



*Başkent*

ÜNİVERSİTESİ

UNIVERSITY



# Colposcopy of Invasive Squamous Cell Carcinoma of the Uterine Cervix

Haberal Ali, MD

# Features suggestive of cancer

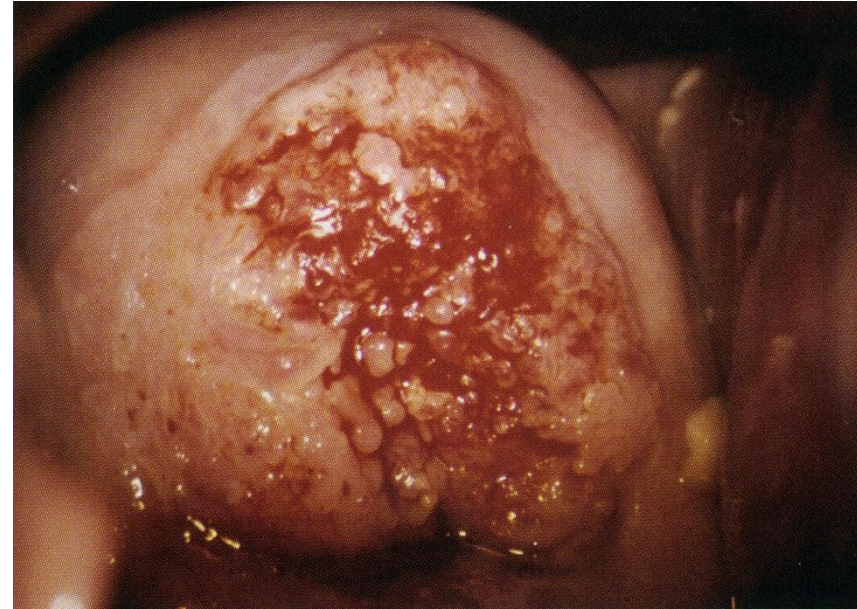
- Raised surface contour
- Atypical vessels
- Dense acetowhite epithelium
- Friability
- Ulceration
- Yellow color

# Surface contour

- Irregular surfaces
- Erosions
- Granular appearances
- Necrosis



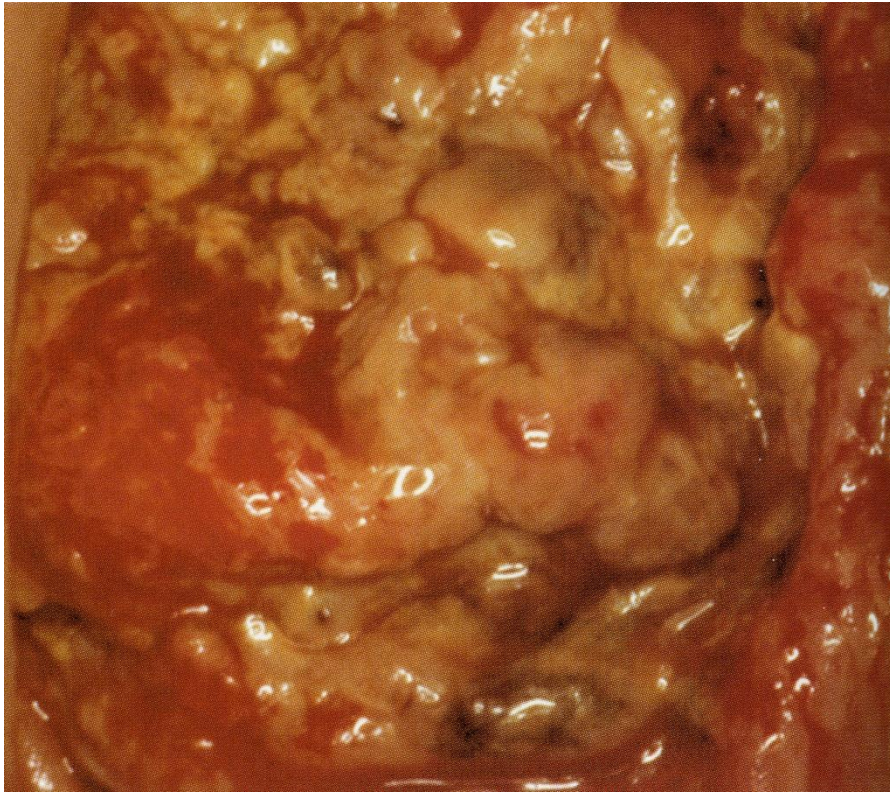
*Irregular punctation is seen and in some area, elongated irregular vessels are forming*



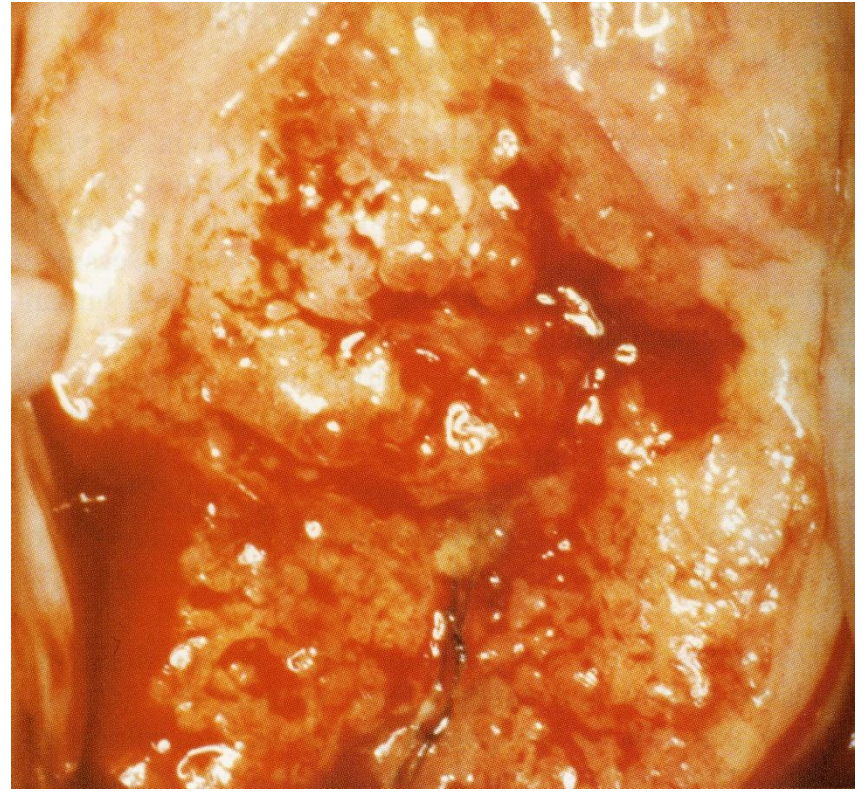
*A large squamous cell cancer of the anterior cervical lip with an irregular ulcerative surface*



# Surface contour



*Example of necrosis and yellow appearance of the cervical epithelium*



*Large cancer with ulceration of the anterior lip of the cervix; overall yellow, necrotic appearance, and friability*



# Color

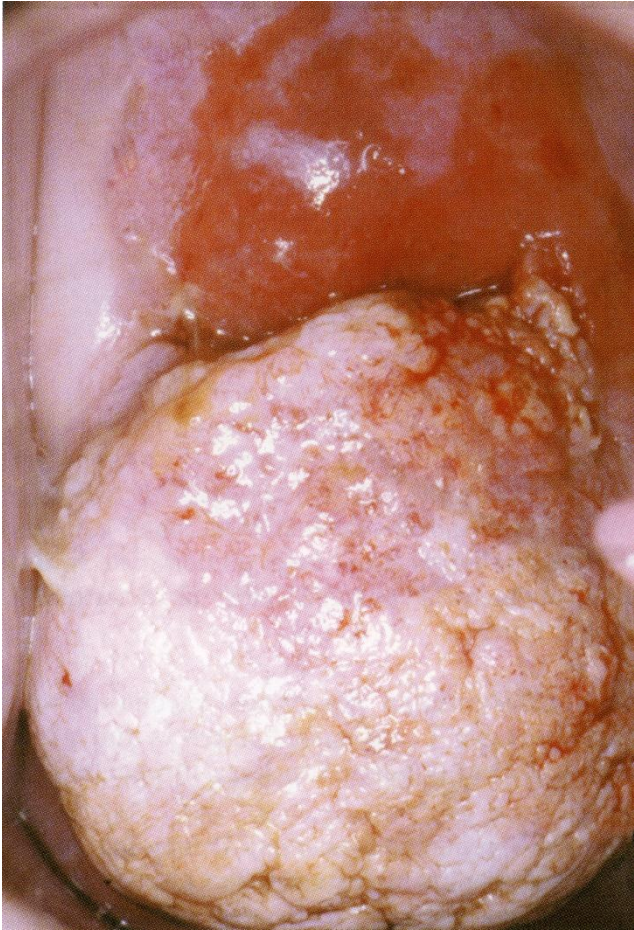
Dense acetowhiteness; indicates presence of high grade lesion or keratin

The degree of whiteness in neoplasia is a reflection of the amount of nuclear activity

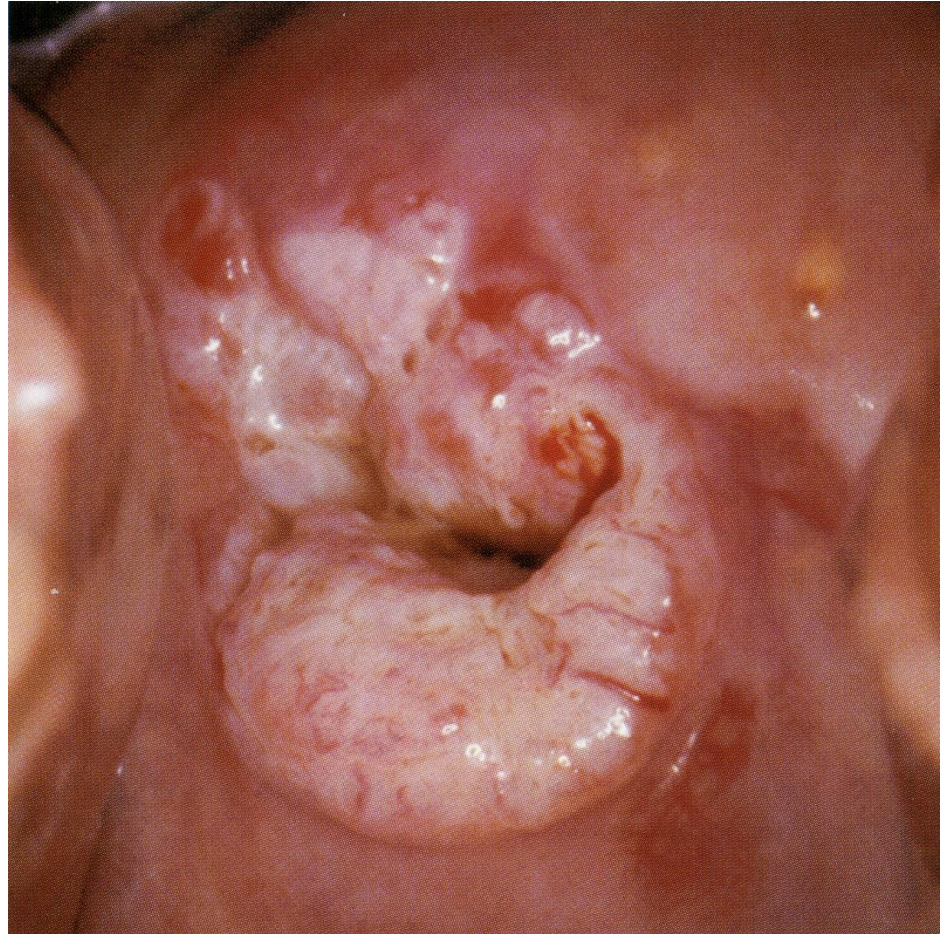
Squamous cancers can be yellowish, a characteristic associated with necrosis

A red color reflects marked vascularity

# Color



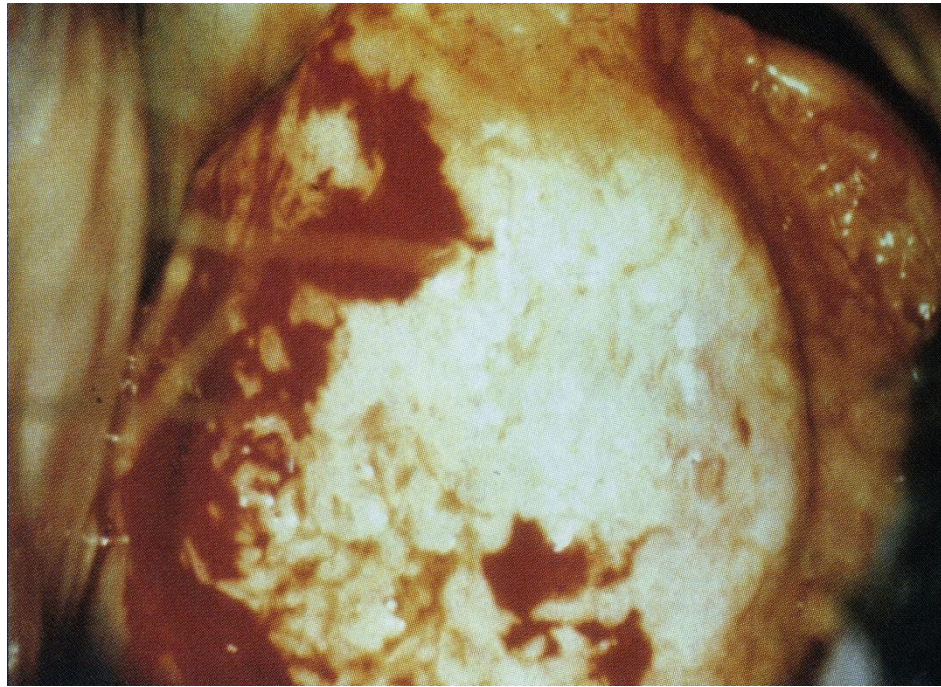
*Large, fungating mass on the posterior lip of the cervix with dense acetowhite epithelium and atypical vessels*



*Nonbranching atypical vessels on the surface of a raised, acetowhite mass on the posterior lip of the cervix*



