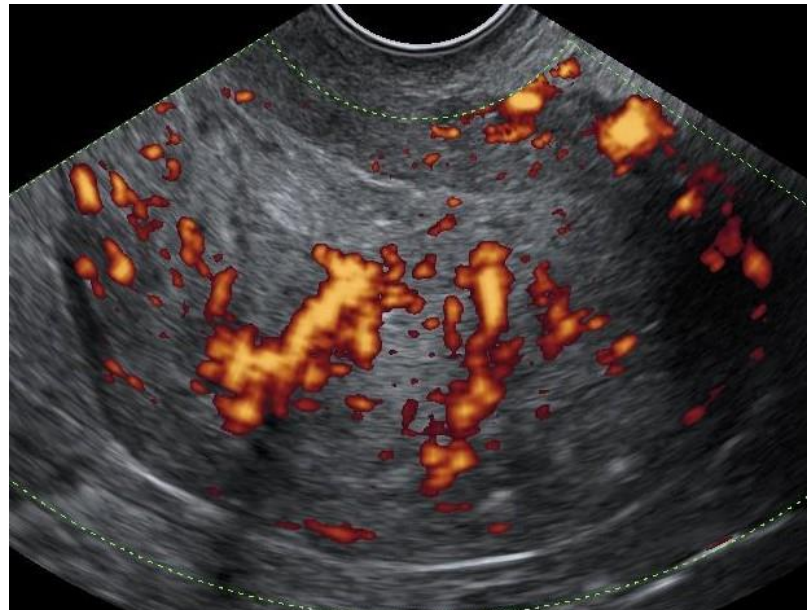# Endometrial cancer (EC)

Definition

Endometrial cancer include epithelial malignant tumors, (endometrioid, mucinous, serous, clear cell, mixed, and undifferentiated cancer) and malignant mixed epithelial and mesenchymal tumor, i.e. carcinosarcoma (malignant mixed Müllerian tumor).
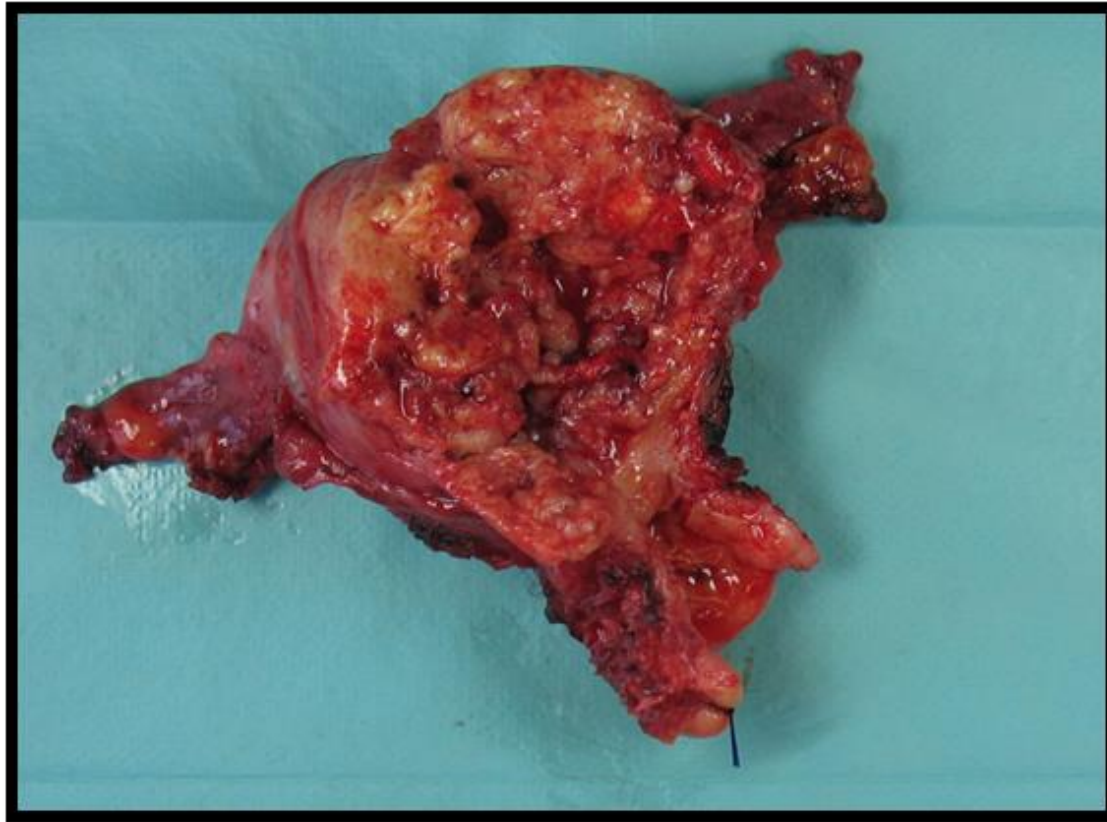
Macroscopic appearance

