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Master Colposcopy



Colposcopic Appearances of Glandular Disease

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Introduction

Problems recognizing cervical glandular lesions (adenocarcinoma in situ – AIS and adenocarcinoma – AC) arise because of imperfect cytology (i.e., cytology not indicating a glandular lesion^{1,2}); colposcopic inexperience with glandular lesions; location of lesions (endocervical canal versus ectocervix); disease buried under metaplastic or dysplastic epithelium; and the many conditions that mimic glandular lesions. Colposcopy cannot differentiate between AIS and AC, such as can be done in squamous disease when there is satisfactory colposcopy and correlation between cytology, colposcopy and histology. Hence AIS identified on biopsy will require an excisional procedure to exclude AC. In over sixty percent of glandular cases a squamous lesion is also present (termed mixed disease).³

Most glandular lesions are found within the transformation zone (t-zone).⁴ Approximately half of the lesions involve just one cervical quadrant whereas only ten percent involve all four. There is no single colposcopic appearance that characterizes glandular lesions.^{3,5} The standard colposcopic criteria used for identification and grading of squamous lesions is not applicable to glandular lesions.^{3,6,7}

Colposcopic Features of Glandular Lesions

Glandular lesions should be suspected when:

1. One or more isolated lesion(s) overlie columnar epithelium not in contact with the squamous border – the most common presentation in which fused villi demonstrating the AIS/AC can be identified after acetic acid is applied as discreet patches, varying in size, similar to the fused villous processes of early metaplasia (Figure 1);
2. Flat, variegated red and white lesions resemble a matured t-zone (Figure 2) – the second most common appearance;
3. A single, isolated, densely acetowhite and elevated lesion is evident (Figure 3) – the least common appearance

In mixed disease, the glandular lesion can lie lateral to a squamous lesion (Figure 4), between two squamous lesions (Figure 5) or, more commonly, above the squamous component within the endocervical canal. The intensity of the acetowhiteness varies and appears to depend upon the degree of villous proliferation, the multiplication of the central villous core (the more of either, the whiter) and the histological pseudostratification of the abnormal cells with their enlarged hyperchromatic nuclei.^{3,5} Vascular patterns and their characteristics depend upon a sagittal or end-on view. They include waste thread-like, tendril-like, tuberos root-like, character writing-like and single or multiple dot-like formations (Figures 1,4, 6). Punctuation and mosaicism (wherein the vessel is entrapped within squamous dysplastic epithelium) and corkscrew-like vessels are not seen in glandular disease.^{3,5}

Other entities seen colposcopically with characteristic angioarchitecture are glandular lesions (noted for their absence of punctuation, mosaicism and corkscrew vessels) having waste thread-like, tuberos root-like, character writing-like and single and multiple dot-like vessel patterns; post-radiation with its uniform spatial distribution of corkscrew-like and waste-thread forms (Figure 7); decidual tissue with its uniform spatial distribution of waste thread-like vessels; post-conservative treatment (cryo, laser, electrosurgery) appearances sometimes showing uniform, fine, radial linear lines or dotted lines; and granulation tissue with its whorled or long, uniform tapering vessels (Figure 8). Differentiating colposcopic presentations from their mimics requires an understanding of blood vessel patterns. Studying them is an essential exercise.

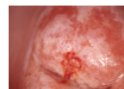


Figure 1.
An AIS lesion after acetic acid overlying columnar epithelium and resembling a developing t-zone. Multiple dots are seen. The dots are the vessels within the AIS villi that are viewed end-on.

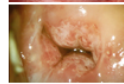


Figure 2. A variegated (patchy red and white) transformation zone-like lesion occupying the endocervical canal. Note the large crypt openings. Excision revealed AIS.

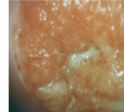


Figure 3. A well-defined, densely acetowhite lesion located between 7 o'clock and 8 o'clock. It lies over columnar epithelium and it is not in contact with the squamous border. Excision revealed AIS.

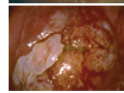


Figure 4. A well defined, densely acetowhite and well demarcated CIN 3 lesion is easily seen extending from 6 o'clock to 10 o'clock. A variegated red and white lesion from 12 o'clock to 6 o'clock contains tuberos root-like vessels. Excision revealed CIN 3 and AIS.

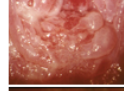


Figure 5. A glandular lesion with individual and fused, acetowhite villous structures at 6 o'clock lies between two CIN 3 squamous lesions. Excision confirmed CIN 3 and AIS of the glandular-appearing component.

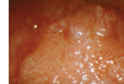


Figure 6. The angioarchitecture of an AIS lesion (proven on excision) demonstrating character writing-like, waste thread-like and tendril-like vessels.

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He subspecialized in surgical gynecologic oncology. He has published extensively in the peer-reviewed literature and has contributed chapters to a variety of textbooks and developed numerous CDs on colposcopy and lower genital tract disease. He has taught at hundreds of postgraduate courses. He has lectured in over 30 different countries (some of them many times).

Dr. Wright has received national and international scientific awards, most notably the American Society for Colposcopy and Cervical Pathology's Distinguished Scientific Achievement Award and his university's Dean's Award of Excellence for Innovation in connection with his introduction of carbon dioxide laser surgery to gynecology in Canada. He was honored with ACOG's Commemorative Medal for Excellence in Teaching. Dr. Wright's department recently established the V. Cecil Wright Lecture to be given at its annual oncology day

Recently, Dr. Wright served as the colposcopy trainer for GlaxoSmithKline Biologicals – Belgium in their standardization program for the phase III trials of their HPV vaccine. He has been an educational consultant and provider of educational materials to Merck Frosst Canada regarding the development of their HPV vaccine. Dr. Wright continues writing, teaching, and serving as an invited speaker.

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Figure 5 is from Wright VC. Principles of Cervical Colposcopy - Text and Atlas. Houston: Biomedical Communications 2004, reprinted with permission of the publisher.

Read the second Master Colposcopy Article-Interpreting Blood Vessel Patterns in Colposcopy

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