Cervical Dysplasia and CIN: What's the Difference?

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In fiscal year 2005, new ICD-9-CM codes were created for reporting cervical dysplasias and abnormal Pap smears. From a clinical perspective, the new codes and instructional notes align ICD-9-CM with current terminology used in diagnosing and reporting cellular abnormalities of the cervix. From a coding perspective, the terms in exclusion and inclusion notes may be confusing. What are CIN, HGSIL, and LGSIL? This article will answer that question and clarify the appropriate classification of cervical dysplasias.

Explanation of Clinical Terms

Cervical dysplasia is an abnormal cell growth (dysplasia) in the cervix. It is diagnosed by analyzing a small sample of cervical tissue from a Pap smear. When some areas of cervical cells are immature compared with others, cell growth is considered abnormal. Abnormal cells also divide faster, and their nuclei show specific microscopic changes.

Cervical dysplasia is an important health problem because it sometimes, though not always, progresses to cervical cancer. The severity, or grade, of dysplasia is one indicator of the likelihood of it progressing to cancer. Each dysplasia grade is approached differently for diagnosis confirmation and treatment. For this reason clear communication of the severity of the dysplasia between the pathologist and the patient's physician is important.

Three different nomenclatures are used for reporting cellular abnormalities on Pap smears:

- Dysplasia nomenclature
- Cervical intraepithelial neoplasia (CIN) nomenclature
- The Bethesda 2001 System

Through the use of one of these nomenclatures, abnormalities are classified to communicate the extent of abnormal cell growth. When a Pap smear is examined under a microscope and abnormal cervical cells involve the lower third of the epithelium, the dysplasia nomenclature describes the condition as "mild" cervical dysplasia. If abnormal cervical cells involve two-thirds or the entire thickness of the epithelium, the dysplasia nomenclature of "moderate" or "severe" cervical dysplasia is reported.

Cervical dysplasia may also be identified as cervical intraepithelial neoplasia (CIN). The term "plasia" means growth. "Neoplasia" means new growth. The surface layer of cervical cells is called the "epithelium." Logically then a new growth within the cervical epithelium is called "cervical intraepithelial neoplasia," abbreviated CIN. In the CIN nomenclature, cervical abnormalities are graded as CIN I, II, or III.

The Bethesda 2001 System for reporting cervical cytology uses the terms low-grade squamous intraepithelial lesion (LGSIL or LSIL), high-grade squamous intraepithelial lesion (HGSIL or HSIL), atypical squamous cells of undetermined significance (ASC-US), and atypical squamous cells cannot exclude an HGSIL (ASC-H).

ASC-US and ASC-H are used in the Bethesda system to describe abnormalities that are suggestive of a squamous intraepithelial lesion, but the cells are either qualitatively or quantitatively insufficient for definitive diagnosis. In other words, there is some abnormality but the pathologist cannot definitively determine a diagnosis. Approximately 10–20 percent of ASC-US cases are identified as CIN II or III on biopsy.1 ASC-H is reported less frequently than ASC-US, but it has a higher predictive value for CIN II or III.

The terms from all three of these nomenclatures are reflected in the updated ICD-9-CM diagnosis codes (see "ICD-9-CM Codes for Cervical Dysplasia Nomenclatures," page 71). All of these different terms are important because physicians

manage a patient's care differently depending on the diagnosis reported by the pathologist. For example, further diagnostic tests may be done for ASC-US whereas colposcopy is the preferred management for ASC-H.

ICD-9-CM Codes for Cervical Dysplasia Nomenclatures					
ICD-9-CM classification	**Abnormal Findings, Category 795**	**GU system chapter, Category 622**		**Neoplasm chapter, Category 233**	
Dysplasia nomenclature	Squamous atypia, reactive NOS	Mild dysplasia	Moderate dysplasia	Severe dysplasia	Ca in situ
CIN nomenclature	Squamous atypia, reactive NOS	CIN I	CIN II	CIN III	
Bethesda 2001 System	ASC-US ASC-H	LGSIL	HGSIL		

This table compares the three nomenclatures used in diagnosing and reporting cellular abnormalities of the cervix. Mild dysplasia is synonymous with CIN I. Moderate dysplasia is synonymous with CIN II. Severe dysplasia and carcinoma in situ equate to CIN III. All of these terms describe the spectrum of cellular changes on the continuum leading to squamous cell cancer. Colors correspond with the ICD-9-CM classification.

Pathophysiology and Treatment

Cervical dysplasia may develop into invasive cervical cancer over a number of years. Mild dysplasia (CIN I) is the earliest abnormality to occur in the spectrum leading to squamous carcinoma. Most often it is associated with a type of human papilloma virus (HPV) that is considered low risk. Mild dysplasia and CIN I have similar biologic behavior and clinical management, therefore they are combined into LGSIL in the Bethesda system. It is thought that these lesions will most likely regress over one to two years and represent a self-limited HPV infection. Mild dysplasia (CIN I, LGSIL) is typically managed with more frequent Pap smears to monitor the progress or regression of cellular changes.

Moderate dysplasia (CIN II) is the next step in the progression of cervical squamous cells to invasive carcinoma. The nuclear abnormalities become progressively more abnormal with increasing hyperchromasia (darkening of the nucleus) and irregularities in size and shape. Although some moderate dysplasias (CIN II) regress on their own like the mild form, many do not. Whether or not it progresses depends on the type of HPV (low-risk versus high-risk HPV). High-risk HPV tends to be a persistent infection, which does not clear. Because many moderate dysplasias are associated with high-risk HPV and don't regress, the Bethesda system classifies them with HGSIL for treatment purposes. The preferred treatment for these patients is colposcopy and biopsy, followed by cone biopsy for excision if warranted.

CIN III, which includes severe dysplasia and carcinoma in situ, is the least likely type of dysplasia to regress spontaneously and, if untreated, may eventually penetrate the basement membrane, becoming invasive carcinoma. Severe dysplasia, CIN III, and carcinoma in situ are classified in the neoplasm chapter of ICD-9-CM.

ICD-9-CM Code Assignment

For fiscal year 2005 the terminology in the Bethesda 2001 System is incorporated into ICD-9-CM by expanding code 622.[1] at the fifth digit level and creating new codes to report nonspecific abnormal findings. HGSIL and LGSIL were includes notes for code 622.1 (Dysplasia of cervix, uteri). For 2005, more specific codes are established to report these separately as abnormal findings. Excludes notes are revised or added to clarify code assignment. The addition of an instructional note clarifies separate reporting of findings of human papilloma virus.

2004 vs. 2005 Dysplasia Codes		
Diagnosis	**2004 Code**	**2005 Code**
Mild dysplasia, CIN I on Pap smear	622.1	622.11
Moderate dysplasia, CIN II on Pap smear	622.1	622.12

Abnormal Pap smear with LGSIL	622.1	795.03
Abnormal Pap smear with HGSIL	622.1	795.04

Note

1. Solomon, Diane, and Ritu Nayer. *The Bethesda System for Reporting Cervical Cytology: Definitions, Criteria, and Explanatory Notes*, 2nd ed. New York: Springer, 2004, p. 85.

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