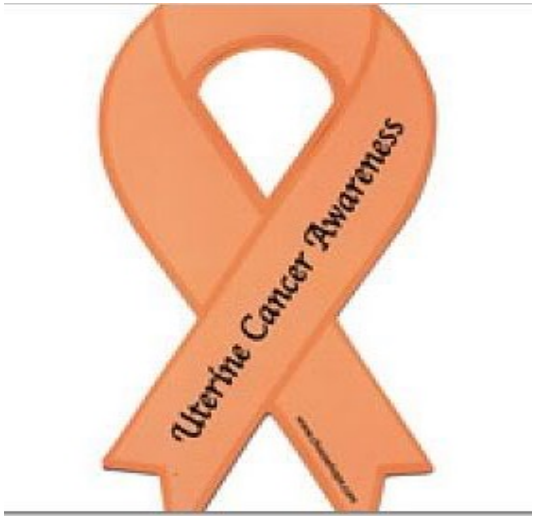

Endometrial Cancer

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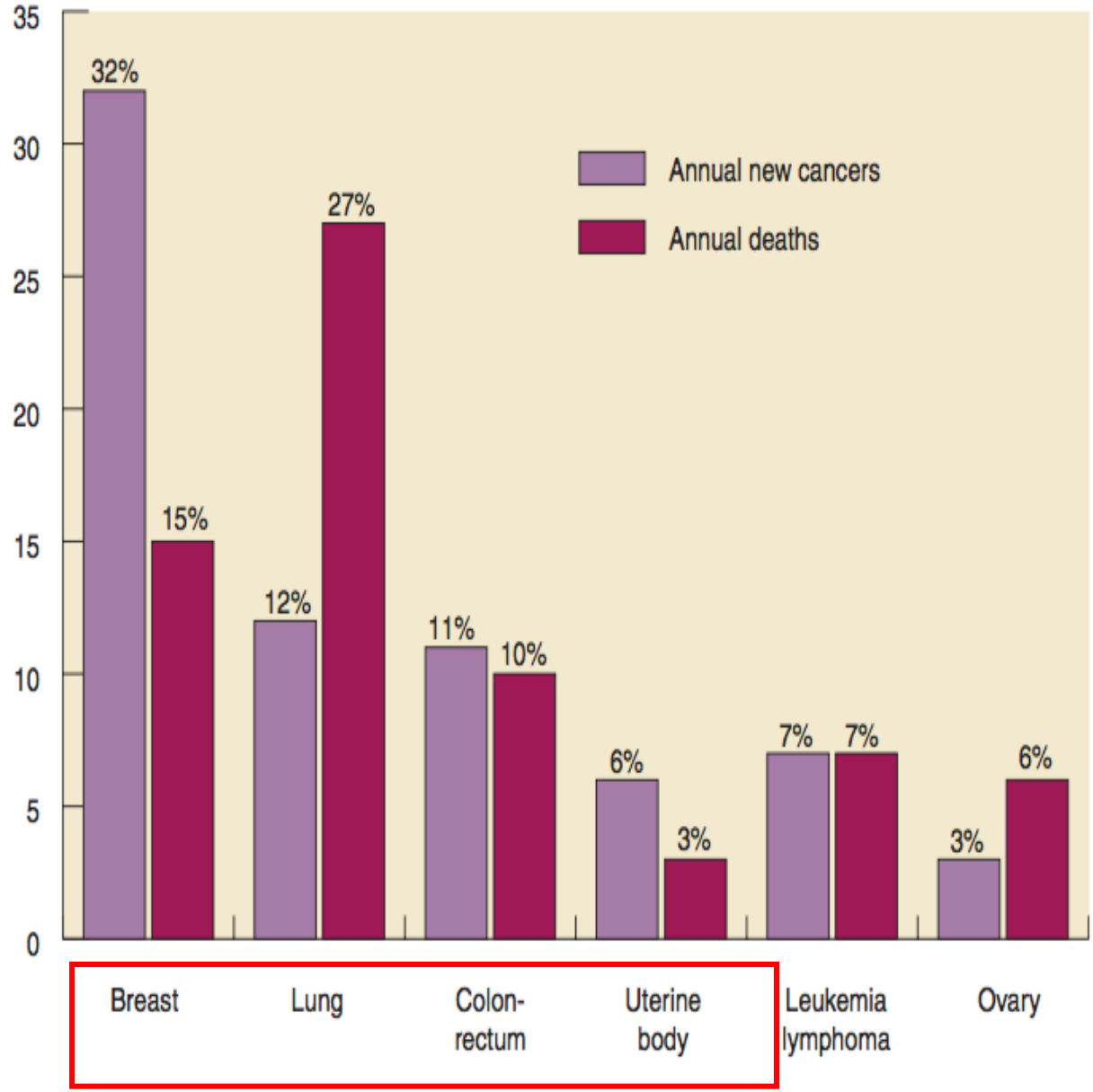
Prof. of OBS/GYN

Mansoura University

ENDOMETRIAL CANCER

- **Cancer of the endometrium (lining of the uterus) is the most common gynecologic malignancy in developed countries and the second most common in developing countries (cervical cancer is more common).**

- **Uterine cancer is the 4^{th} most common cancer in females in the UK (2014), accounting for 5% of all new cases of cancer in females.**
- **Also in the USA it is the most common gynecological malignancy, however the 4^{th} common cancer in female.**



Estimated most common new cancers and female deaths (percentage) for 2005 in the USA.

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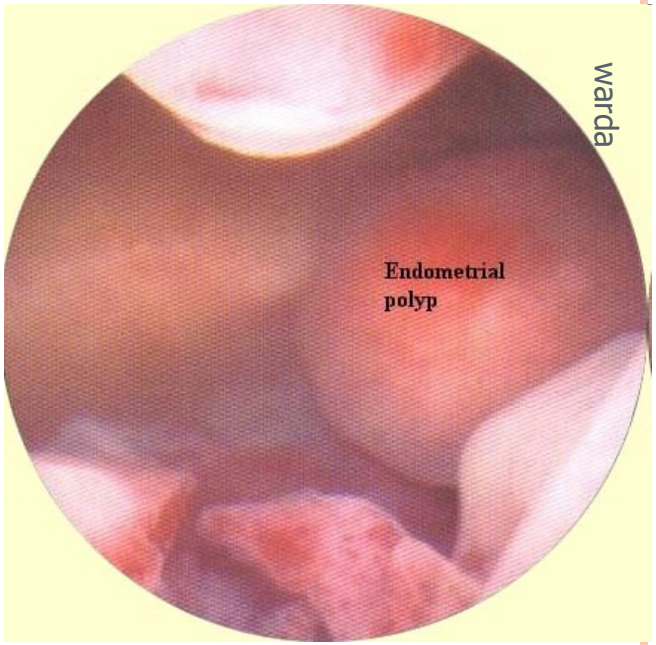
SYMPTOMS:

- *Postmenopausal* bleeding (commonest)
- *Perimenopausal*; irregular heavy menses, increasingly heavy menses
- *Premenopausal;* with abnormal uterine bleeding with history of anovulation
- Endometrial cancer cells on Pap smear

Differential Diagnosis for PMB

1. Exogenous estrogen use (ERT), or tamoxifen
2. Atrophic endometritis/vaginitis
3. Endometrial/cervical polyps
4. Endometrial hyperplasia
5. Endometrial Cancer
6. Other gynecologic cancers
7. General cause; blood disease