# Color



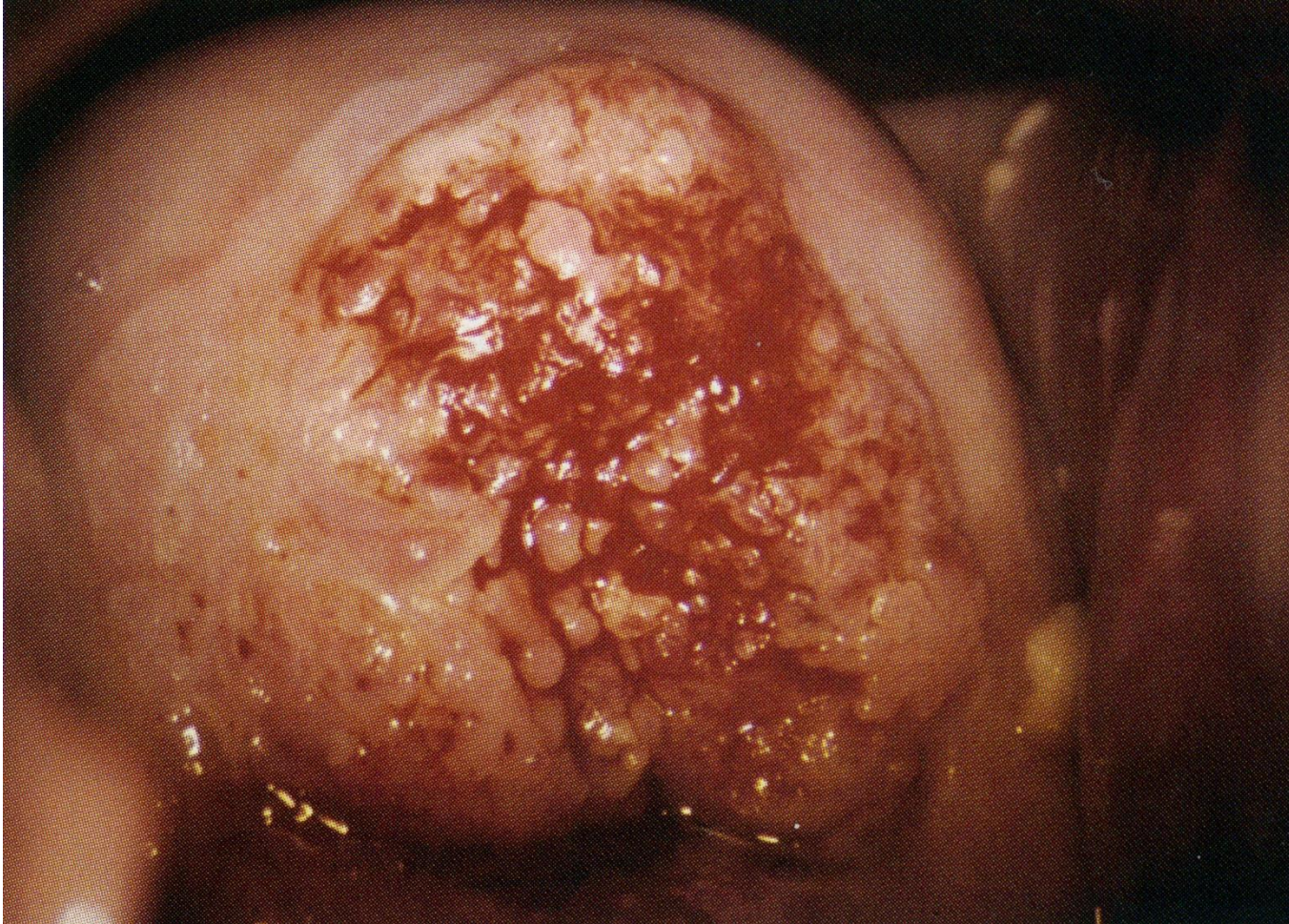
*It is dense white due to keratin and increased nuclear activity*



*A large squamous cell cancer with necrosis, demonstrating a yellow hue*



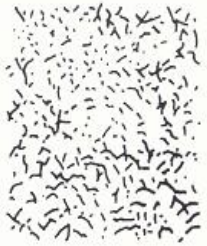
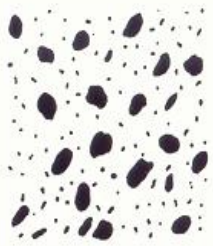
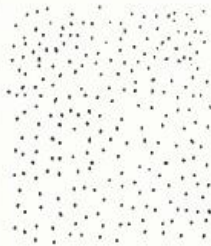
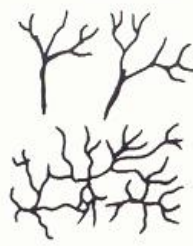
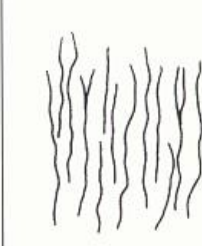
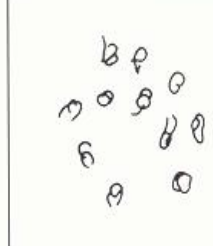
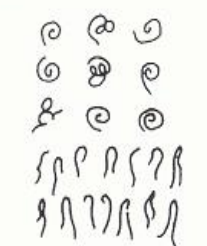



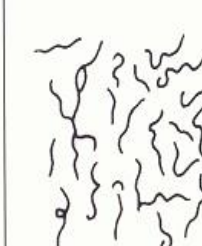
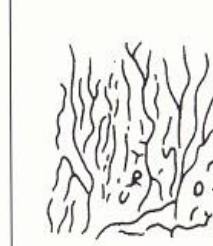

# Color



*This very large squamous cell cancer appears red due to the abundance of long irregular angioarchitecture*



# Atypical vessels

Non-malignant						
Network-like (NV-1)	Red dotted (NV-2)	Red spotted (NV-3)	Branch-like (NV-4)	Linear (NV-5)	Loop-like (NV-6)	
						
Malignant						
Glomeruloid hairpin-like (AV-1)	Corkscrew-like (AV-2)	Mosaic (AV-3)	Tendrillike (AV-4)	Waste-thread-like (AV-5)	Willow-branch-like (AV-6)	Root-like (AV-7)
						

# Atypical vessels

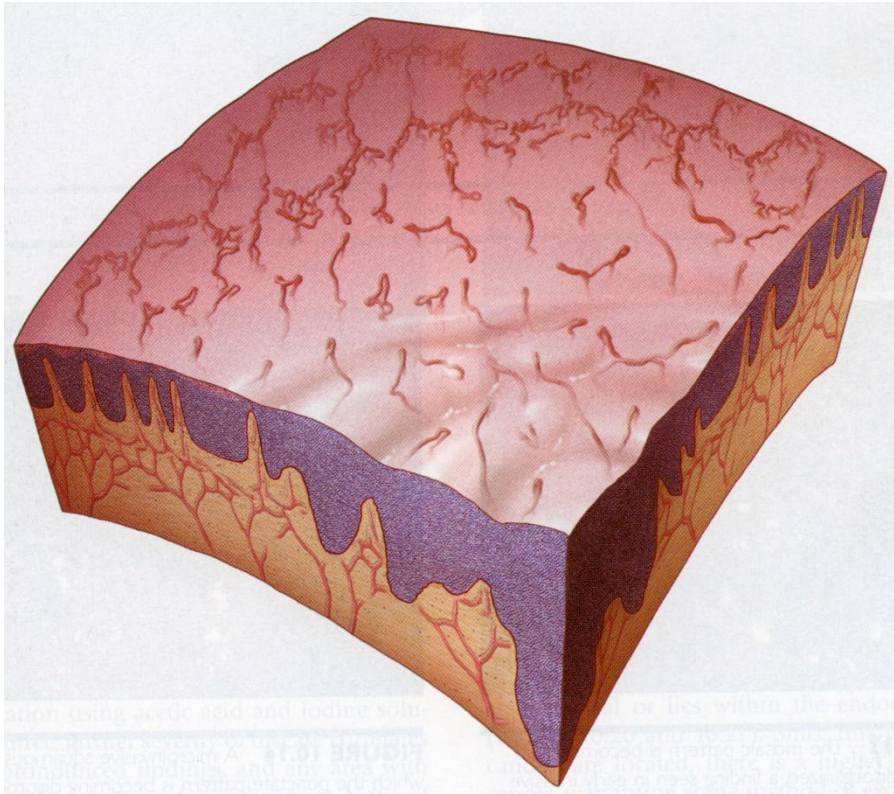
- Abnormality of angioarchitecture is an expression of stage of disease
- Mosaicism and punctation,
  - Regular
  - Irregular
  - Fine
  - Coarse



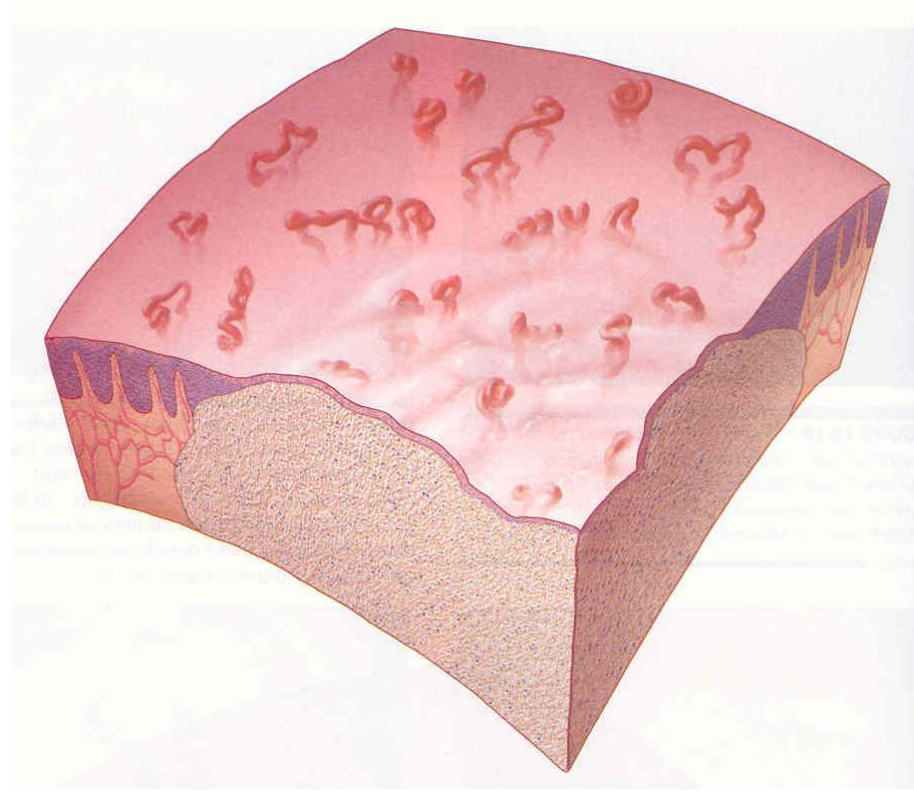
# Atypical vessels

- These formations are commonly referred
  - Corkscrew
  - Spaghetti
  - Irregular coarse
  - Irregular parallel
  - Comma
  - Tendril

# Atypical vessels



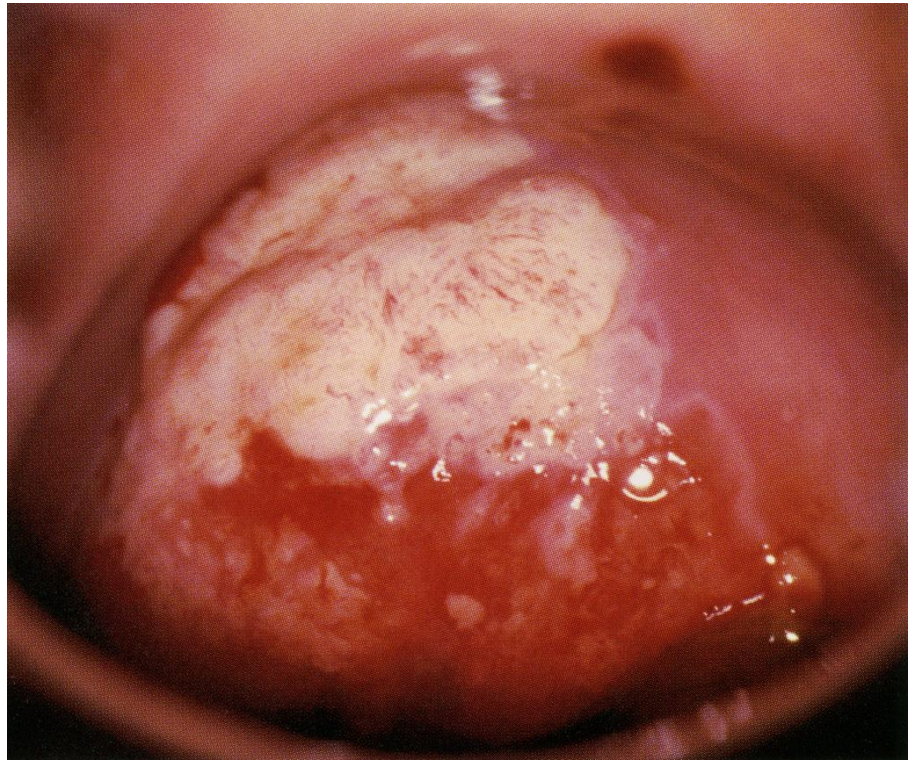
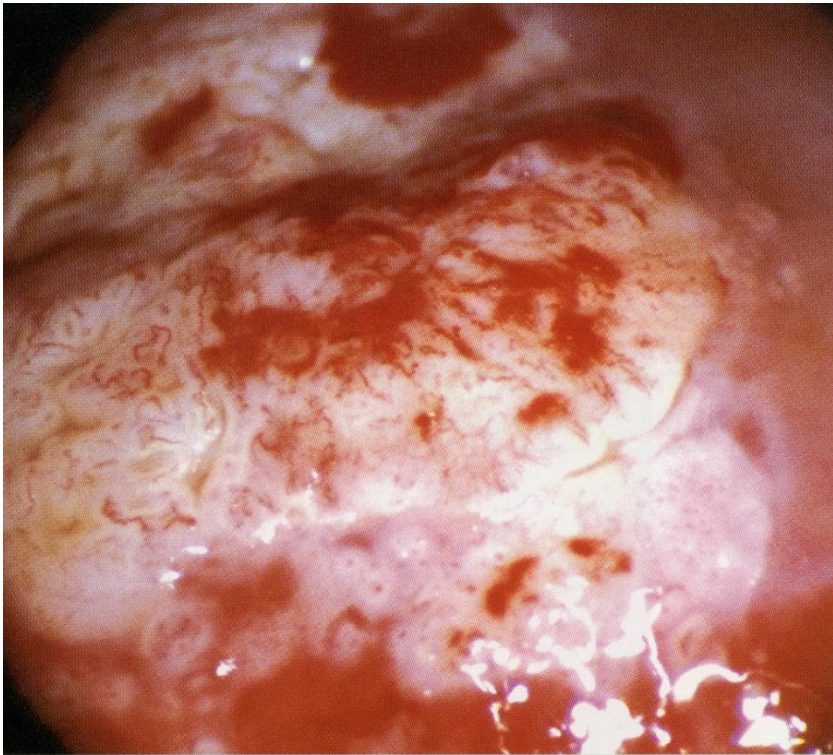
*Schematics of the mosaic pattern breaking up, as seen in the beginning stages of squamous cell invasion*



*Schematics of irregular blood vessels of an invasive squamous cell carcinoma demonstrating corkscrew-like*