Figure 1a. Macroscopic appearance of a tumour originating in the endometrium of the corpus uteri, infiltrating into the myometrium
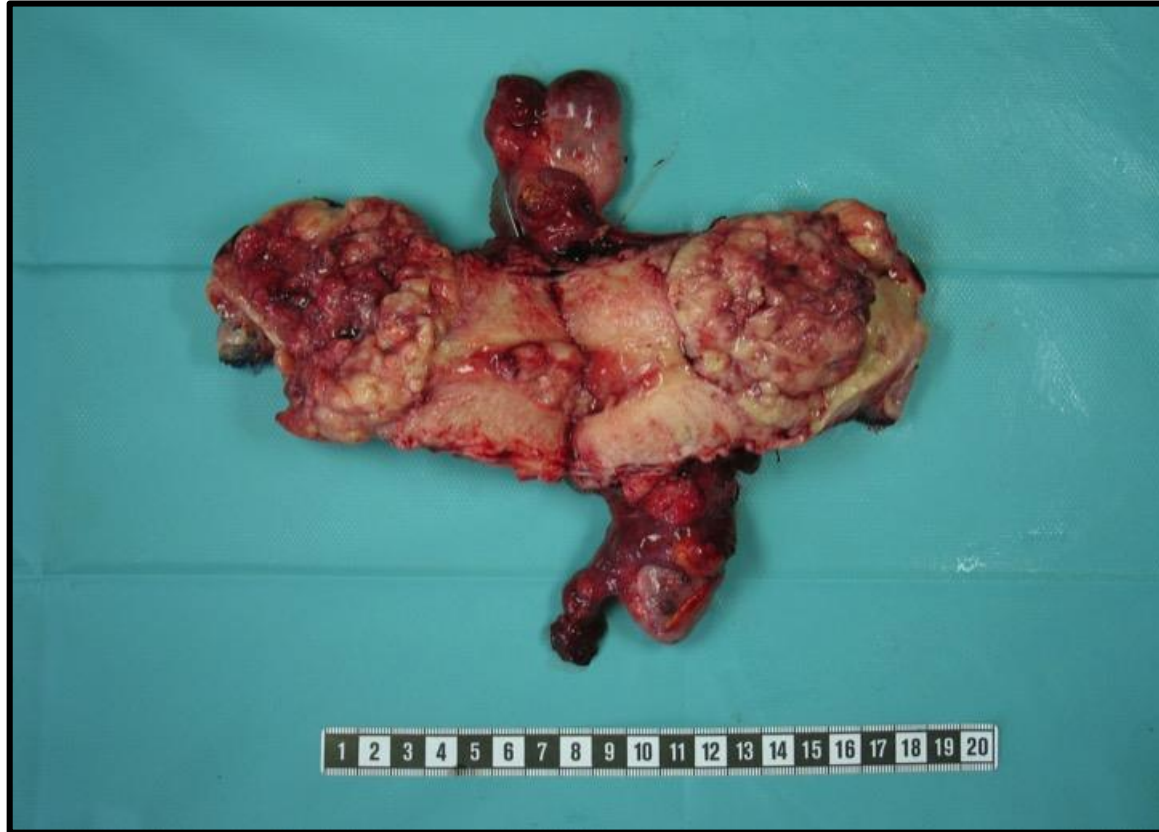
Macroscopic appearance

Figure 1b. Macrosocpic apperence of endometrial cancer that originates in the lower uterine segment.