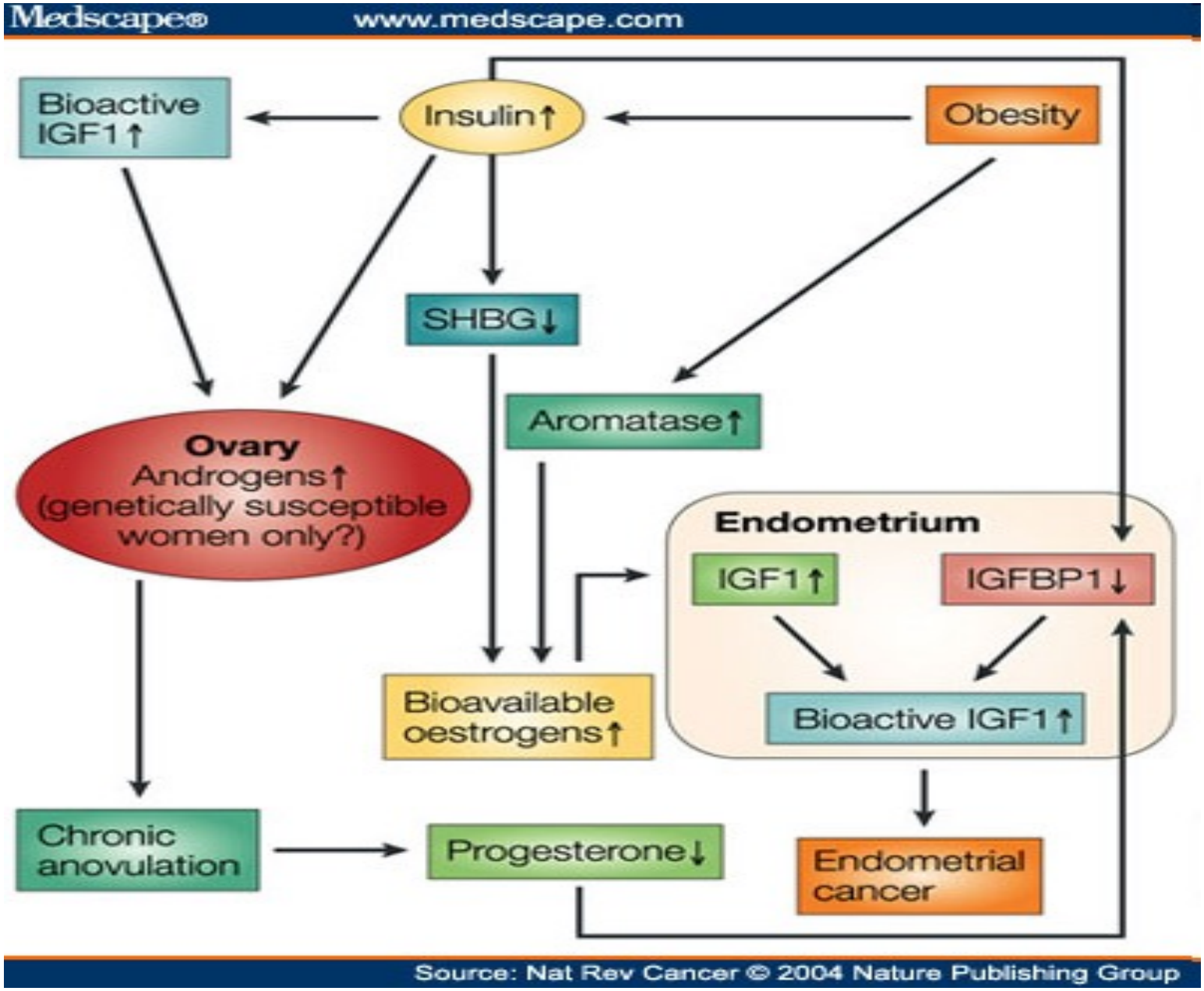
Endometrial polyp

PMB= Postmenopausal bleeding

ERT= Estrogen Replacement Therapy

Risk factors for Endometrial Cancer

- **Increased unopposed estrogen stimulation:**
  - Obesity (peripheral conversion)
  - Anovulation/PCOS
  - Estrogen replacement therapy
  - Estrogen secreting tumors
  - Older age
  - Infertility
  - Early menarche/ Late menopause
- Genetics
  - HNPCC
  - Caucasian


Medscape®
www.medscape.com
Bioactive IGF1↑
Insulin↑
Obesity
SHBG↓
Aromatase↑
Ovary
Androgens↑
(genetically susceptible women only?)
Endometrium
IGF1↑
IGFBP1↓
Bioavailable oestrogens↑
Bioactive IGF1↑
Chronic anovulation
Progesterone↓
Endometrial cancer
Source: Nat Rev Cancer © 2004 Nature Publishing Group

Risk factors ; potential risk

ENDOMETRIAL CANCER RISK FACTORS	
Risk factors	**Risk**
Obesity	2.5–4.5x
Nulliparity	
Compared with 1 child	2x
Compared with 5 or more children	3x
Late menopause	2.4x

Clinical Gynecologic Oncology; Di Saia & Creaseman, 7th ed. 2007

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RISK FACTORS ; POTENTIAL RISK

MULTIPLE RISK FACTORS		
	Risk	
Nulliparous Top 15% in weight Menopause at 52 yr	5x more than	Parous Lower two thirds in weight Menopause at <49 yr

Clinical Gynecologic Oncology; Di Saia & Creaseman, 7th ed. 2007

DIAGNOSIS

- **Clinical** : symptoms and signs
- **Ultrasound**: endometrial thickness > 5mm in postmenopause, or >11mm in postmenopause taking tamoxifen for breast cancer, intrauterine polyps or masses
- **CT** scan or **MRI** , for lymphadenopathy
- **Lab**, no specific tumor markers however CA 125 my be elevated in ±40% of cases
- **Endometrial biopsy** : final diagnosis
- **Hysteroscopy:** for polyp +guided biopsy

