy is taken (sensitivity increases from 68.3% to 81.8%) irrespective of the training of the colposcopist (nurse practitioner, gynecologists, gynecologic oncologist fellows, or gynecologic oncologists). This evidence is based on research of a group of 2,765 colposcopic examinations (Gage et al. 2006). (AI)*

- Monsel's Solution was next applied to the cervix and hemostasis was assured.
- The patient tolerated the procedure well.
- The need for patient to call if she does not receive her results by 9/5/2010 was discussed.

### **Impression**

HPV or Cervical intraepithelial neoplasia 1 (CIN1) with a satisfactory colposcopy.

- S.B. will anticipate follow-up Pap smears every 9 months x 3. If two are normal, she may resume yearly screening.

### **Plan**

Current biopsy specimens are pending. S.B. was reassured and instructed to await lab results. In our setting, it is typical for the results to take two weeks for evaluation with the lab as well as with the medical director. S.B. was advised to contact us by 9/5/2010 if we have not called her with the results.

### **Results Received**

- On 8/29/2010, we received the result of S.B.'s cervical biosies
  - 7 o'clock: unremarkable squamous mucosa.
  - 12 o'clock: ***Adenocarcinoma In-Situ.***
  - Endocervical biopsy: unremarkable endocervical mucosa.
- Her results were forwarded to the medical director
  - The medical director recommended that S.B. make a follow-up appointment with a gynecologic oncologist due to the severity of lesion as well as due to the patient's desire to retain fertility.

*Conservative management (local excisional procedure instead of a hysterectomy) is acceptable in women desiring to retain fertility (Wright et al., 2007). Laser conization biopsy is as effective as cold knife conization with no compromise in the outcome for the patient (Dalrymple et al., 2008). LEVEL 1.*

- On 9/1/2010, I called S.B. to discuss her results and asked her to come into the office to discuss the findings.
- General: S.B. was anxious regarding the abnormal findings and worried about the financial aspects of treatment.
- A physical examination was deferred at this visit.
- The results of the colposcopy were discussed with patient, including the referral for a follow-up appointment with a gynecologic oncologist for further evaluation and treatment.

*Conservative management (local excisional procedure instead of hysterectomy) is acceptable in women desiring to retain fertility (Wright et al., 2007). Laser conization biopsy is as effective as cold knife conization with no compromise in the outcome for the patient (Dalrymple, et al., 2008). LEVEL 1*

#### **Outcome**

S.B. received emergency Medicaid for the treatment of Adenocarcinoma In-Situ. She underwent diagnostic cervical conization on 9/17/2010 and the margins were clear. She is to follow-up with a repeat Pap smear, ECC, and a colposcopy every four months for one year. She is planning a pregnancy in the next year, but will wait until the first two follow-up visits show normal results before initiating a pregnancy attempt.

#### **Discussion**

Atypical Cells of Undetermined Significance (ASCUS) Pap results account for about 4% of Pap smear results (Davey, Neal, Wilbur, Colgan, & Mody, 2004). In women who are 21 and over with the risk of CIN2 or a more serious abnormality, a diagnosis of a recurrent ASCUS Pap is about 9.7% - 15% (Arbyn et al., 2006). With the diagnosis of ASC-H (ASCUS cannot rule out high grade squamous intraepithelial lesions (HSIL)), 24-94% of women will exhibit CIN2 or



greater on biopsy (Jones & Novis, 2000). With persistent ASCUS Pap results or ASC-H, colposcopic evaluation with biopsy is indicated for a complete evaluation (Wright et al., 2007).

The average age of Adenocarcinoma In-Situ (ACIS) of the cervix is 35 (Quint, de Koning, Geraets, Quint, & Pirog, 2009). Fifty percent of ACIS is associated with HSIL (Quint et al., 2009). All cases of ACIS are located with high risk HPV, most commonly type 16 and 18 (Pirog, Kleter, & Olgac, 2000). Unlike squamous precancerous (HSIL) changes, adenocarcinoma is not associated with smoking (Pirog et al., 2000). A recent study by Renshaw et al. (2004) indicates that the detection of ACIS from Pap smears was not easily recognized or categorized among cytotechnologists or pathologists when data from CAP Laboratory Improvement Program results were evaluated.

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Current evidence suggests that ACIS is difficult to diagnose due to several factors that create challenges in diagnosis. These challenges are described in the ASCCP Guidelines, which discuss the appropriate management for the histologic diagnosis of ACIS (Wright et al., 2007):

- Colposcopic changes are minimal.
- ACIS frequently extends into the endocervical canal, making complete excision difficult.
- ACIS is commonly multifocal with skip lesions present. Therefore, negative margins on diagnostic excision specimens do not necessarily mean that the lesion has been completely excised.
- The failure rates after an excisional procedure are about 0 - 9% with negative margins.

Upon diagnosis of ACIS, a further evaluation utilizing the excisional procedure is crucial to completely assess the status of the patient. Diagnostic cervical cone (laser or cold-knife cone) is the preferred method of diagnosis. It is necessary to rule out invasive adenocarcinoma (Wright

et al., 2007) prior to further management decisions. Hysterectomy is the preferred treatment after the diagnostic excisional procedure (CIII). If a conservative treatment is chosen, a diagnostic excisional procedure is performed instead of a hysterectomy. If the margins of this diagnostic excisional procedure are positive, reexcision increases the possibility of complete excision (CIII). A long-term follow up for both groups are necessary at six months including cytology, HPV testing, colposcopy, and endocervical sampling (Wright et al., 2007).CIII.

In conclusion, the diagnosis of ACIS is clinically challenging from a clinician's perspective as well as from a pathologic perspective. Due to the rarity of the diagnosis, it is also imperative to continue to suspect Adenocarcinoma In-Situ when an ASCUS Pap smear or a ASC-H are discovered on cytology. As a colposcopist, it is also vital to remember that the number of cervical biopsies that are taken from the cervix can impact the sensitivity of a colposcopy and that sensitivity also increases with ECC and two or three ectocervical biopsies (Gage et al., 2006). With these details in mind, clinicians should promote the timely diagnosis of this rare disorder.

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**Appendix A**

ICD-9/CPT Codes

ICD-Codes

- 078.11 Condyloma accuminata
- 078.19 Genital warts
- 616.5 Vulvar ulcer
- 616.8 Cervical ulcer
- 622.1 Abnormal Papanicolaou test
- 622.7 Cervical polyp
- 624.8 Vulvar mole no specific diagnosis
- 654.60 Abnormality of cervix in pregnancy
- V01.7 Sexual partner with genital warts

CPT Codes for colposcopy

- 56820 Colposcopy of vulva
- 56820 with biopsy(s)
- 57420 Colposcopy of vagina and cervix
- 57454 with biopsy(s) of cervix and ECC
- 57511 Cryosurgery
- 58100 Endometrial biopsy

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