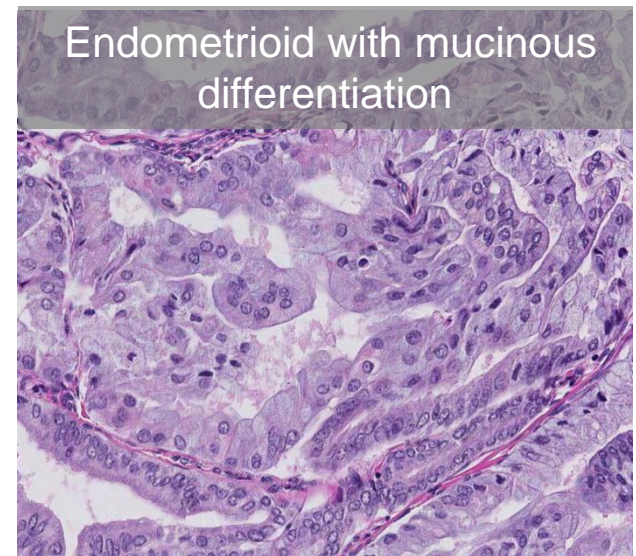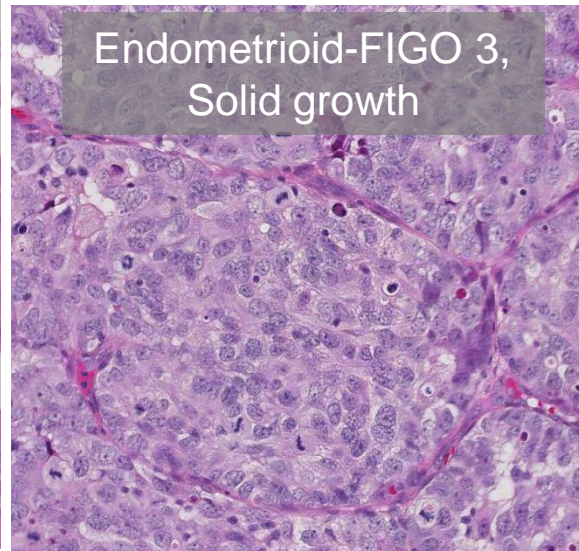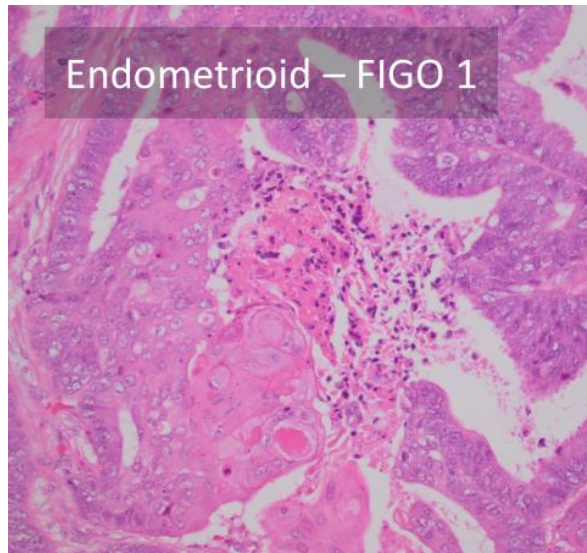# Microscopic appearance of endometrioid cancers

Figure 2 a-c

Microscopic appearance of the MELF (Microcystic, Elongated structures or Fragmented solid cells) - growth pattern
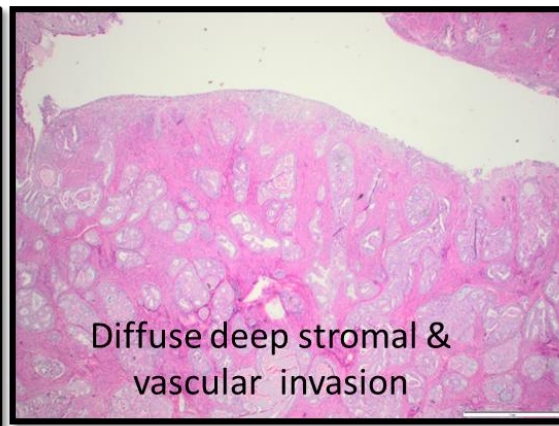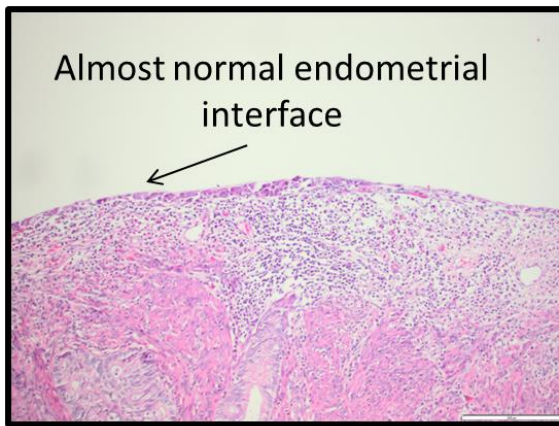