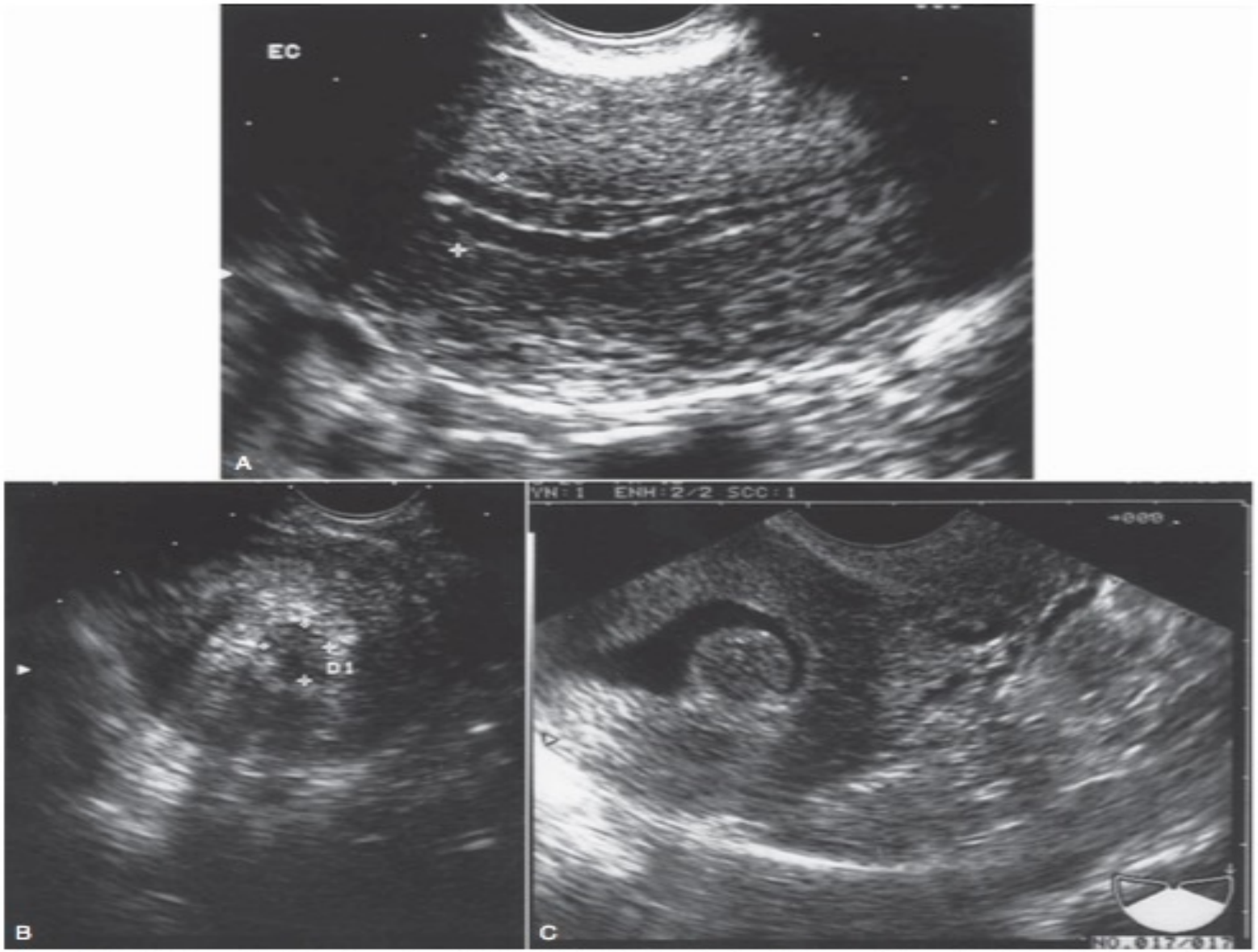

Figure 5–2 *A*, Ultrasound of the uterus showing the "triple line" indicating the thickness of the endometrium. *B*, Ultrasound of the uterus showing a "thickened endometrium" of >10 mm. *C*, Saline instillation of the endometrial cavity notes a well-defined oid and not thickened endometrium.

B

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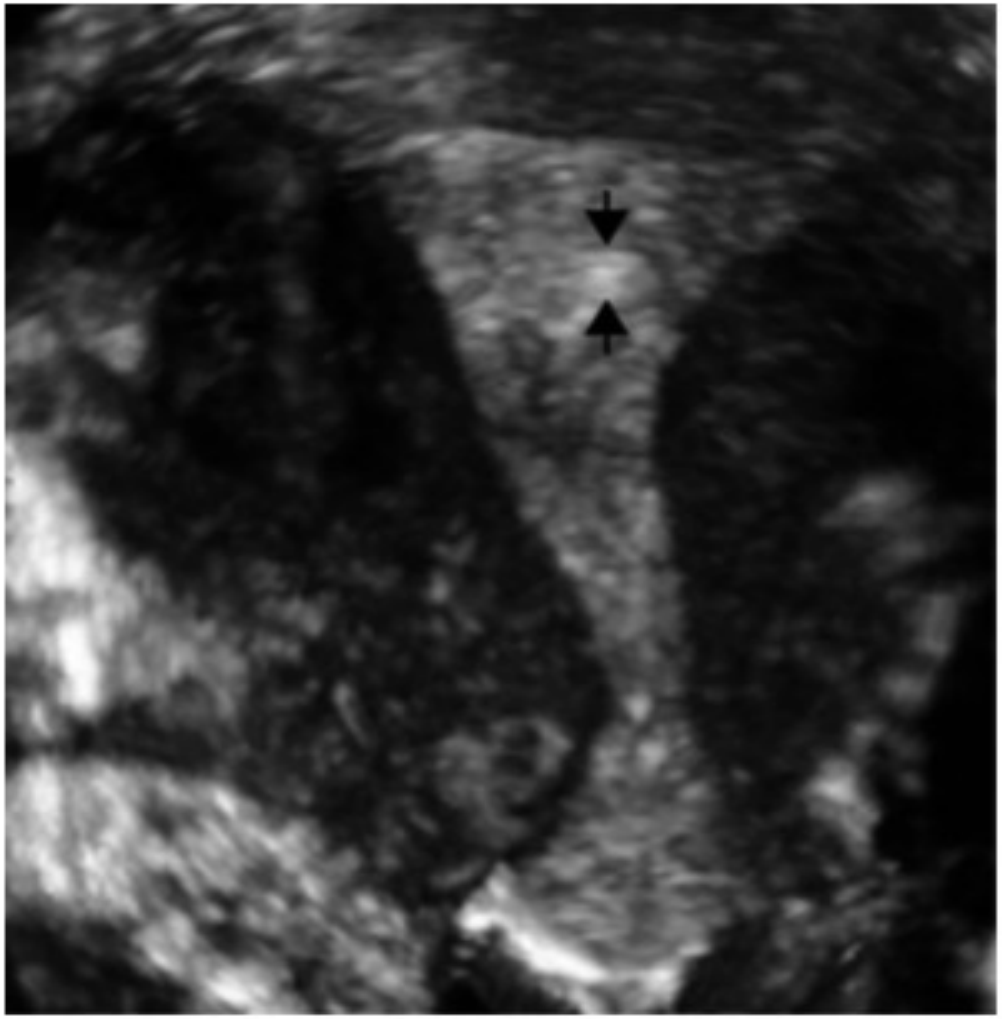
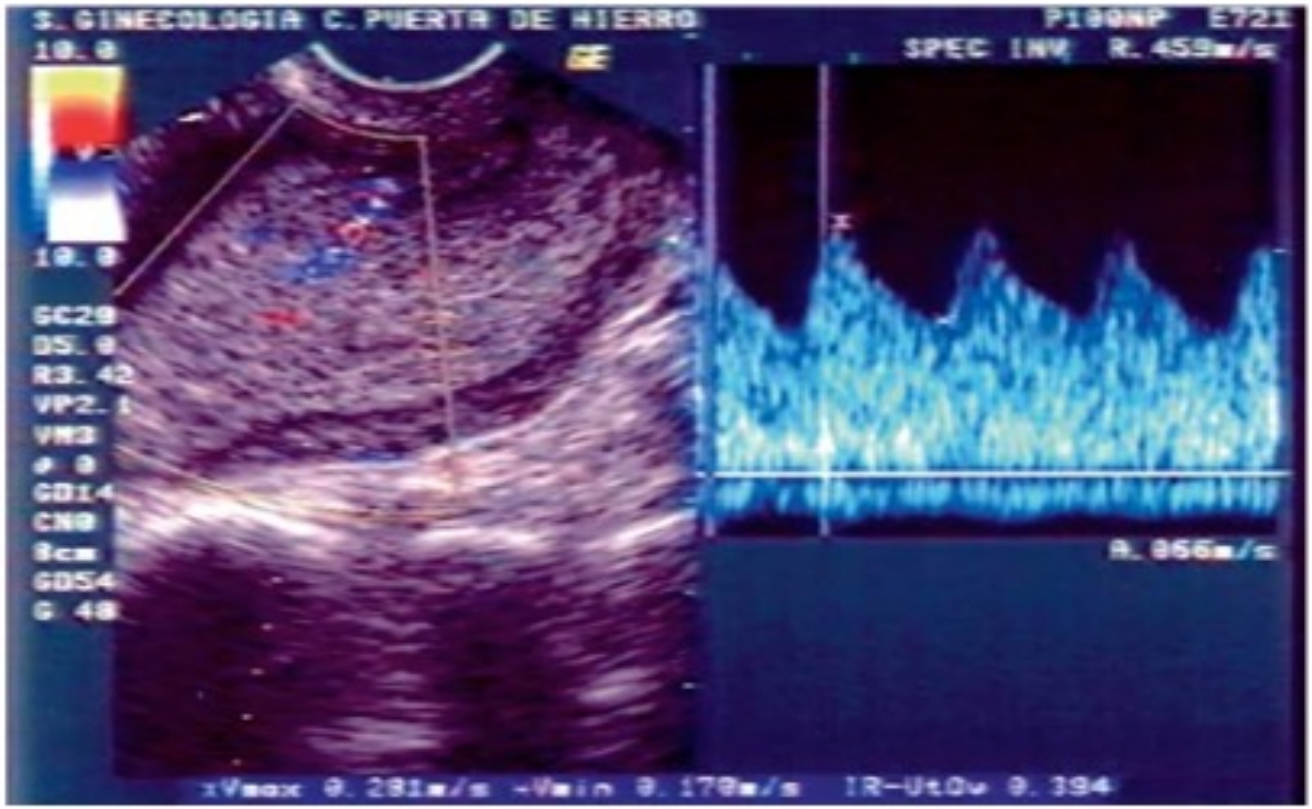