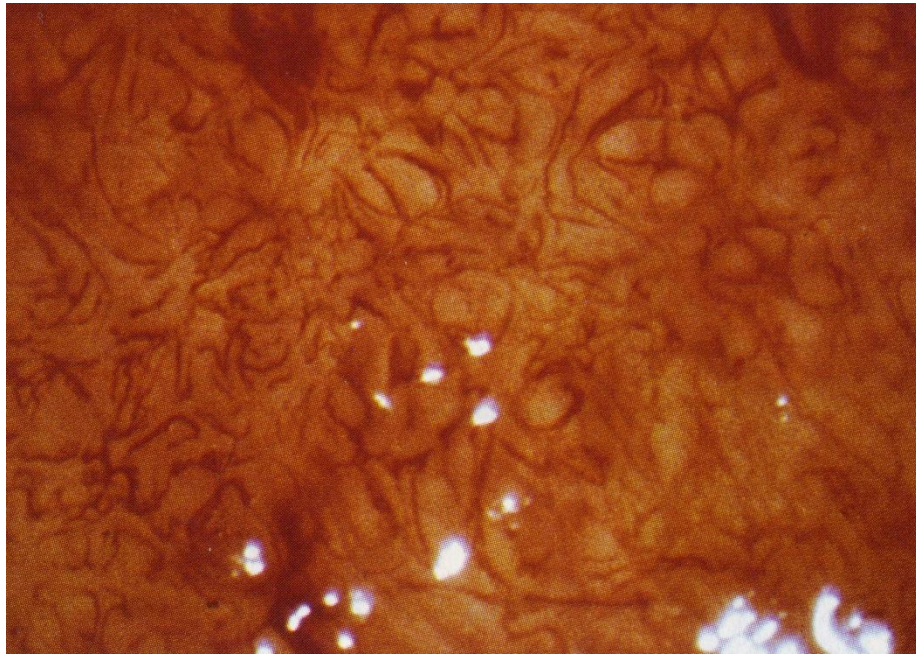
# Atypical vessels



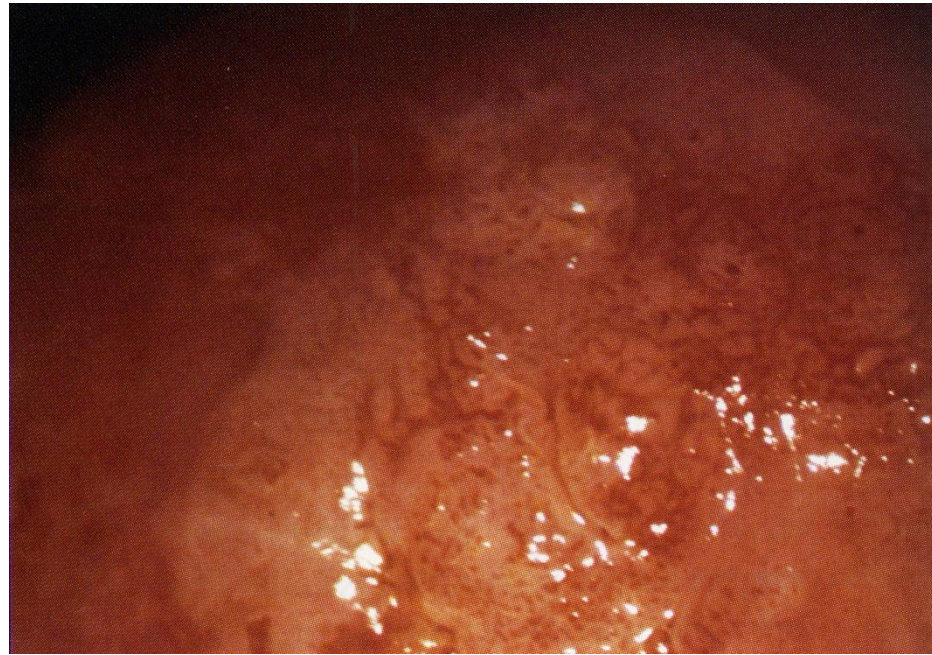
*On the anterior of the cervix, there is a dense, raised, acetowhite lesion with atypical vessels, including comma shapes and curlicues*



# Atypical vessels



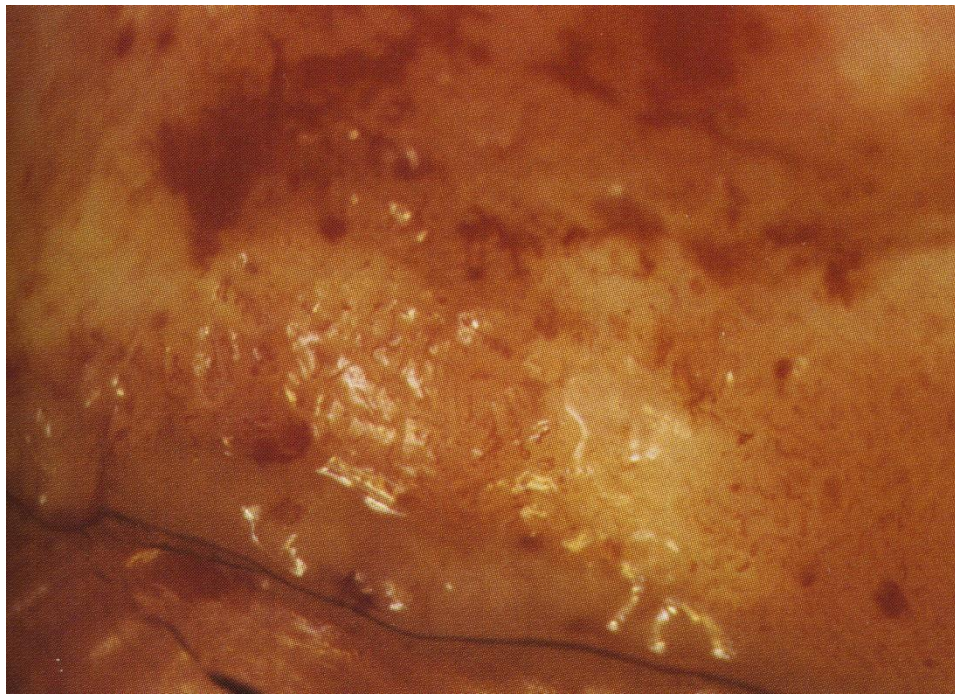
*The mosaic pattern is becoming degraded and disorganized, a finding seen in early invasive squamous cell cancer*



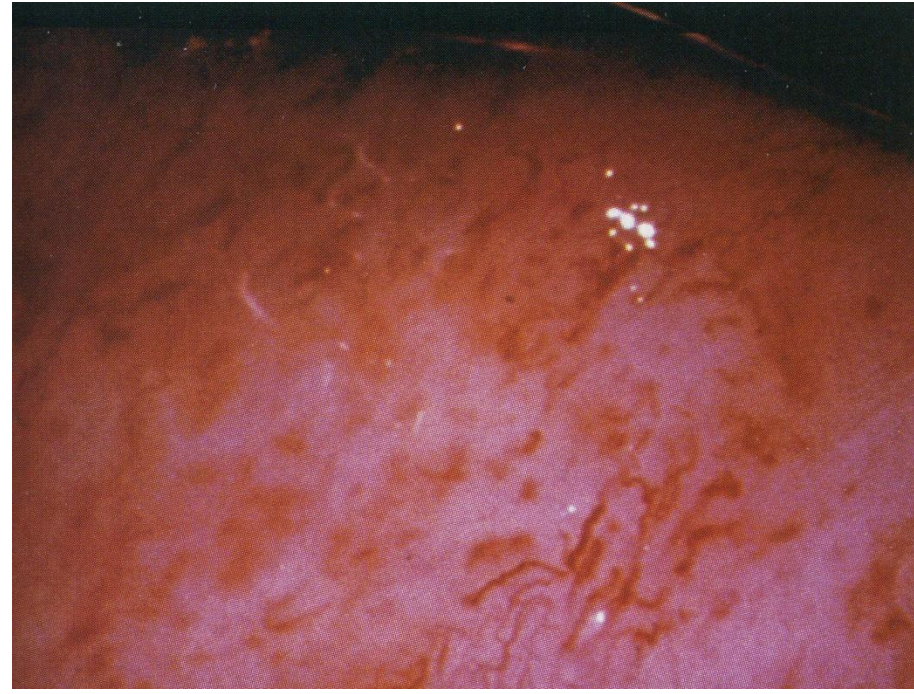
*A microinvasive squamous cell cancer in which the punctate pattern is becoming disorderly and irregular elongated vessels are seen*



# Atypical vessels



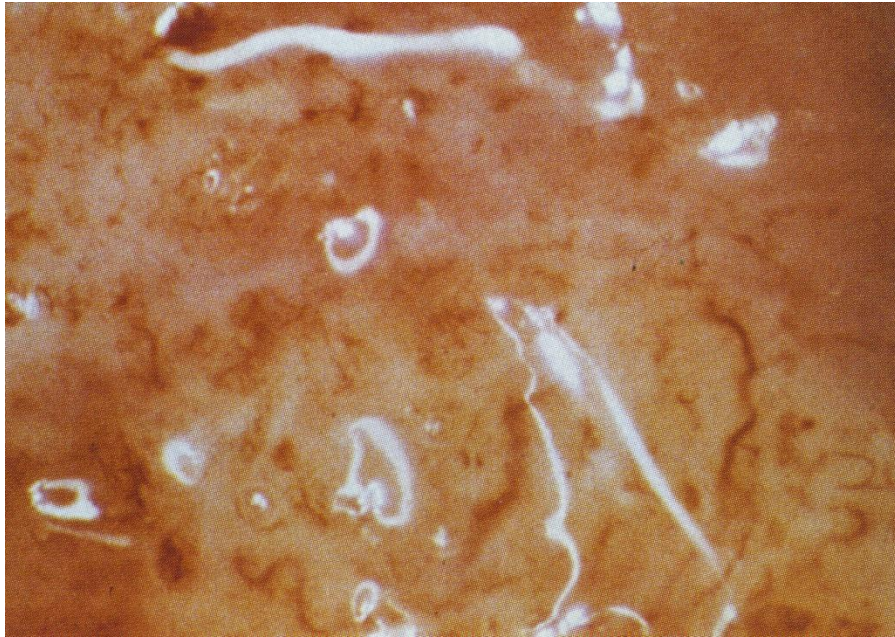
*Irregular blood vessel formations over the surface of an invasive squamous cell cancer*



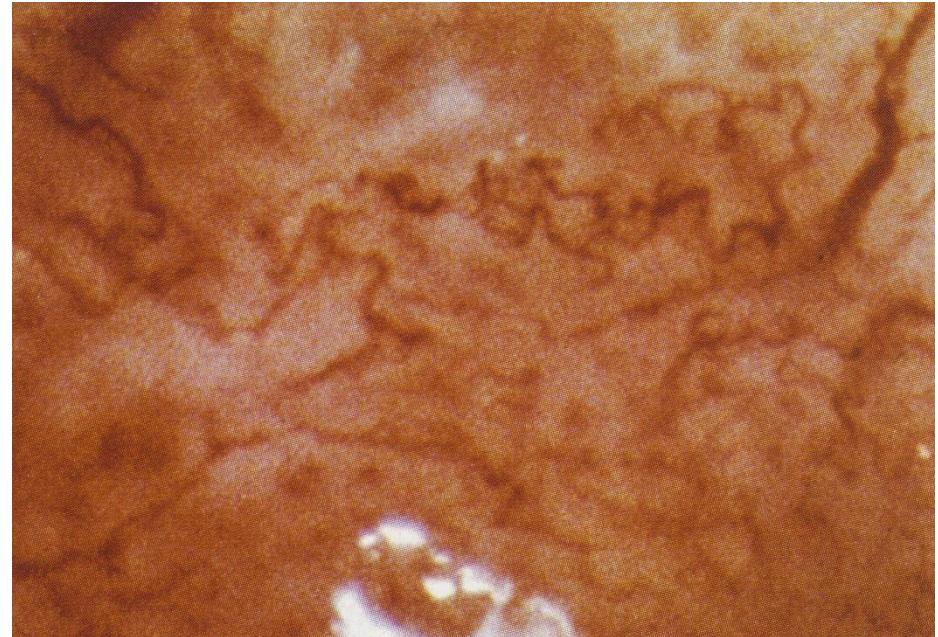
*Irregular dilated (corkscrew) blood vessels of a squamous cell cancer*



# Atypical vessels



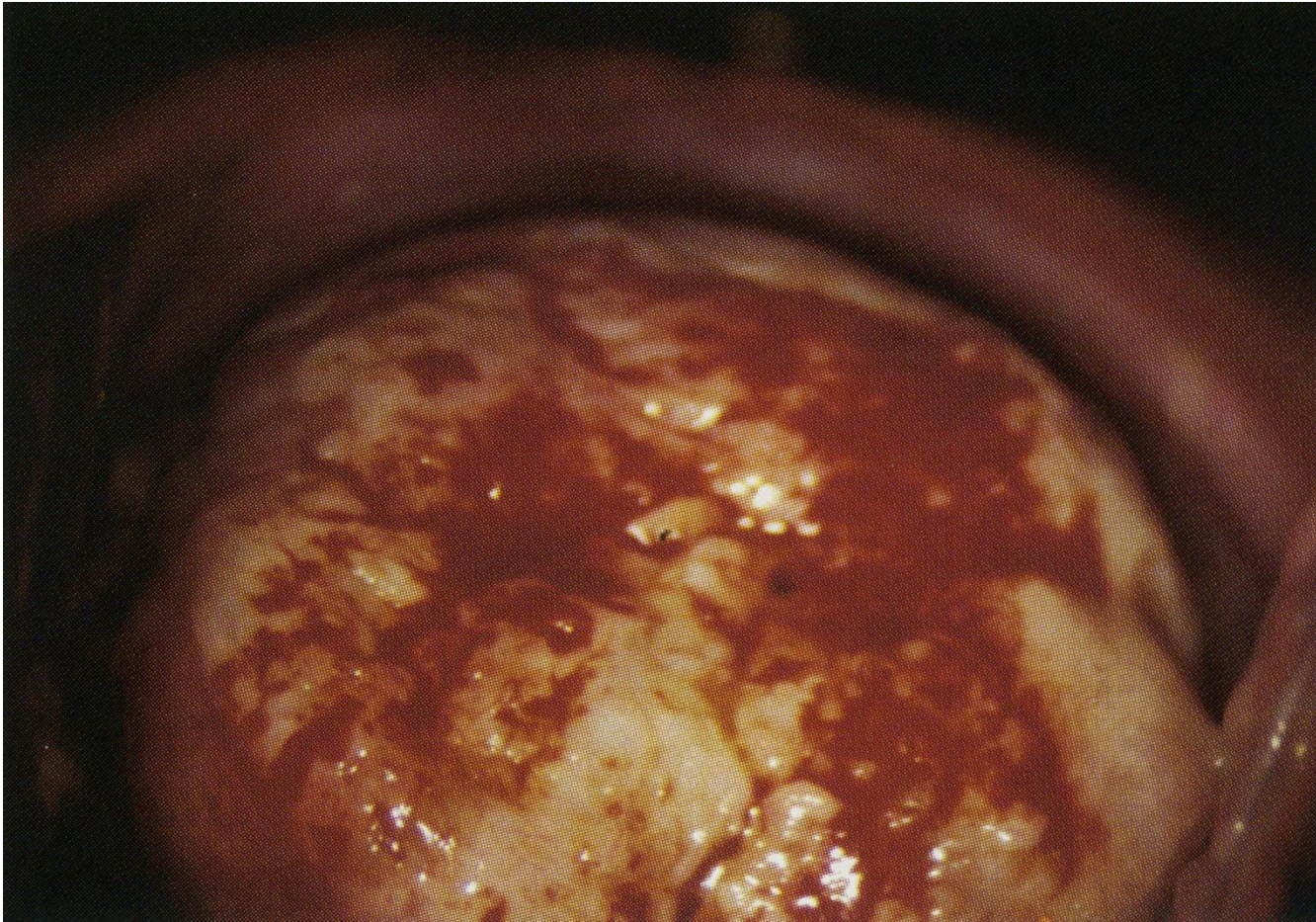
*Numerous different blood vessel formations seen in squamous cell cancer*



*A high-power colposcopic view of irregular angioarchitecture seen in squamous cancer*