Focal thickening of an endometrium: as well as evaluating its volume and position, we can see the existence or not of myometrial invasion.



Presence of vascularization in an endometrium suspected to be malignant. A Doppler of newly formed endometrial vessels. Very high diastolic flows and very low RI (0.39) are noted.

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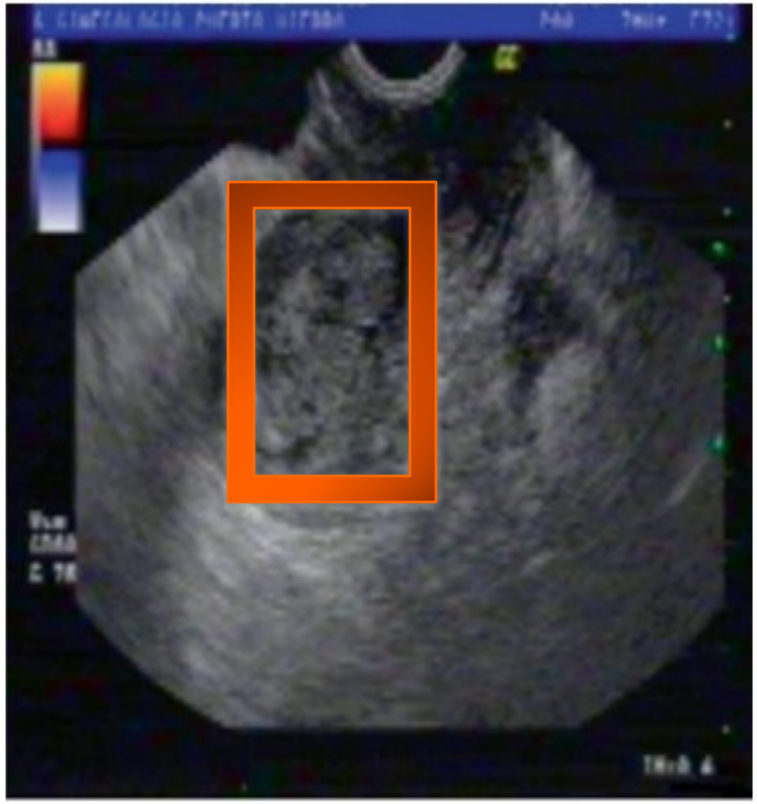
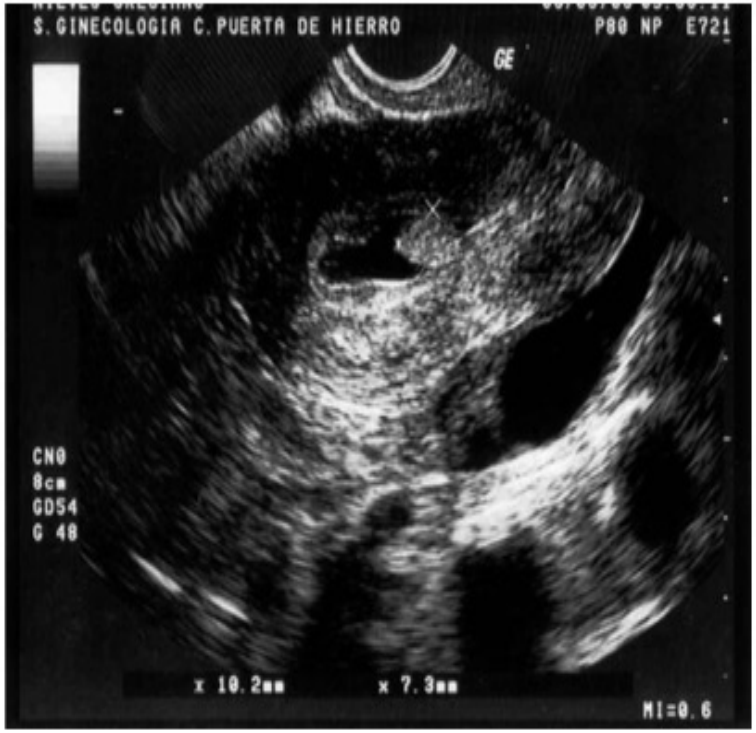


Suspicious pattern: uterine cavity occupied by a non-homogeneous endometrium with irregular borders.



Sagittal cut of the uterus where a cavity, distended by saline serum, can be seen around an endometrial polyp.

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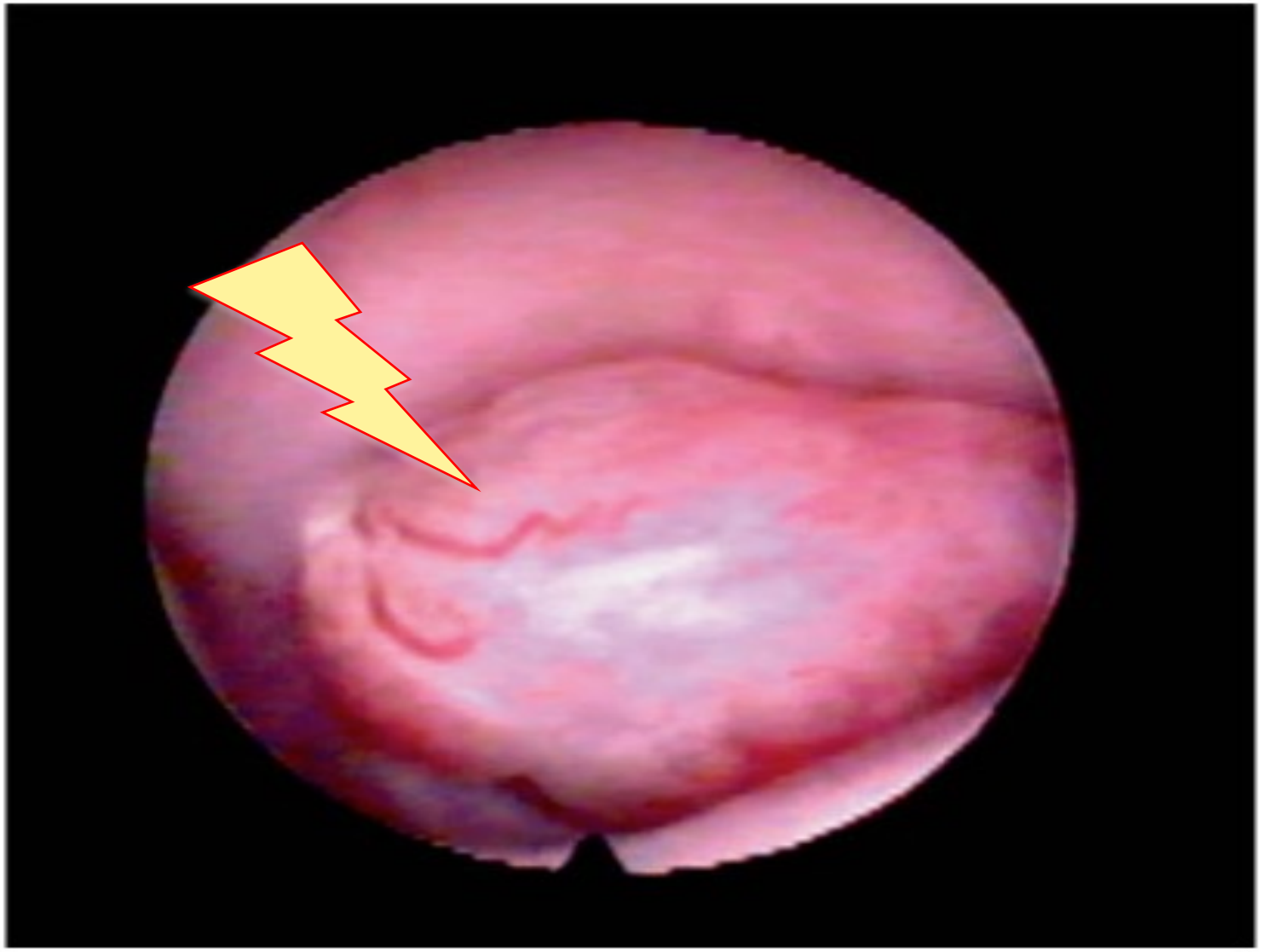
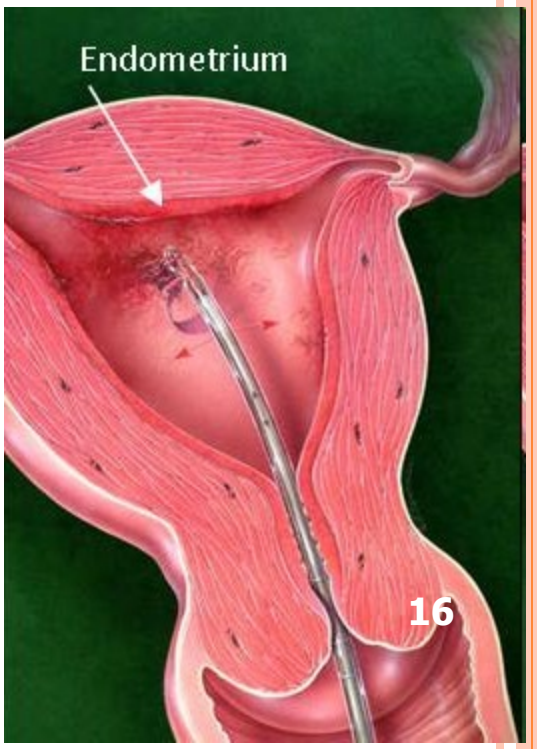


Cavity occupied by an endometrial polyp.

Preoperative Work-up

- Endometrial biopsy: golden role
- Ultrasound: see before
- For suspected advanced stage may need:
  - Cystoscopy
  - Sigmoidoscopy
  - CT of abdomen/pelvis, possibly chest
- Labs
  - CBC
  - Chemistery
  - Liver function tests



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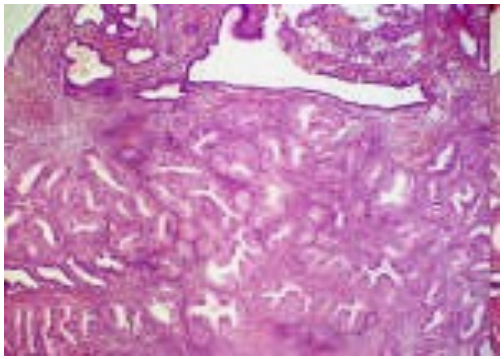
ENDOMETRIAL HYPERPLASIA



- Precursor to endometrial cancer
  - Risk of progression related to *cytologic atypia*
- Since 1994, endometrial hyperplasia was divided into simple EH (without atypia & with atypia) and complex EH (without atypia & with atypia).
- The 2014 revised WHO classification:

- *(i) hyperplasia without atypia and*
- *(ii) atypical hyperplasia;*
- The complexity of architecture is ***no longer*** part of the classification.
- The revised 2014 WHO classification of endometrial hyperplasia is recommended by RCOG.

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HISTOPATHOLOGY:

ENDOMETRIAL CARCINOMA SUBTYPES	
Type	**Number (%)**
Endometrioid	6231 (84%)
Adenosquamous	317 (4.2%)
Mucinous	74 (0.9%)
Papillary serous	335 (4.5%)
Clear cell	185 (2.5%)
Squamous cell	28 (0.04%)
Other	285 (3.8%)

From Pecorelli S (ed): FIGO Annual Report, years 1996-98. Int J Gynecol Obstet 83:79-118, 203.

HISTOPATHOLOGY:

Histopathology: Degree of differentiation

Cases of carcinoma of the corpus should be grouped according to the degree of differentiation of the adenocarcinoma as follows:

G1	5% or less of a non-squamous or non-morular solid growth pattern
G2	6–50% of a non-squamous or non-morular solid growth pattern
G3	More than 50% of a non-squamous or non-morular solid growth pattern

Clinical Gynecologic Oncology; Di Saia & Creaseman, 7th ed. 2007

Spread Patterns

- Direct extension
  - most common
- Transtubal : peritoneal spillage
- Lymphatic:
  - Pelvic usually first, then para-aortic LNs.
- Hematogenous
  - Lung most common
  - Liver, brain, bone