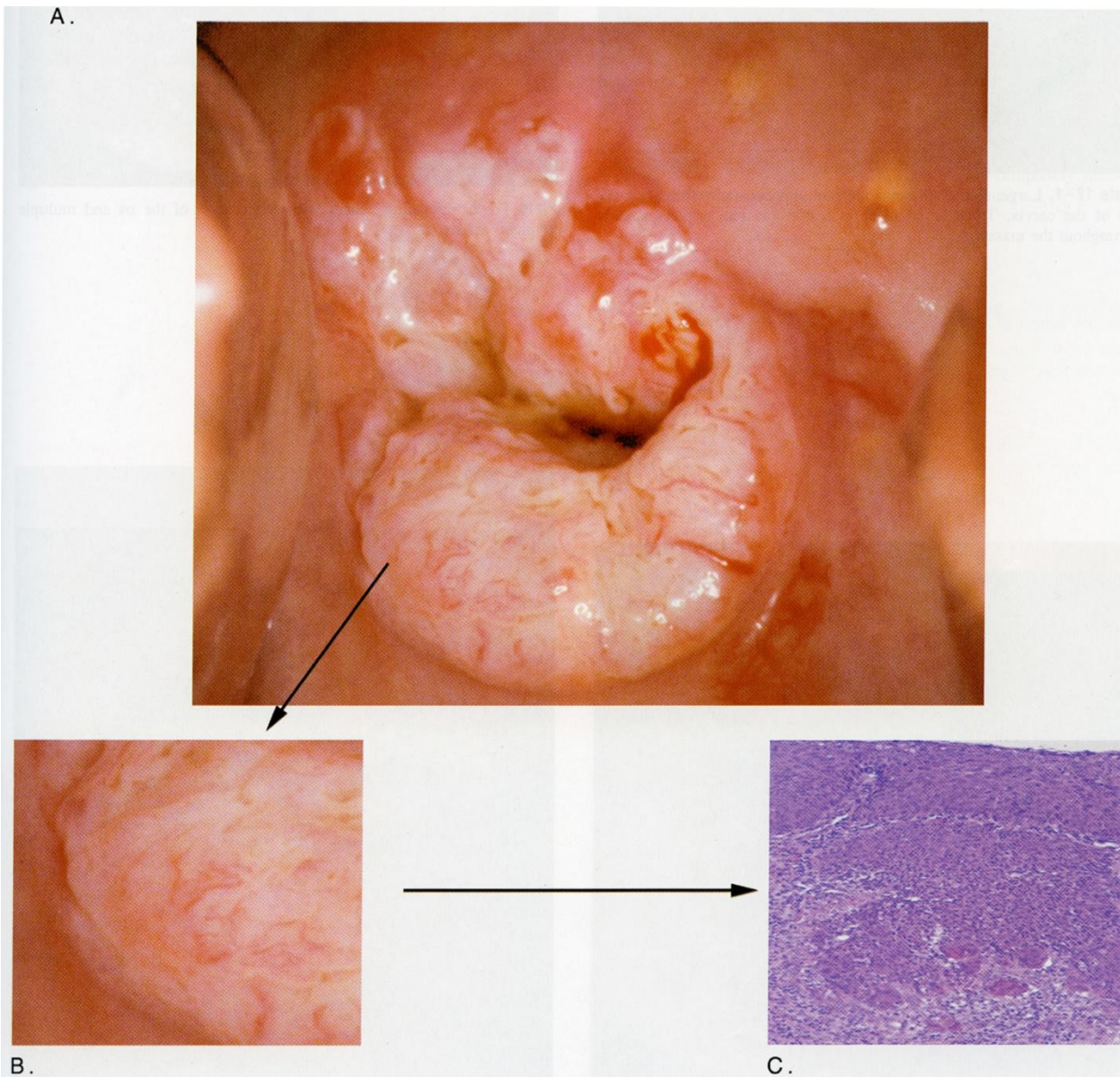


# Atypical vessels



*Advanced tumor growth and proliferation of blood vessels with bleeding associated with trauma*



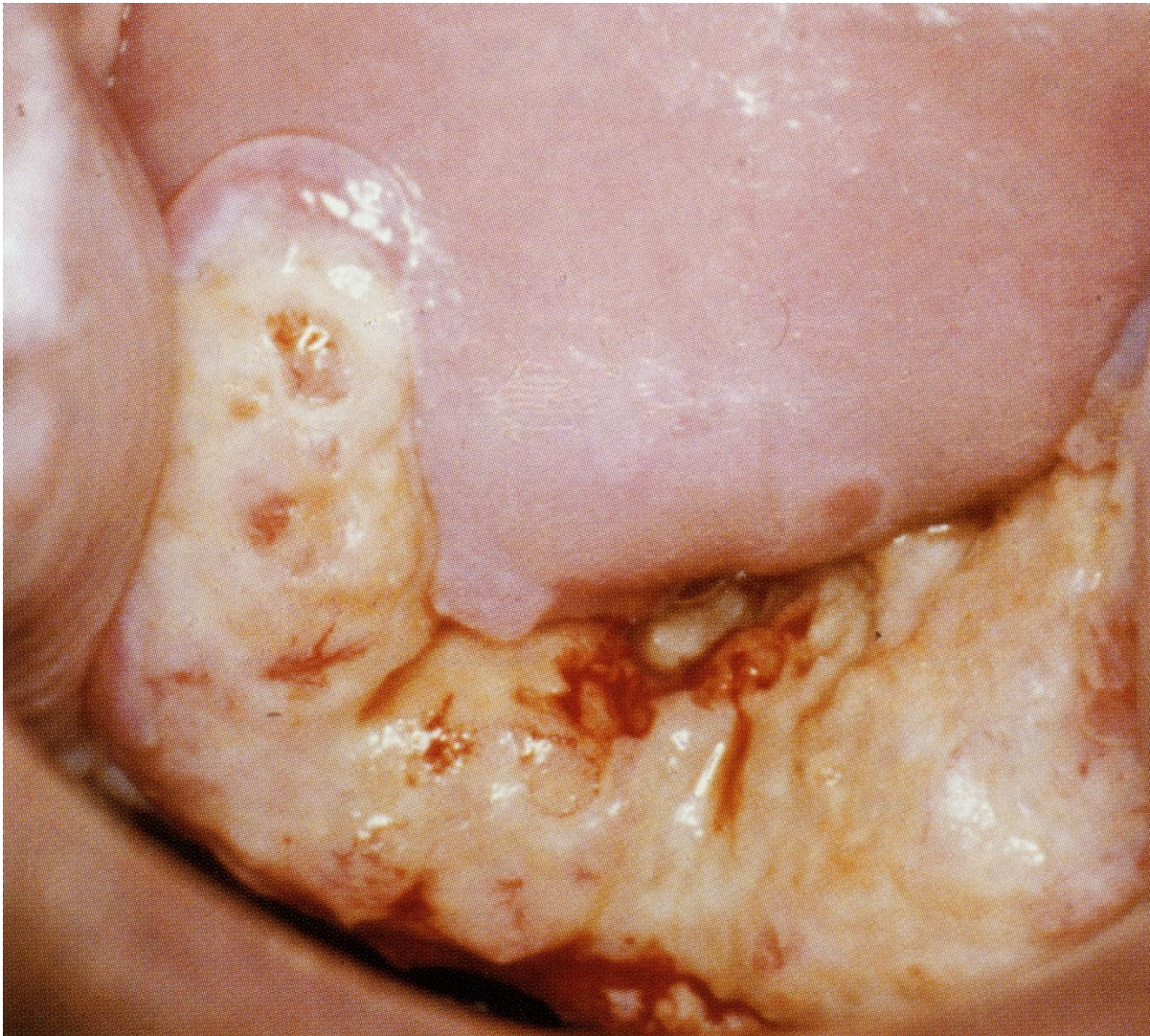


*A. Superficial necrosis*

*B. Dense acetowhite epithelium with atypical blood vessels*

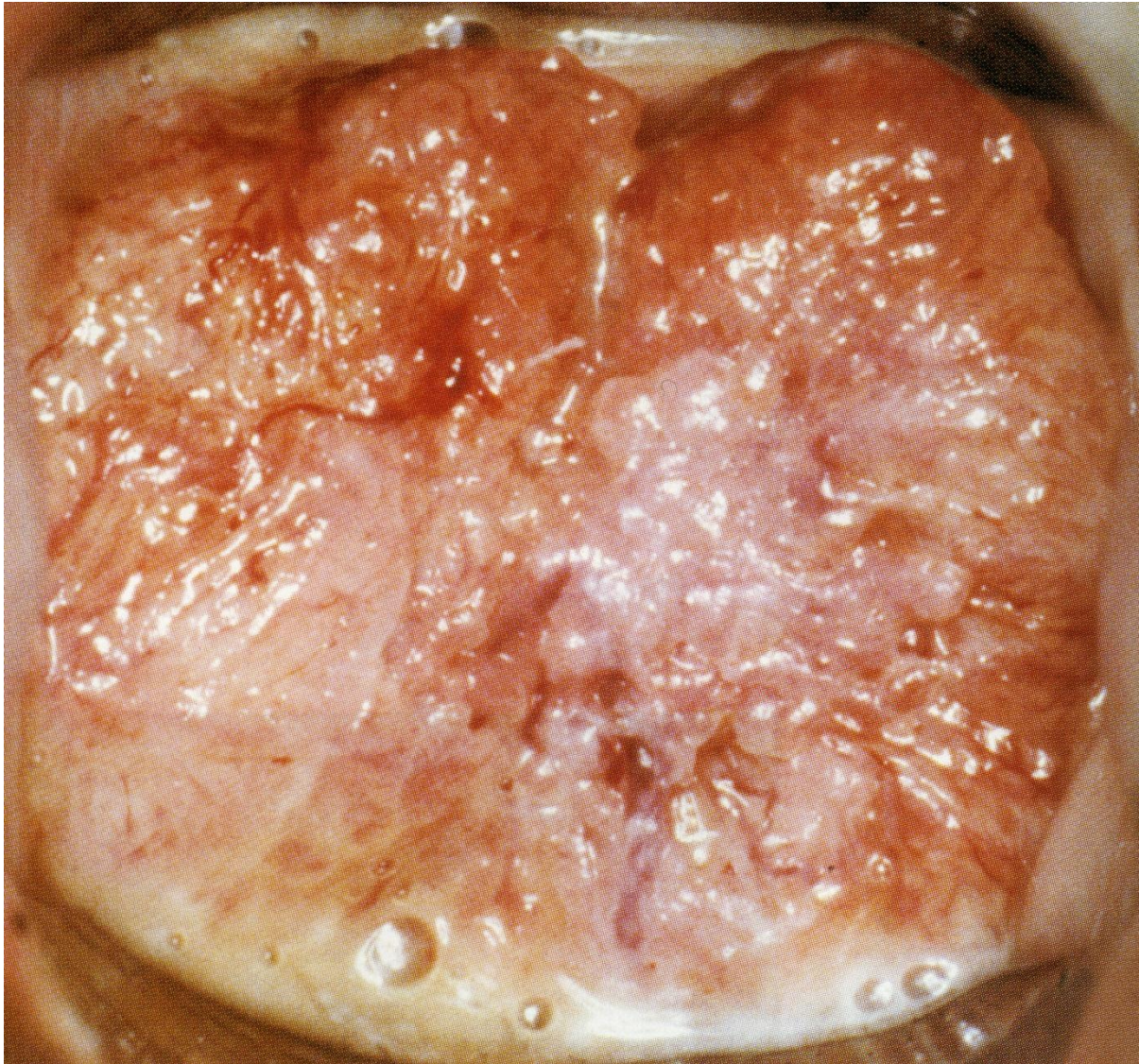
*C. Histology reveals squamous cell cancer. The basement membrane of the epithelium is breeched, and abnormal cells extend into the stroma*





*Large, raised cancer, yellow in appearance, on the posterior lip of the cervix. There is an ulcer at 6 o'clock and atypical vessels throughout the mass*





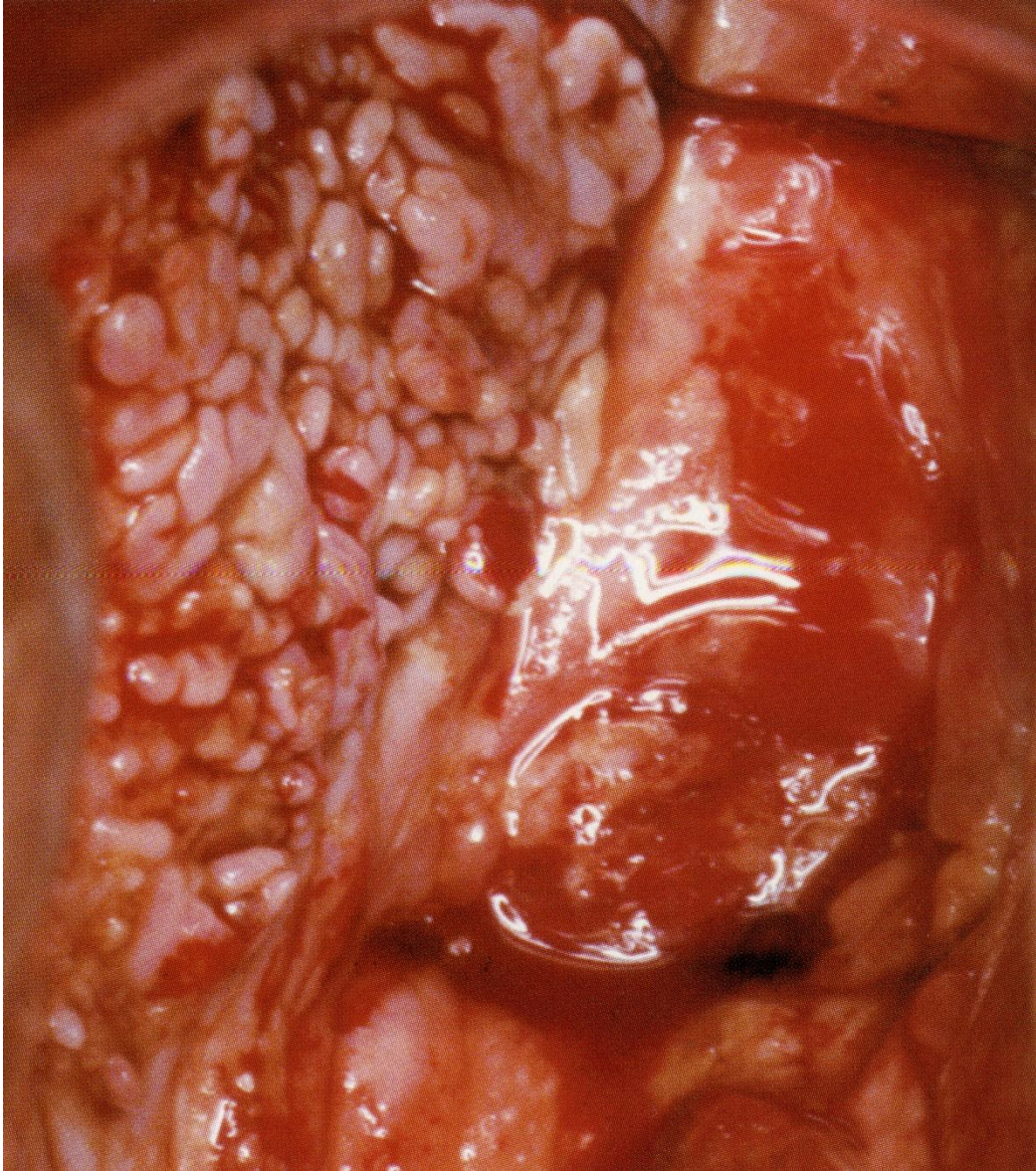
*Fungating cancer with obliteration of the os and multiple atypical vessels*