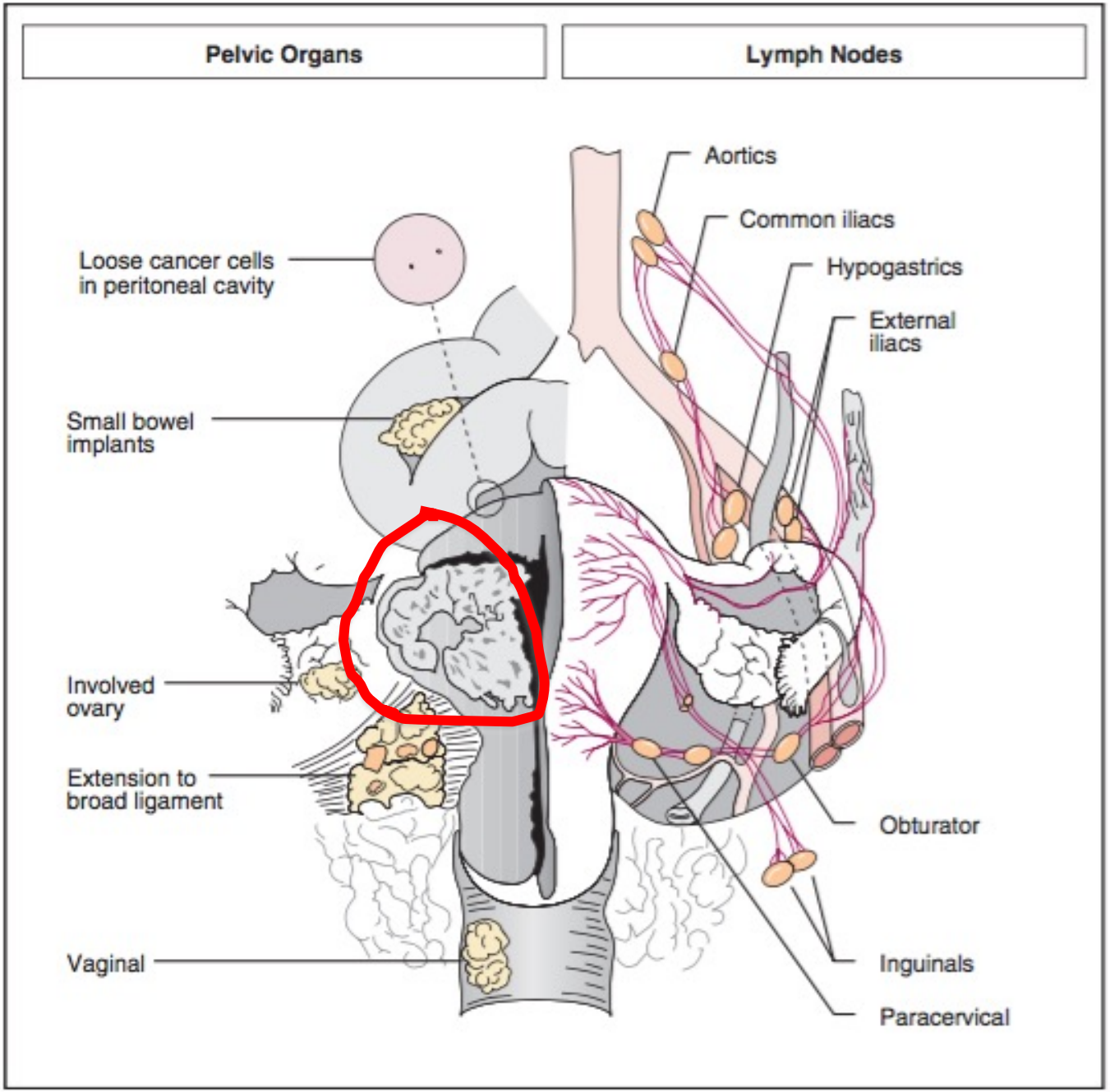

Figure 5–10 Spread pattern of endometrial cancer with particular emphasis on potential lymph node spread. Pelvic and periaortic nodes are at risk, even in stage I disease.

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Staging of Endometrial Cancer

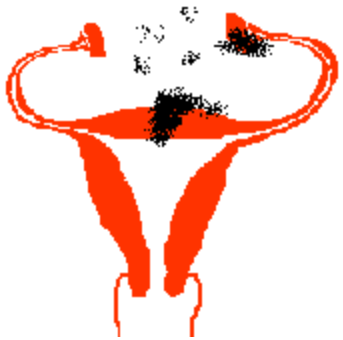
- **I: Confined to uterine corpus**
  - IA: invades < ½ of myometrium
  - IB: invades > ½ of myometrium

Staging of Endometrial Cancer

- **II: invades cervix but not beyond uterus**

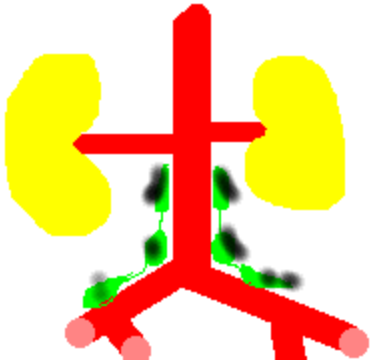
Staging of Endometrial Cancer

- **III: local and/or regional spread**
  - IIIA: invades serosa/adnexa
  - IIIB: vaginal or parametrial involvement
  - IIIC: metastasis to pelvic or para-aortic lymph nodes