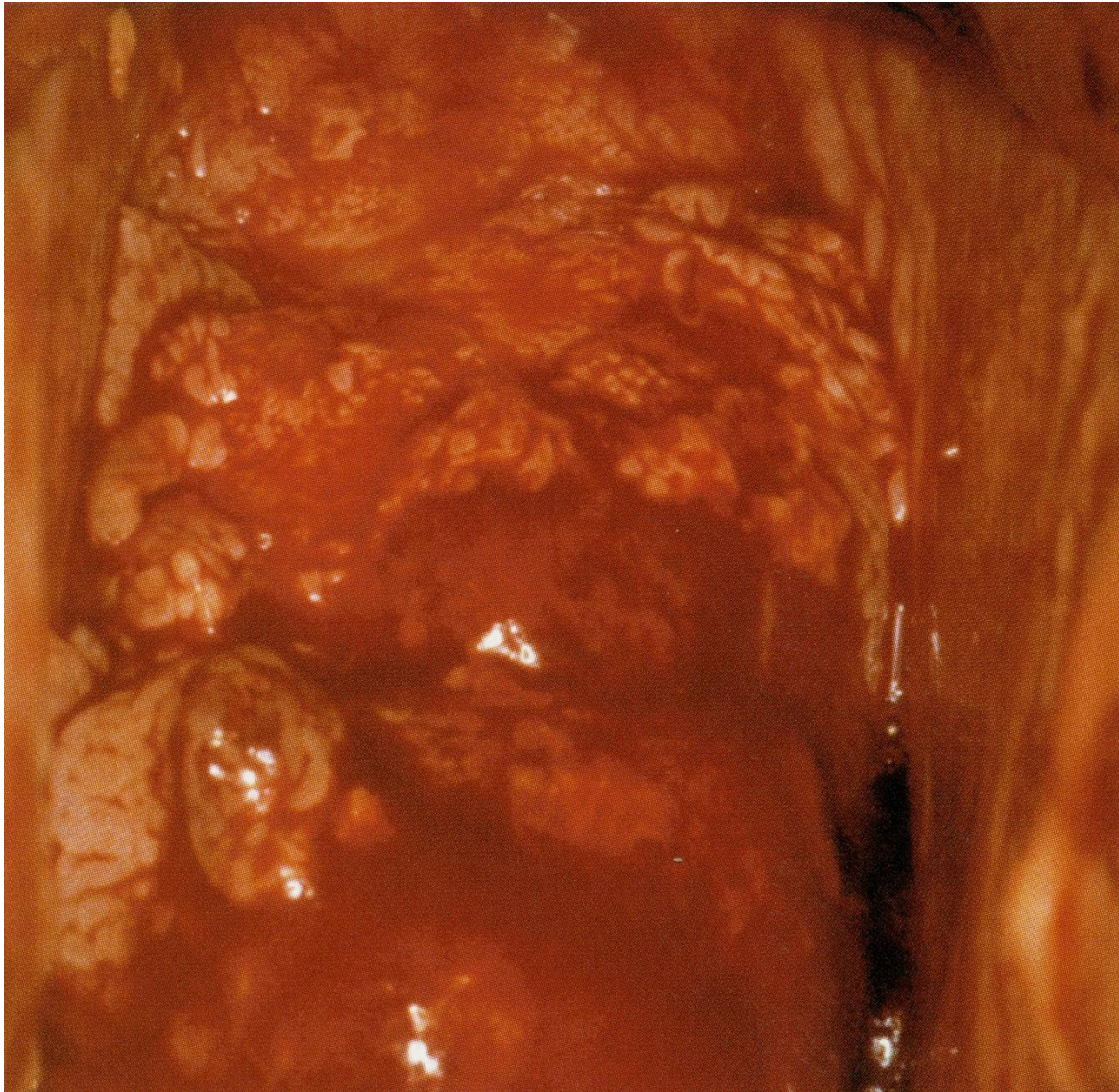
*Mass on the anterior lip of cervix with atypical vessels and yellow appearance*





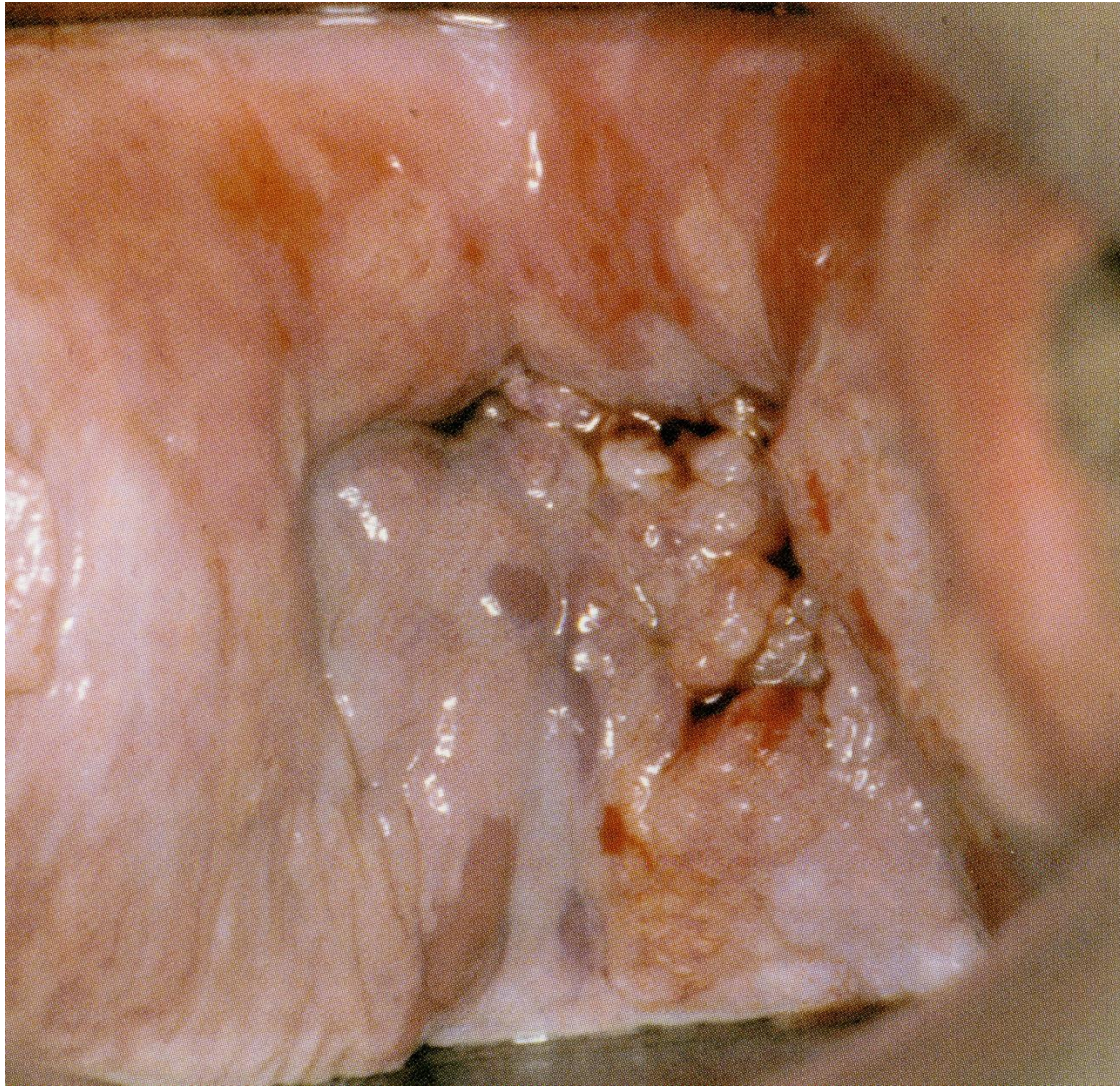
*Papillary tumor of the cervix*





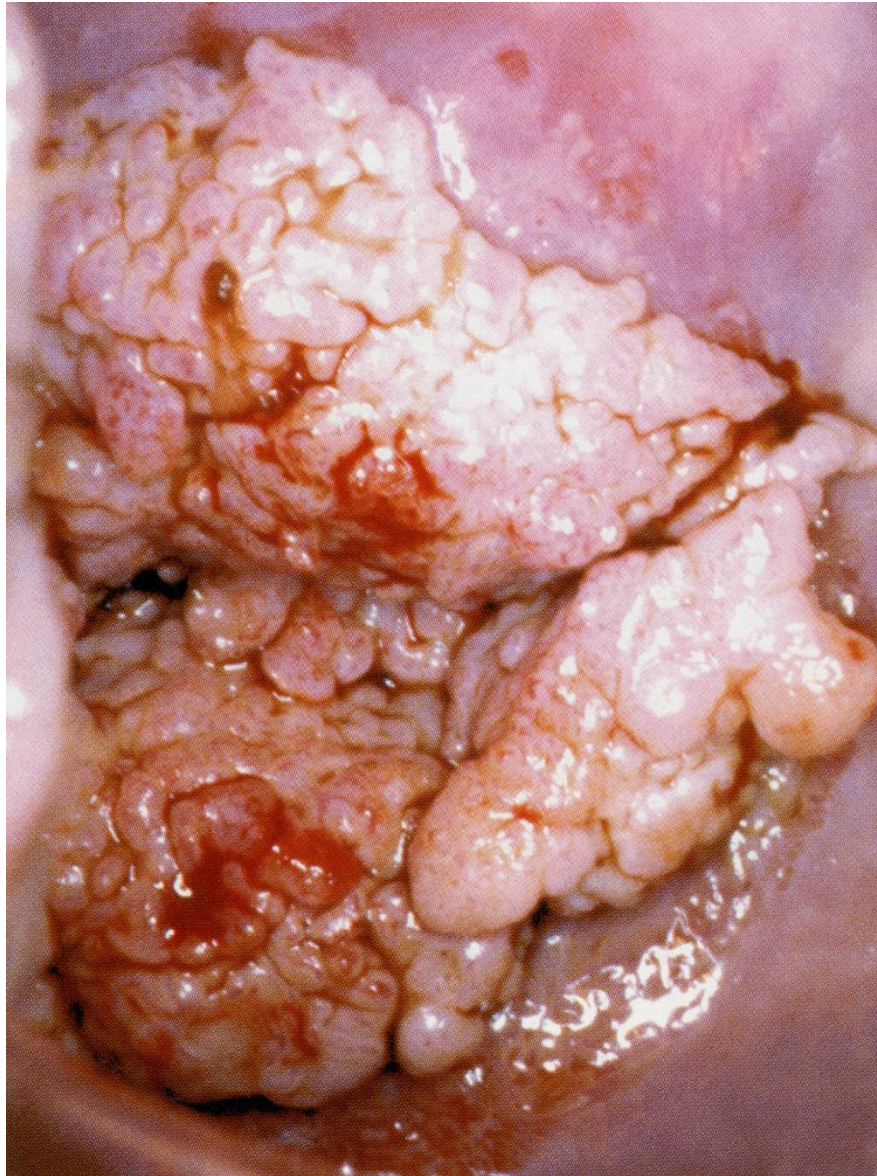
*Large, fungating, nodular cancer that completely distorts the normal cervical anatomy, accompanied by bleeding*





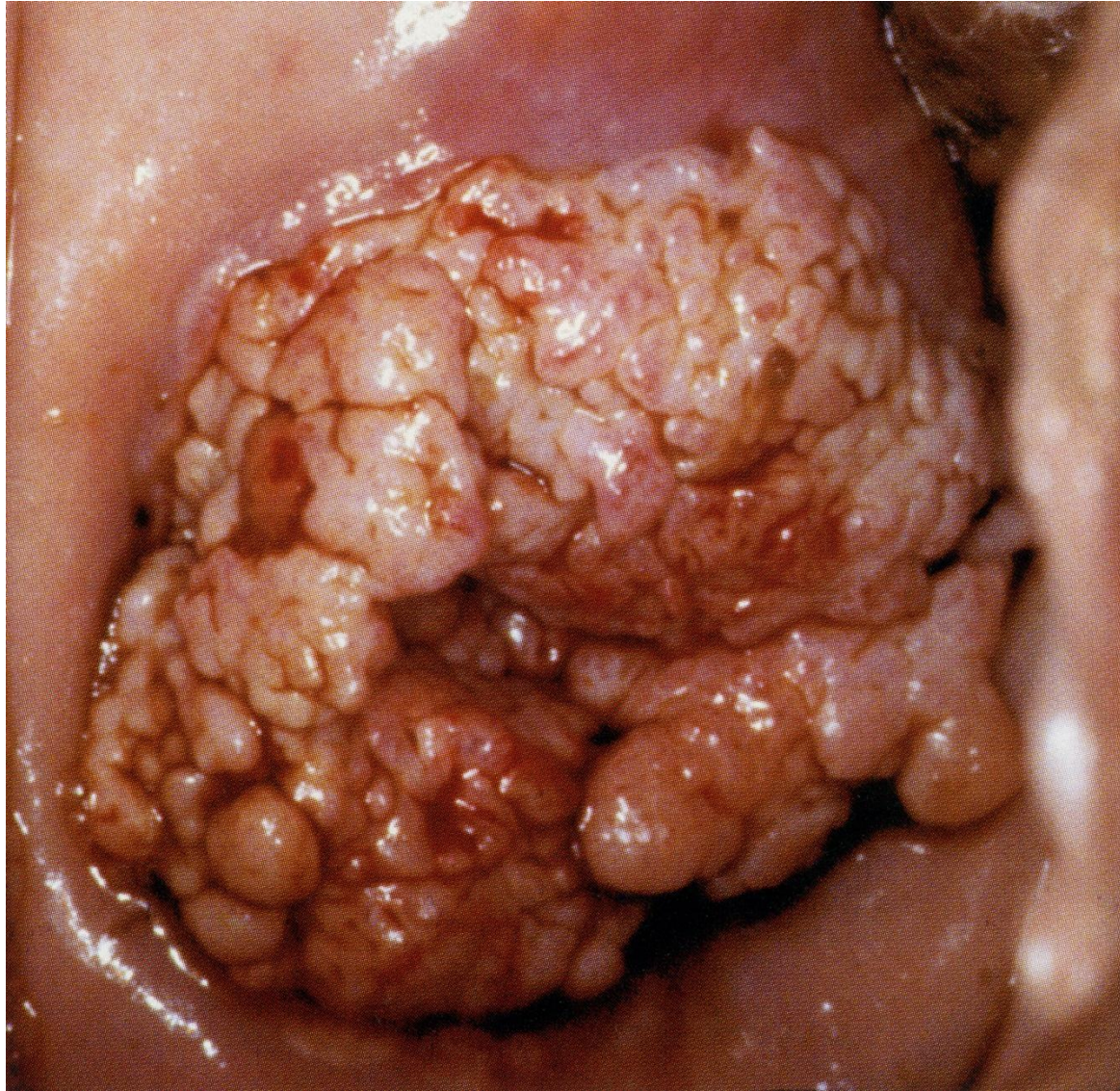
*Irregular surface contour of a cancer involving primarily the central, posterior portion of the cervix*





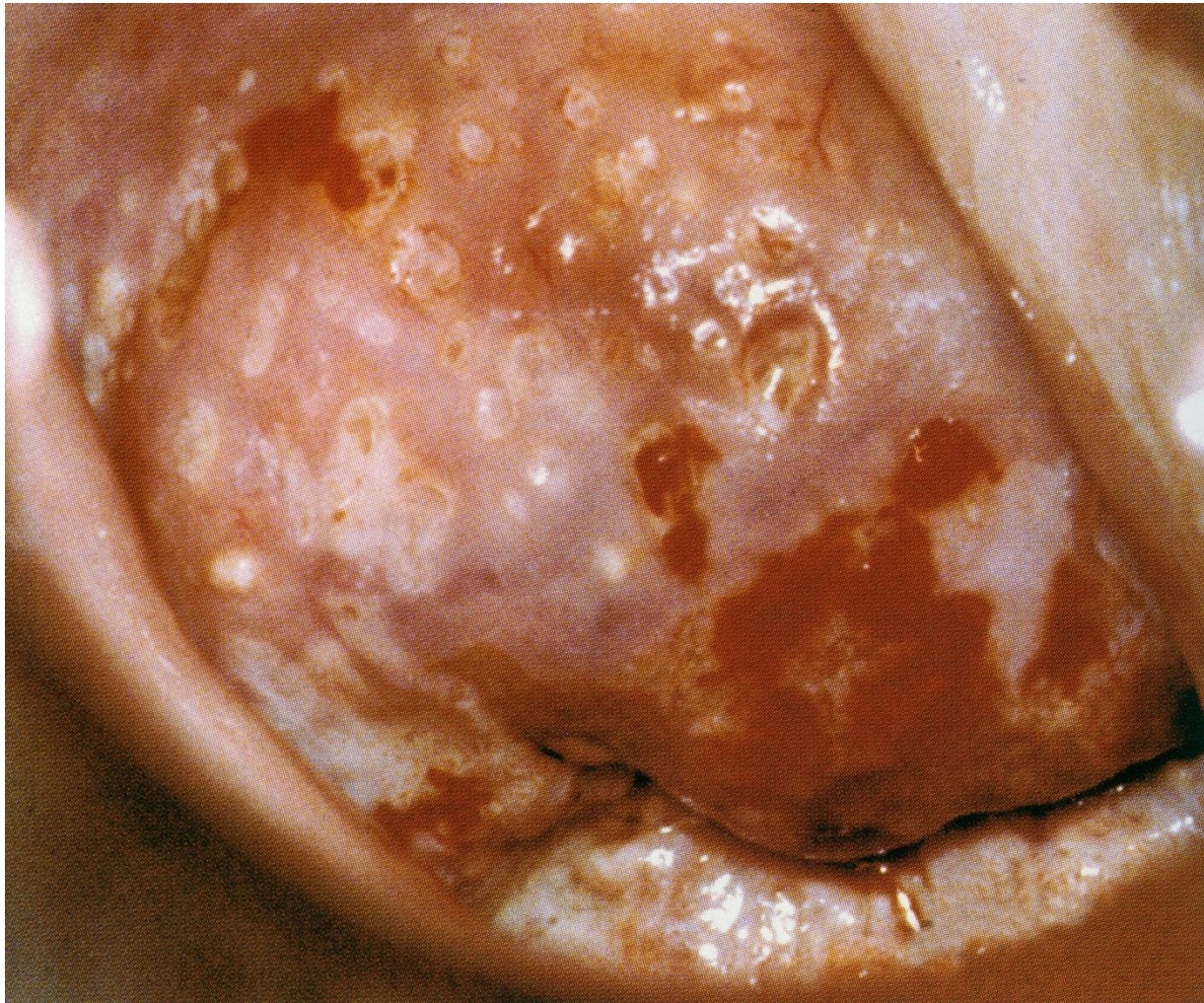
*Cervical cancer with an encephaloid appearance and scattered atypical vessels*





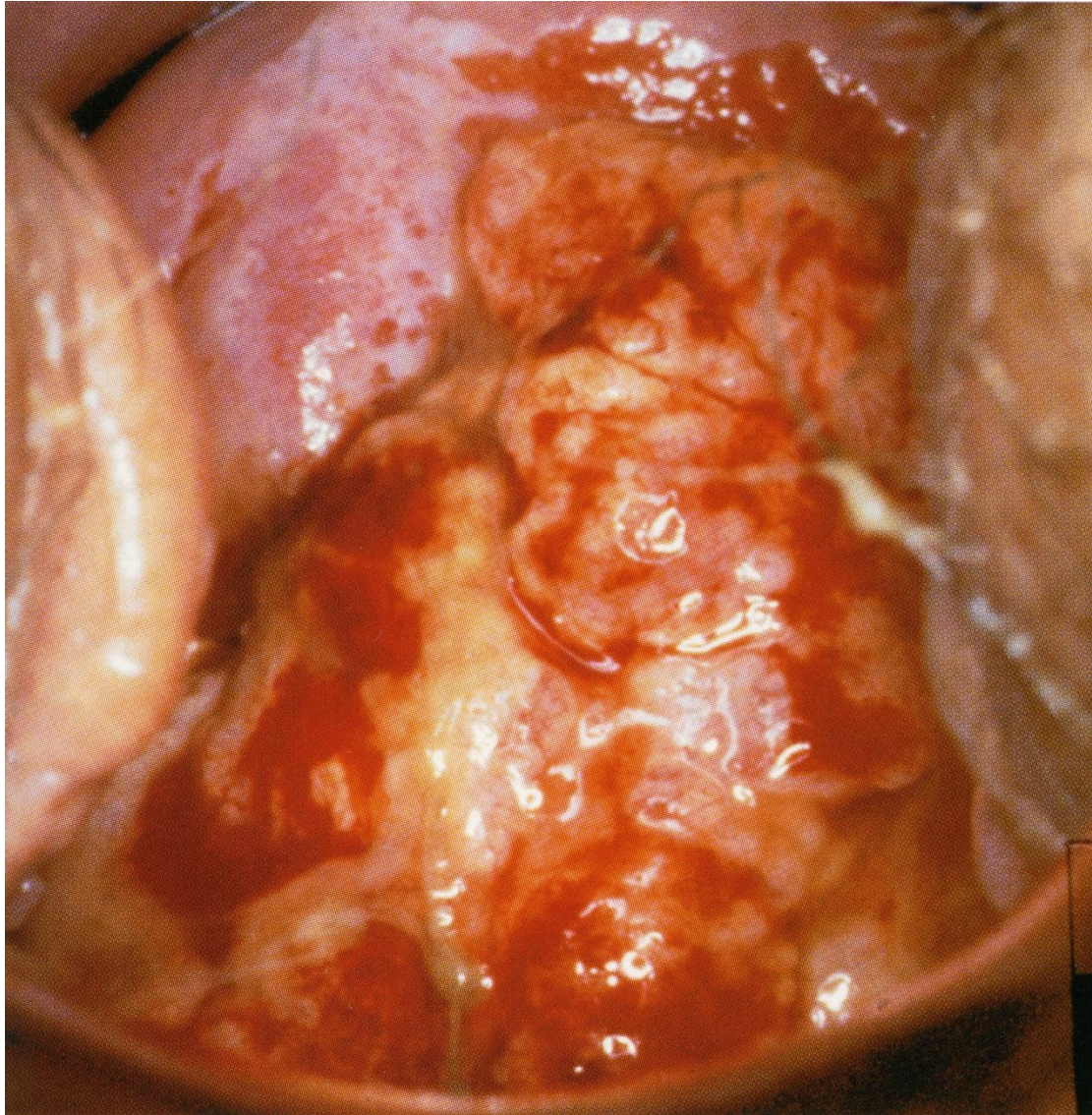
*Cancer with encephaloid appearance and scattered atypical vessels*





*Invasive cancer with bleeding, dense acetowhite epithelium and superficial spread on the anterior aspect of the cervix*





*Cancer with an irregular, papillary surface, dense acetowhite epithelium, and atypical vessels*





*Cancer with irregular, yellow papillary surface*

# Colposcopic mimics

Colposcopic mimics of malignancy relate to surface contours and atypical vessels

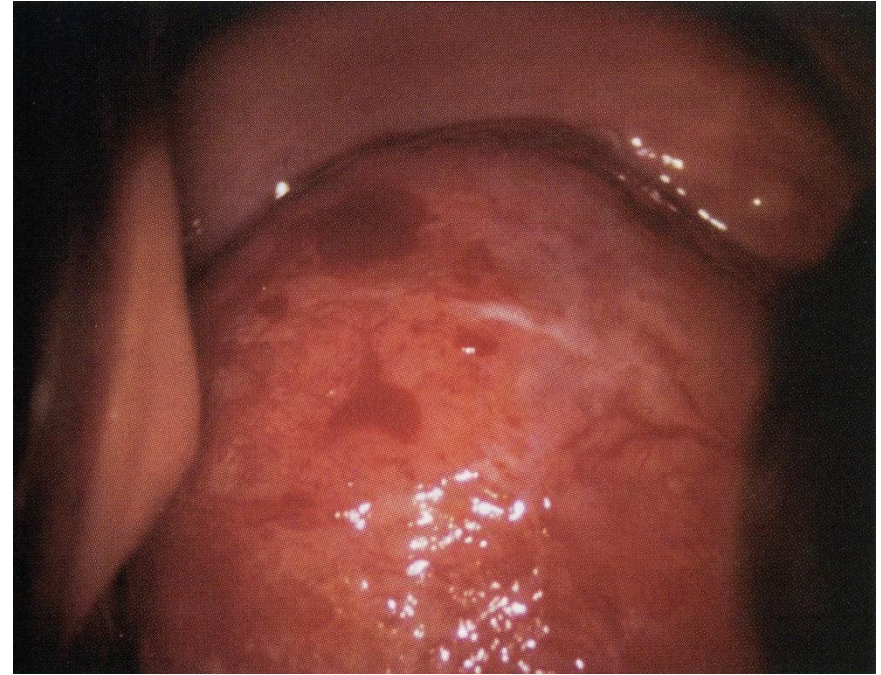
- Condyloma
- Post-radiation changes
- Polyps
- Decidual tissue
- Fibroids



# Colposcopic mimics



*The angioarchitecture seen in normal cervical squamous epithelium after radiation for cancer of the cervix*



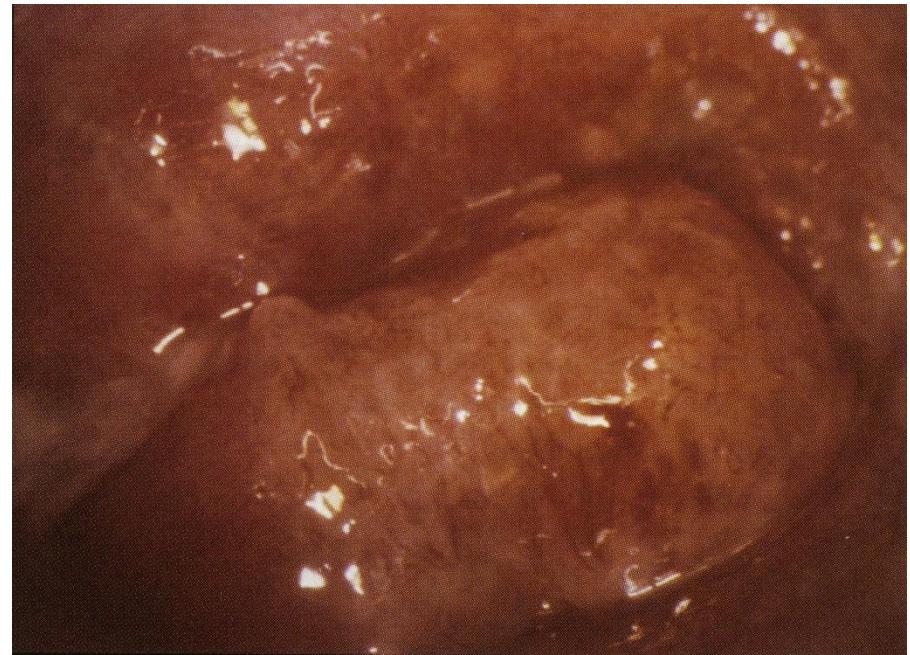
*A prolapsed endocervical fibroid*



# Colposcopic mimics



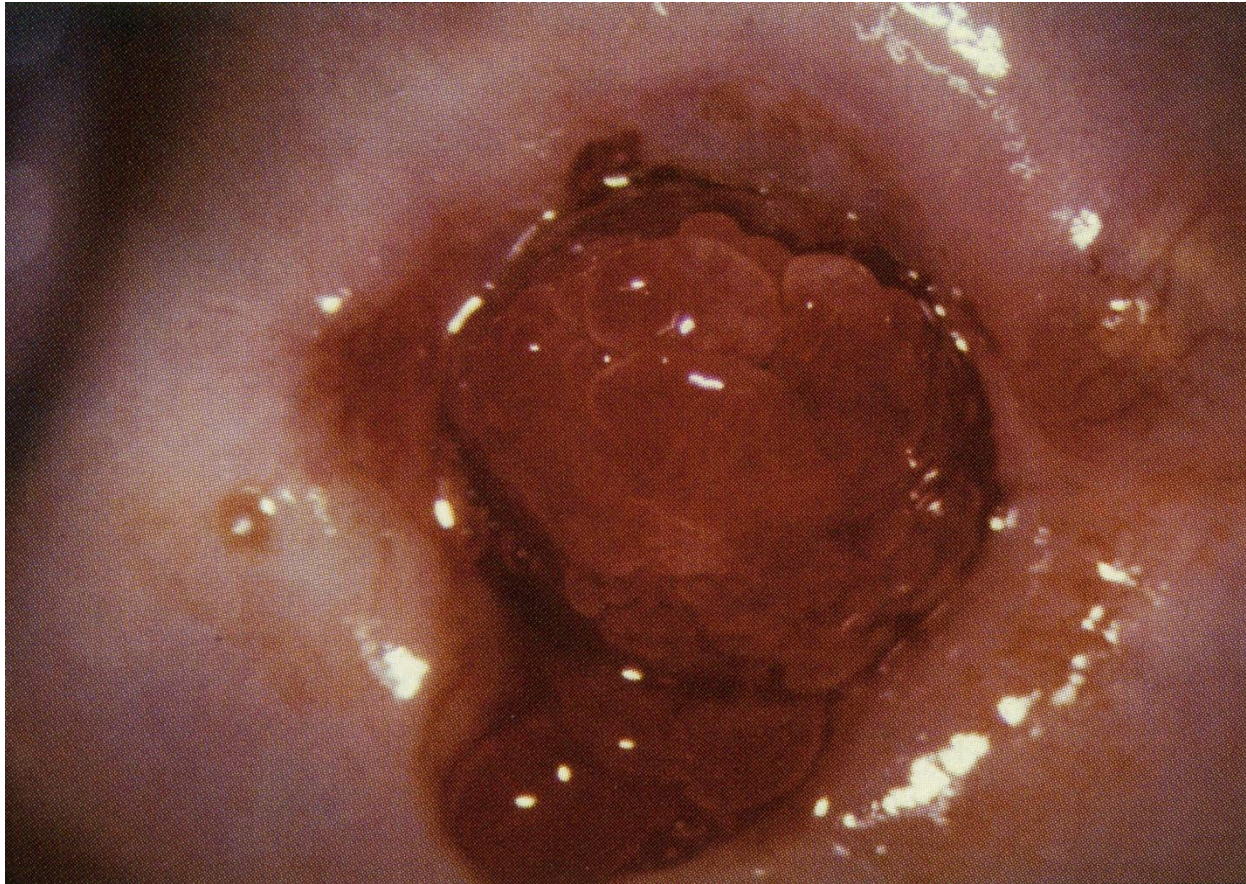
*The irregular vascularity of a cervical condyloma resembling the angioarchitecture of malignancy*