IIIA

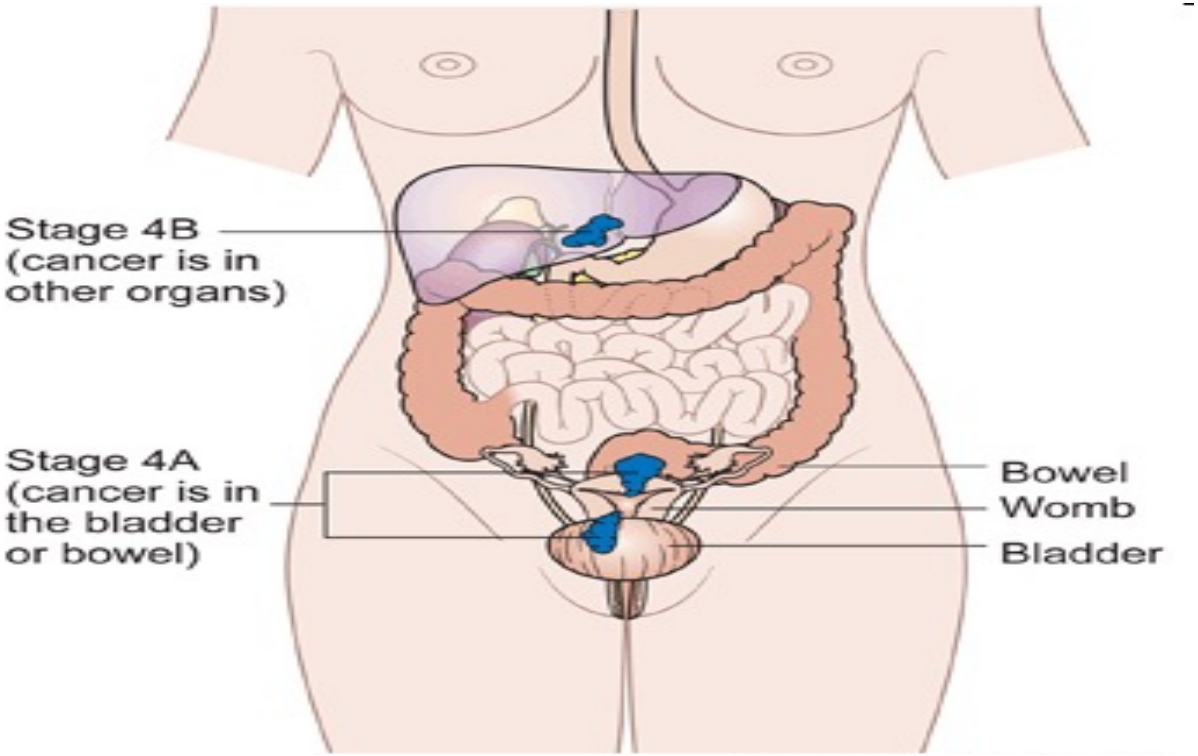
IIIB



IIIC

Staging of Endometrial Cancer

- IVA: invades bladder/bowel mucosa
- IVB: distant metastasis



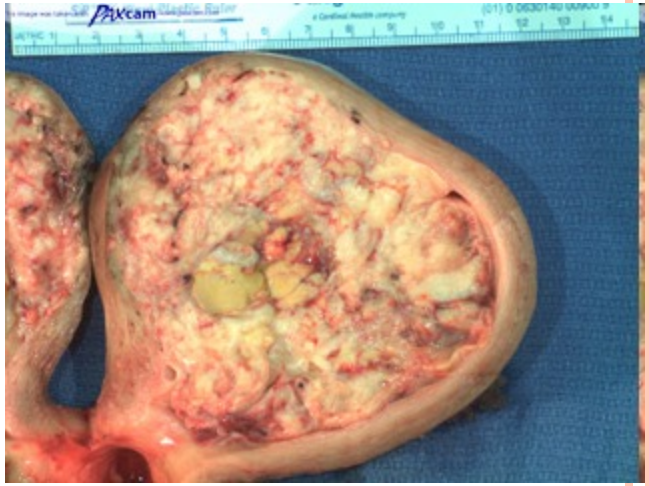
PROGNOSIS

PROGNOSTIC FACTORS IN ENDOMETRIAL ADENOCARCINOMA
Histologic type (pathology)
Histologic differentiation
Stage of disease
Myometrial invasion
Peritoneal cytology
Lymph node metastasis
Adnexal metastasis

Clinical Gynecologic Oncology; Di Saia & Creaseman, 7th ed. 2007

Five Year Survival

- Stage I: 81-91%
  - 72% diagnosed at this stage
- Stage II: 71-78%
- Stage III: 52-60%
- Stage IV: 14-17%
  - 3% diagnosed at this stage



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Treatment

- **Stage IA**: total hyst/BSO/PPALND
- **Stage IB**: total hyst/BSO/PPALND ± adjuvant pelvic XRT
- **Stage II:** total hyst/BSO/PPALND, adjuvant pelvic XRT
- **Stage III:** total hyst/BSO/PPALND, adjuvant chemotherapy
- **Stage IV:** chemotherapy and palliative radiation

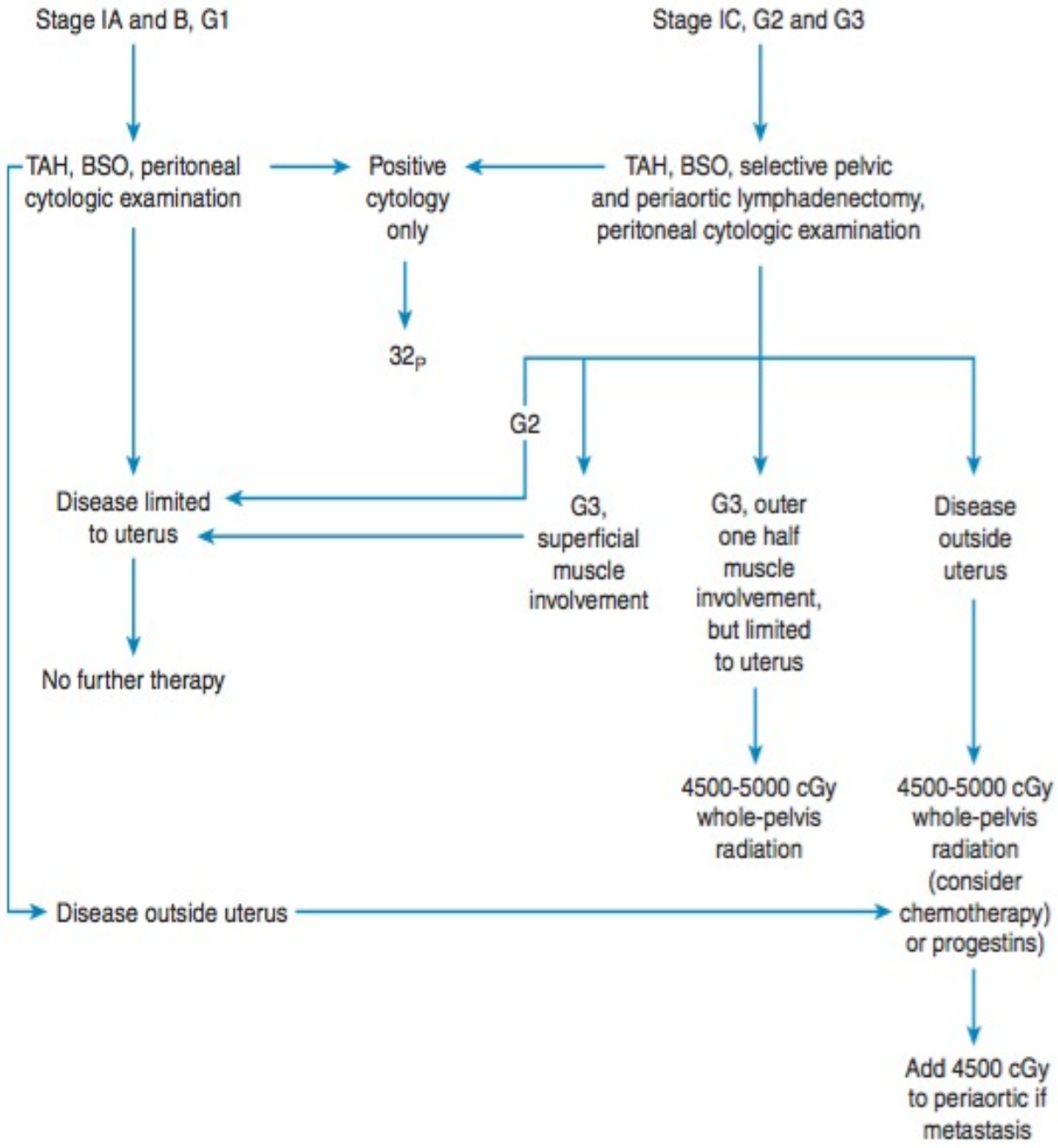


Figure 5–11 Primary surgical management of endometrial cancer. TAH, total abdominal hysterectomy; BSO, bilateral salpingo-oophorectomy.

Table 10–2. M. D. Anderson Cancer Center Adjuvant Treatment Guidelines for Endometrial Cancer after Full Surgical Staging*

Risk	*Surgical Stage*	*Adjuvant Therapy*
Low	Stage IA, Grade 1 or 2 Stage IB, Grade 1	None
Low Intermediate	Stage IB, Grade 2 Stage IA, Grade 3	Vaginal cuff irradiation or none
High Intermediate	Stage IC, Grade 1 or 2 Stage IB, Grade 3 Stage IIA, Grade 1, 2, or 3	Vaginal cuff irradiation +/− pelvic irradiation
High	Stage IC, Grade 3 Stage IIB, Grade 1, 2, or 3	Pelvic irradiation + vaginal cuff irradiation
High	Stage III, Grade 1, 2, or 3	Chemotherapy or radiation therapy or both (Treatment for stage IIIA disease with positive cytology is controversial.)
High	Stage IV, Grade 1, 2, or 3	Chemotherapy with or without palliative radiation therapy

*Excluding uterine papillary serous carcinoma and clear cell carcinoma.

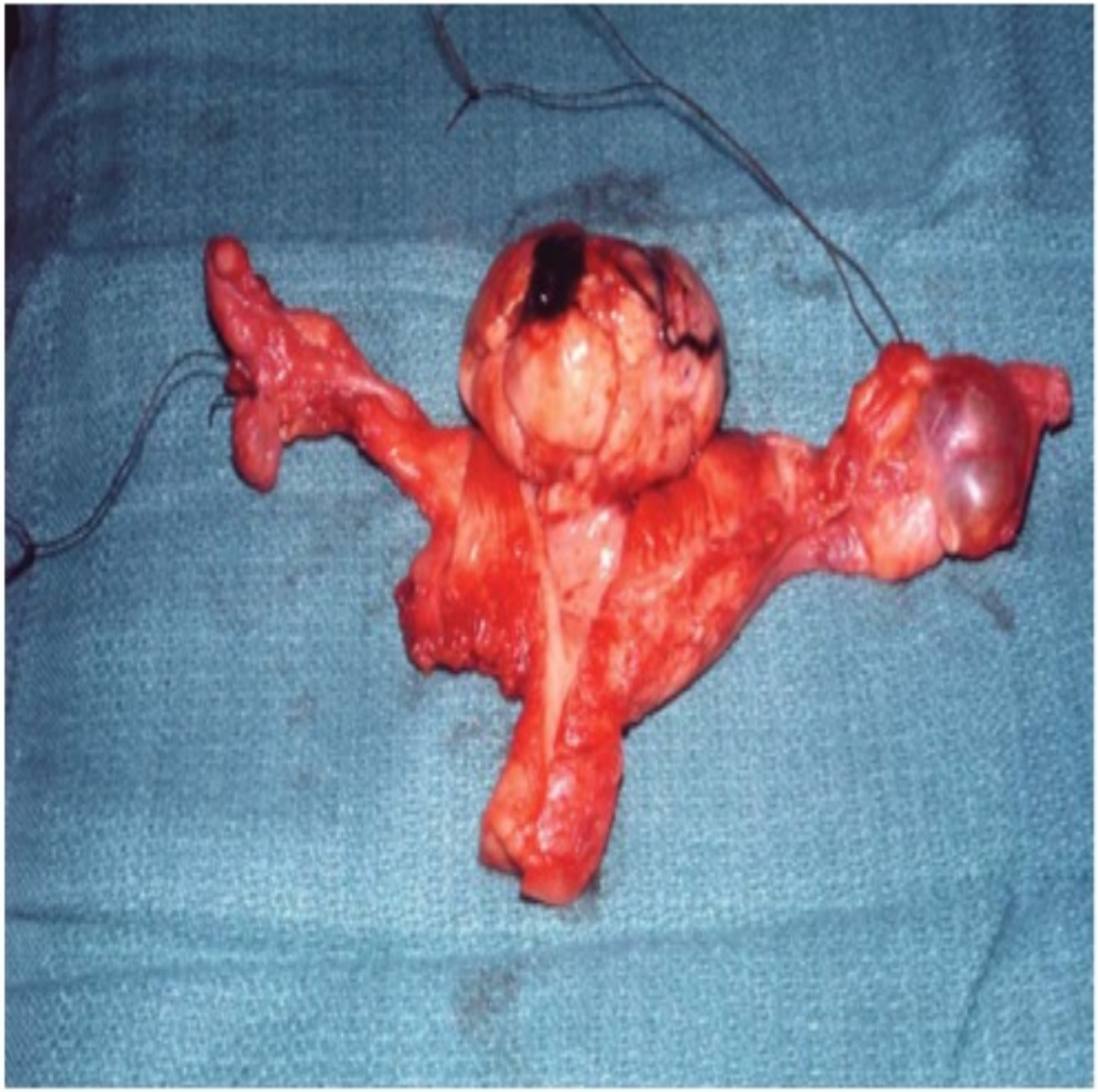
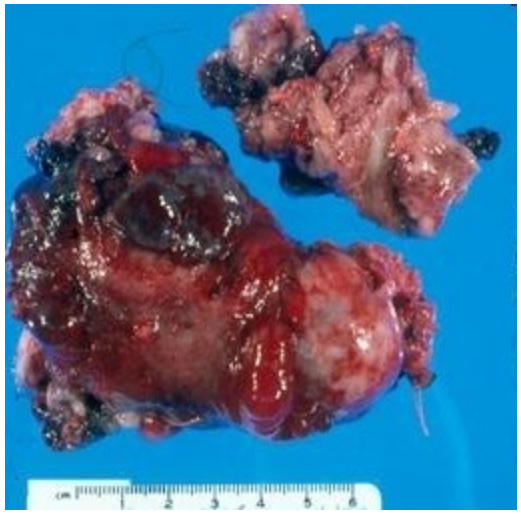


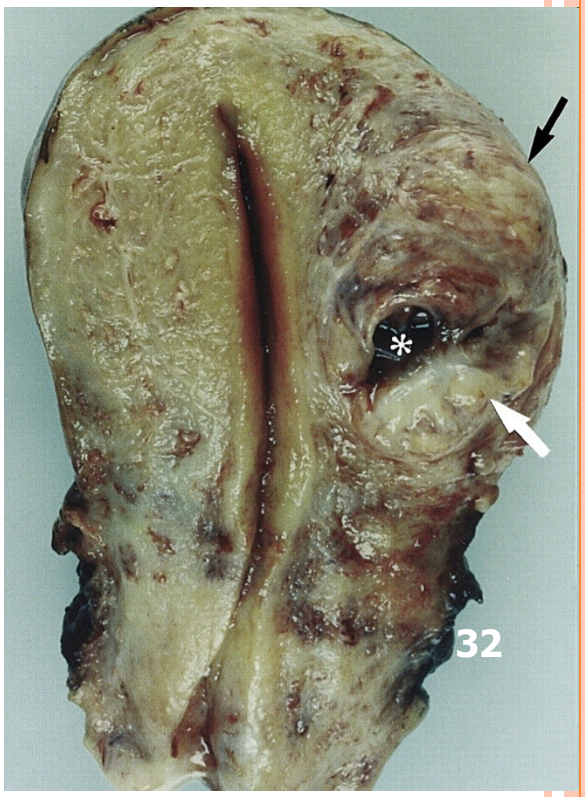
Figure 5–12 Total abdominal hysterectomy (TAH) and bilateral salpingo-oophorectomy (BSO) showing large polypoid adenocarcinoma of the endometrium with deep myometrial invasion.

Other Types of Uterine Cancer

- Leiomyosarcoma
  - Rapidly growing fibroid should be evaluated
- Stromal sarcoma
- Carcinosarcoma (MMMT)



MMMT



leiomyosarcoma

THANK YOU

MCQs

- **The presentation of endometrial cancer may be:**

a). Postmenopausal bleeding

b). Perimenopausal bleeding

c). Vulvar mass

d). Large peliviabdominal swelling

- **The premalignant lesion of endometrial cancer is:**

a) CIN3

b) Submucous leiomyoma

c) Endometrial hyperplasia

d) Atypical endometrial hyperplasia

- The most important incriminated hormone in the pathophysiology of endometrial cancer is:

a). Estriol

b).progesterone

c) Estradiole

d) Testosterone

- enumerate briefly the FIGO staging of endometrial carcinoma.
- The most important diagnostic procedure for endometrial cancer is:

a). Transvaginal estimation of endometrial thickness

b). Pap smear

c) Hysteroscopy

d) Endometrial office biopsy

- What is true about management of endometrial cancer stage I A-G1,2:

A). TAH+BSO

B). TAH+BSO+ postoperative radiation

C) TAH+ BSO+ pelvic lymphadenectomy

D)Preoperative radiotherapy+TAH+BSO