*The characteristic distribution of blood vessels coursing over the surface of a large mass of decidual tissue, as seen in pregnancy*



# Colposcopic mimics



*A large endocervical polypoid mass*



# Problems detecting AIS and Adenocarcinoma

- Cytologic difficulties
- Colposcopic inexperience
- Lesion size and location
- Skip (multifocal) lesions
- Buried disease
- Mixed disease



# Lesion size and location

- Most glandular lesions are located within the transformation zone
- Many of the lesions are small
- 48% of AIS lesions involve only one cervical quadrant vs only 10% occupying four quadrants
- The linear length of AIS disease usually does not exceed 15mm
- The worst histologic findings occur centrally



# Colposcopic presentations of AIS and Adenocarcinoma

The most common form is a papillary expression

The second most common form is that of a flat, variegated red and white area

The least common presentation isolated, elevated, densely acetowhite lesion overlying columnar epithelium

# Surface patterns in glandular disease

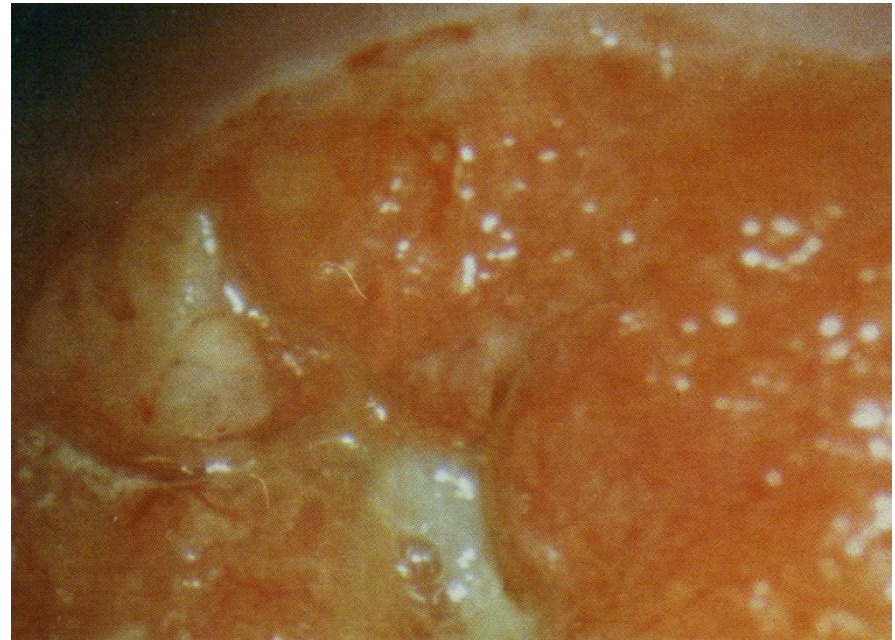
- Elevated lesions
- Lesions with large crypt openings
- Papillary lesions
- Epithelial budding
- Lesions with a patchy red and white surface



# Elevated lesions



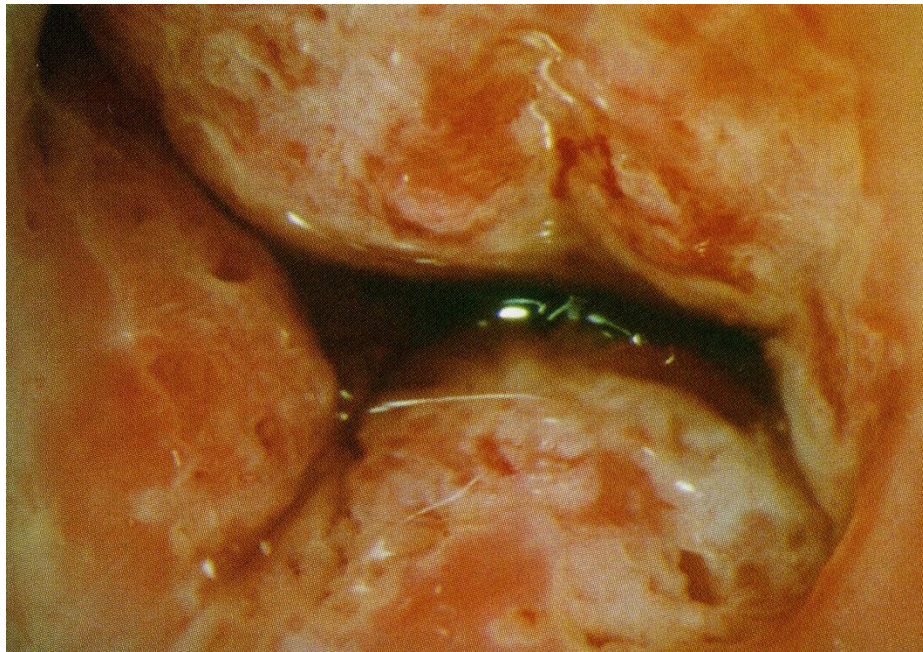
*Elevated, well-defined acetowhite areas lie over columnar epithelium*



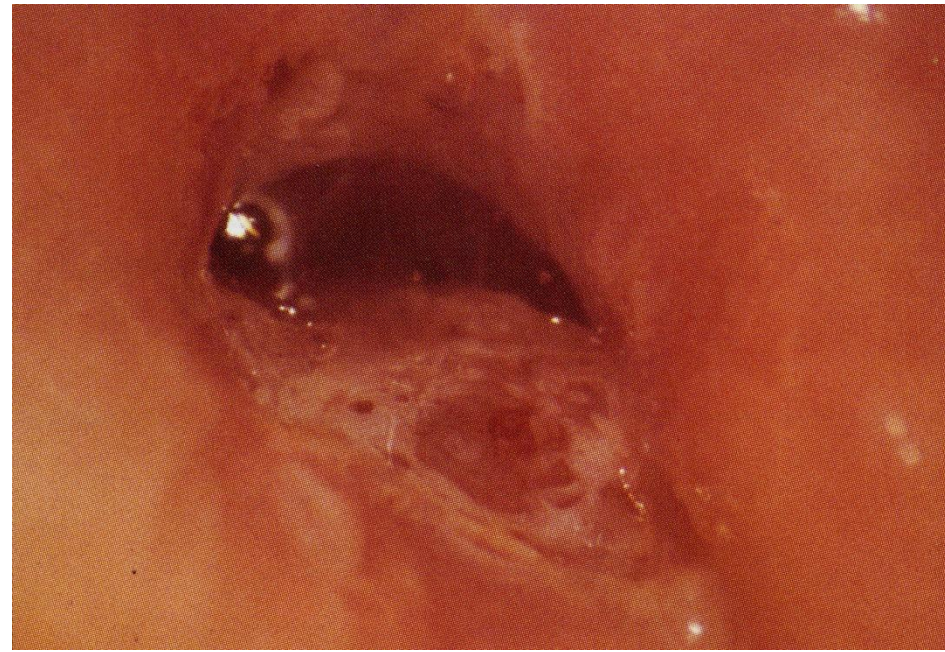
*it is elevated, well demarcated, and has a branching taproot blood vessel coursing over its surface*



# Lesions with large crypt openings



*An adenocarcinoma in situ lesion displaying large crypt openings*



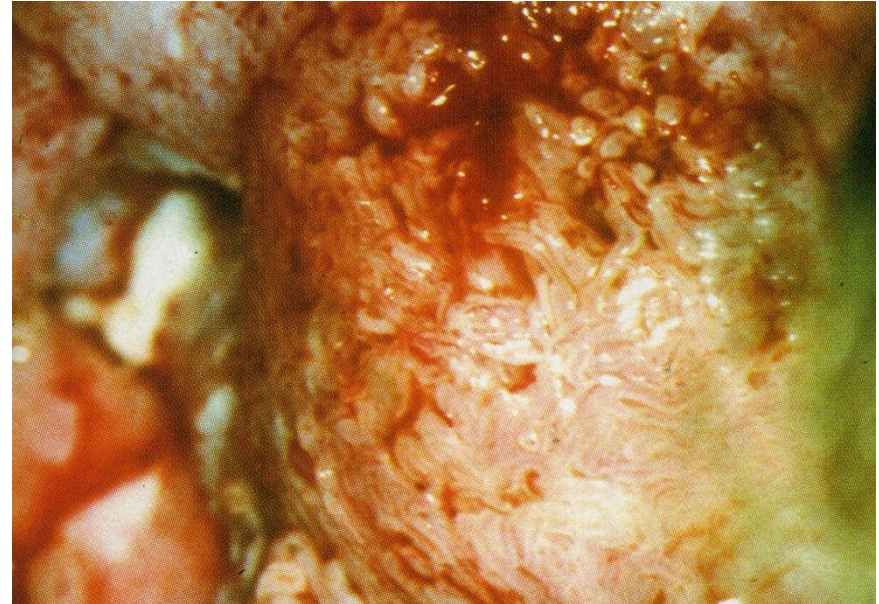
*A large crypt opening can be seen at the 11 o'clock position with glandular proliferation surrounding it*



# Papillary lesions

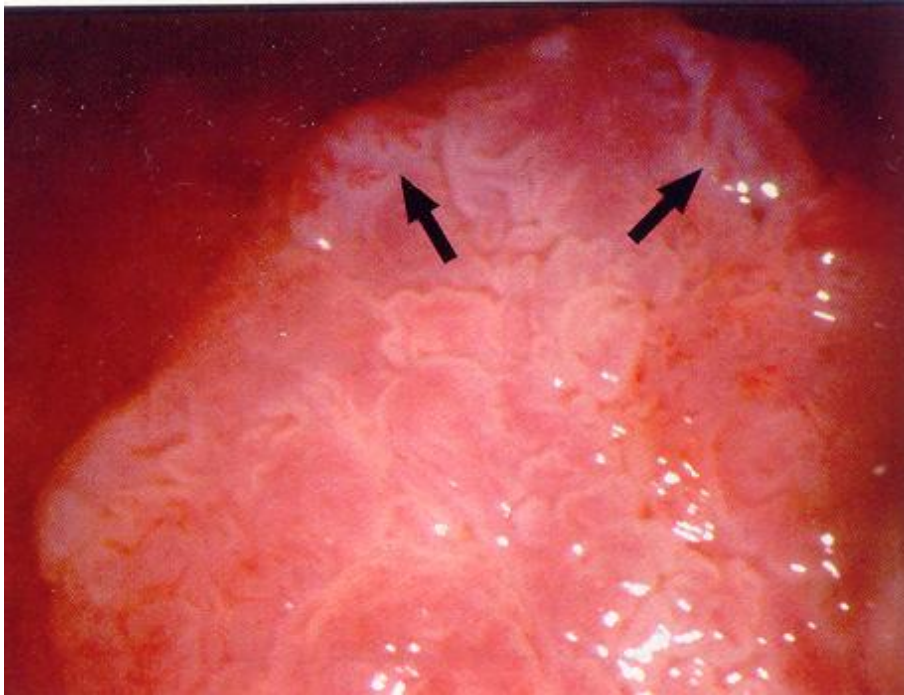


*The papillary proliferations of a cervical condyloma*



*Papillary villous-like excrescences of an adenocarcinoma*

# Epithelial budding



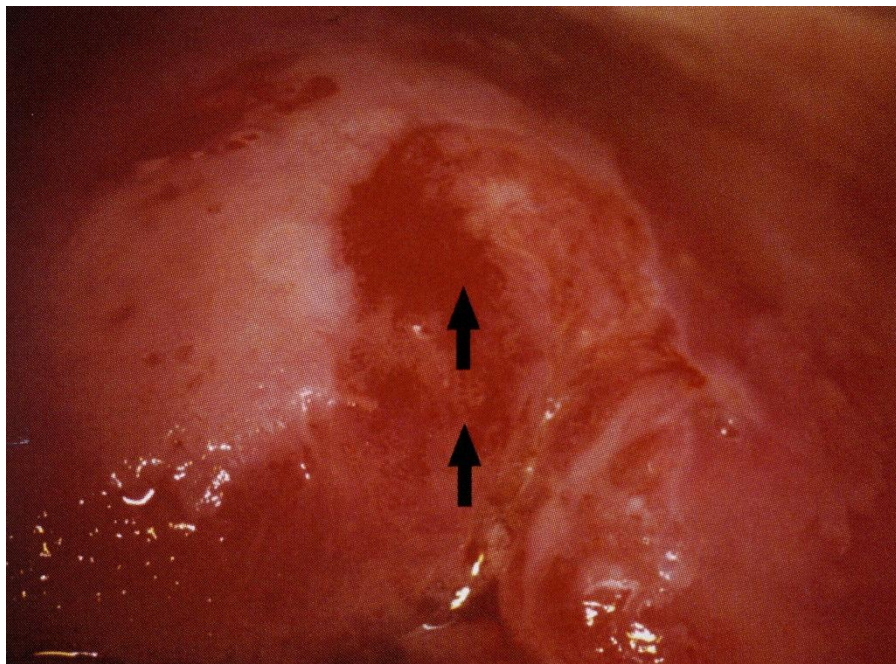
*An adenocarcinoma in situ lesion demonstrating a papillary nature and scalloped-edge epithelial budding*



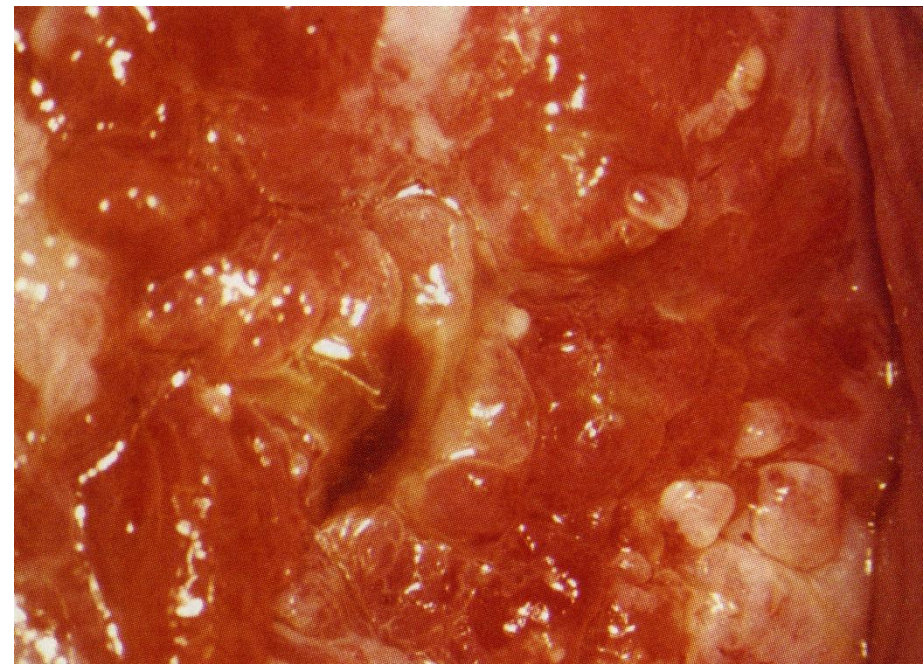
*Metaplasia demonstrating epithelial budding*



# Lesions with a patchy red and white surface



*A variegated red and white adenocarcinoma in situ lesion splits two acetowhite epithelial lesions*



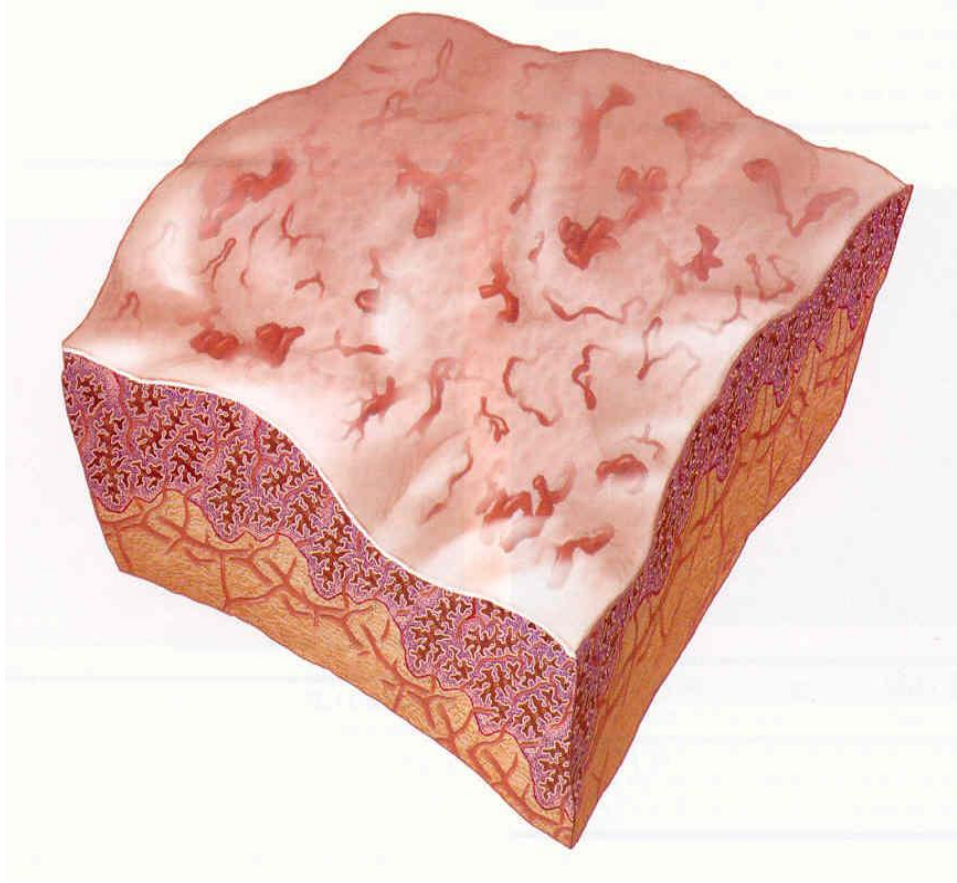
*The variegated red and white acetowhite appearance of metaplasia*

# Atypical blood vessels

- The most common are single and multiple dots
- Less common are waste-thread, tendril, tap and tuberous root shaped and character-writing blood vessels



# Atypical blood vessels

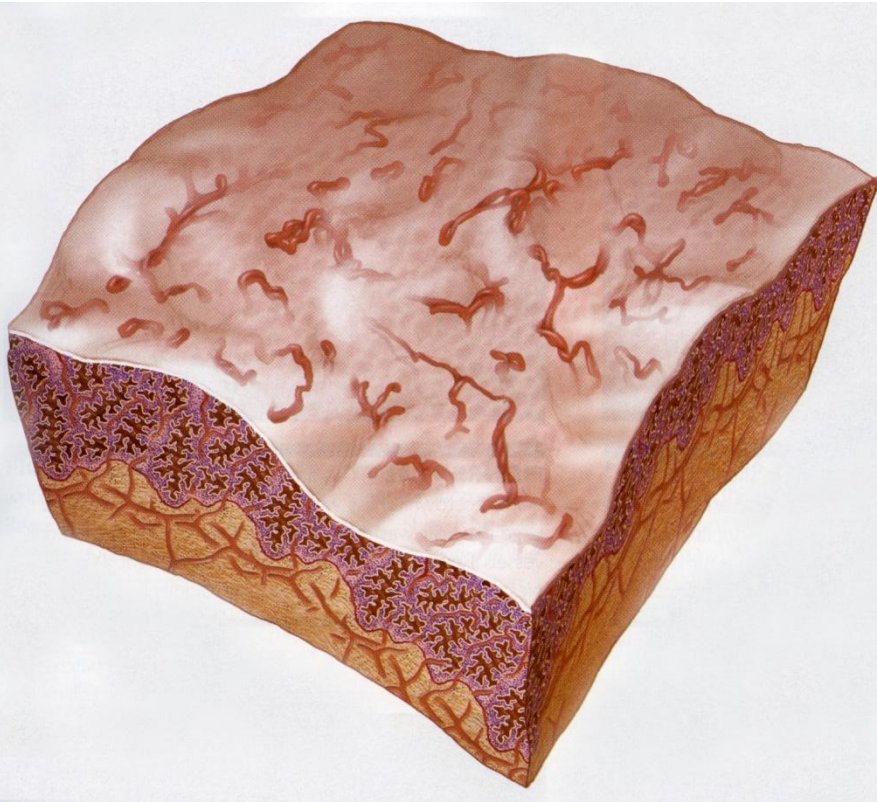


*Schematics of waste-thread-like and dilated tuberous-root-like angioarchitecture*

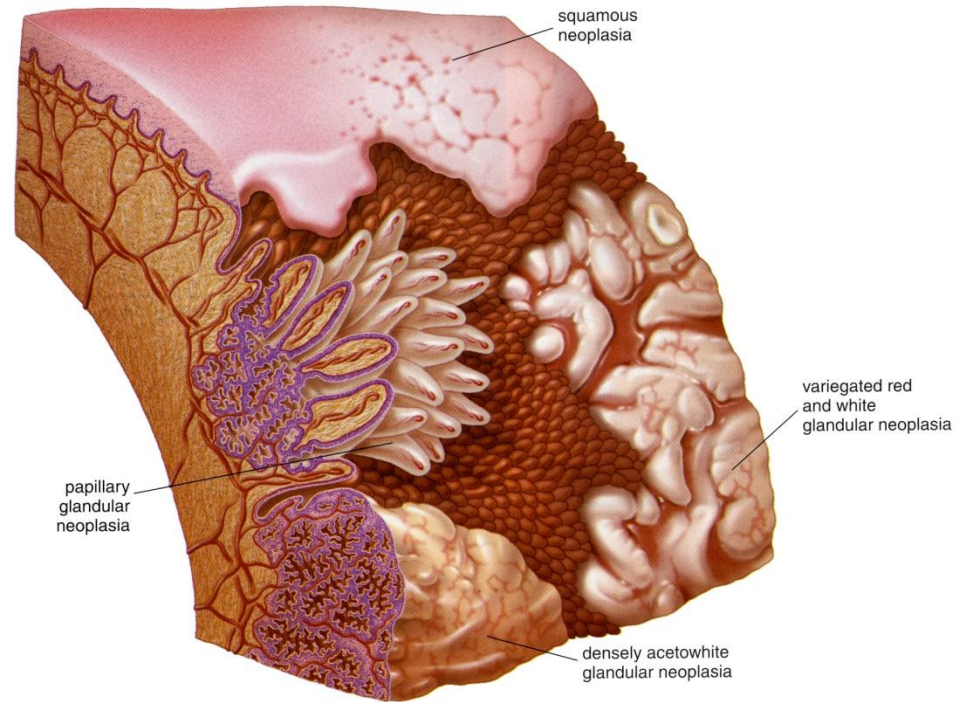


*The densely acetowhite high-grade squamous intraepithelial lesions*

# Atypical blood vessels



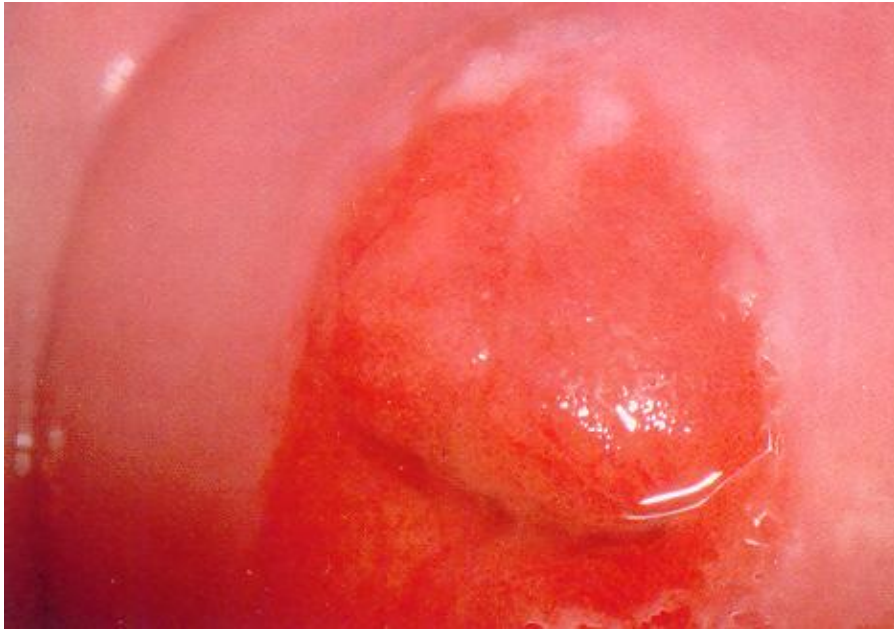
*Schematics of character-writing-like and waste-thread-like blood vessel formations*



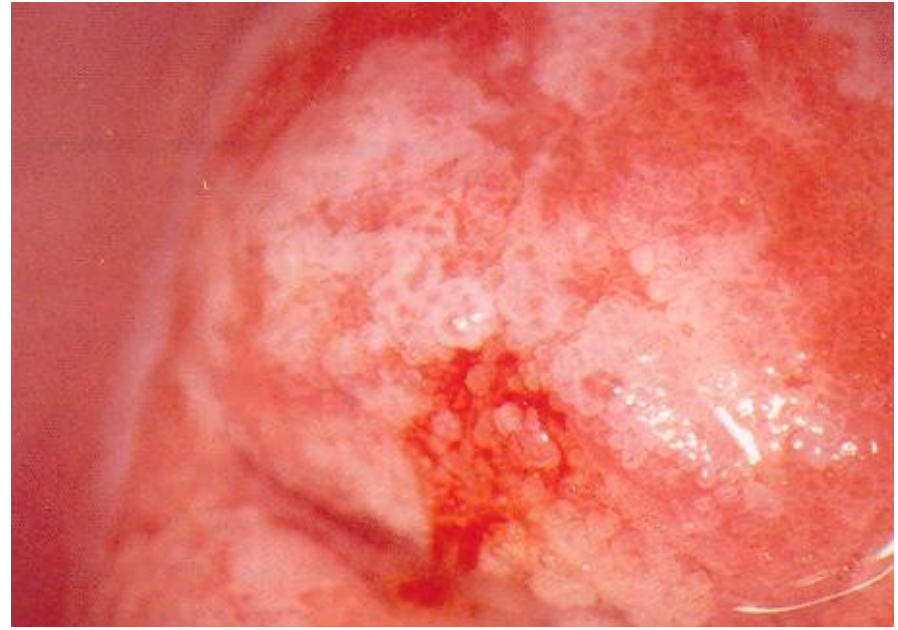
*Schematics of character-writing-like blood vessels coursing over the surface of glandular disease*



# Atypical blood vessels

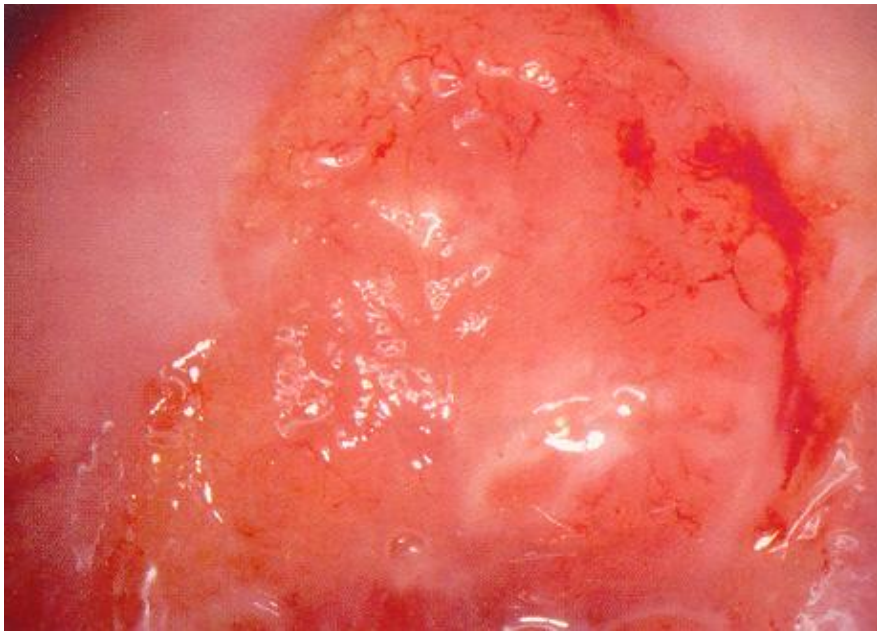


*Prior to the application of acetic acid*



*After application of acetic acid*

# Atypical blood vessels



*Prior to the application of acetic acid*



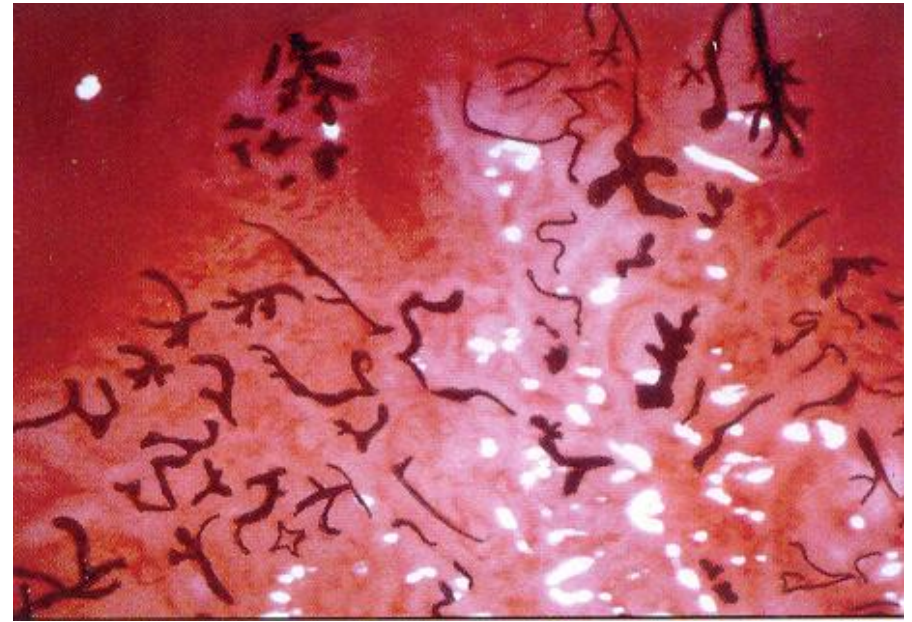
*After application of acetic acid*



# Atypical blood vessels



*A variety of blood vessel patterns are contained in this adenocarcinoma in situ lesion*



*Vessels in the above lesion that have been "inked-in" for easier identification*

***Thank you for your attention !***