Figure 3: MELF growth pattern, associated with adverse prognosis

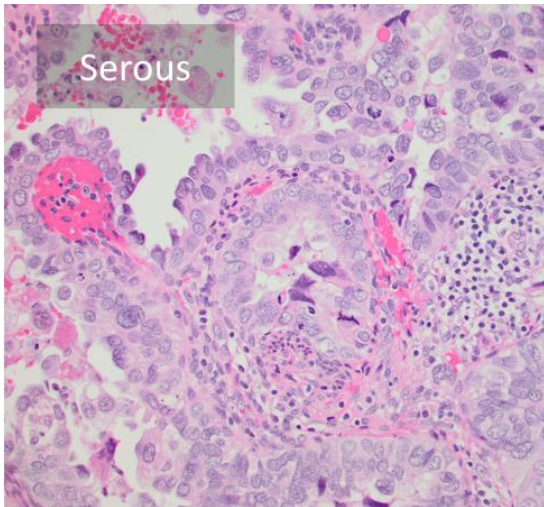# Microscopic appearance– Non-endometrioid tumours

Figure 4a

Figure 4b

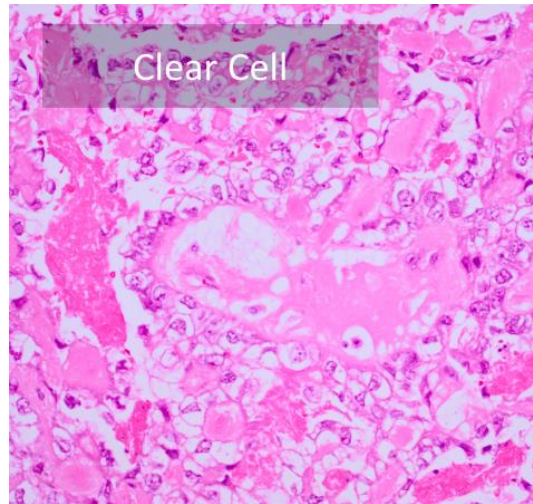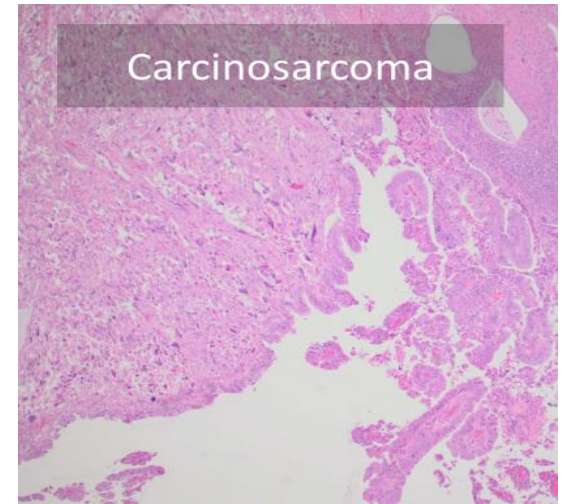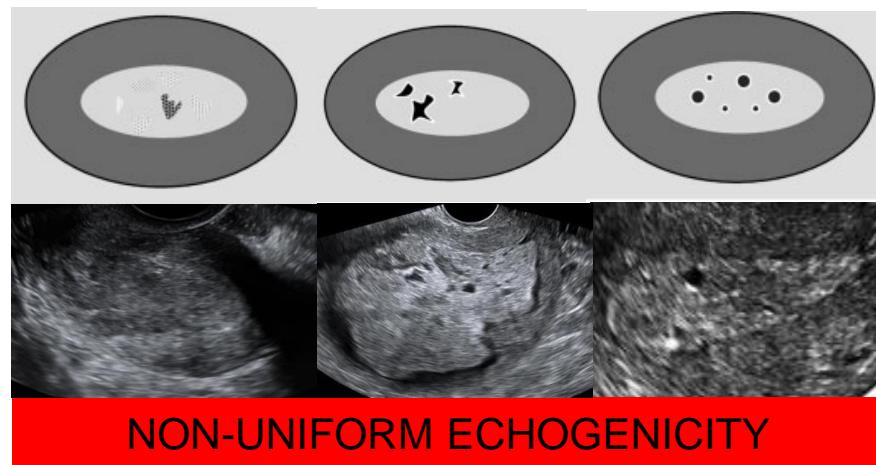Figure 4c

Assessment of endometrial gray-scale morphology according to IETA
(Leone et al UOG 2010)

UNIFORM ECHOGENICITY   **NON-UNIFORM ECHOGENICITY**
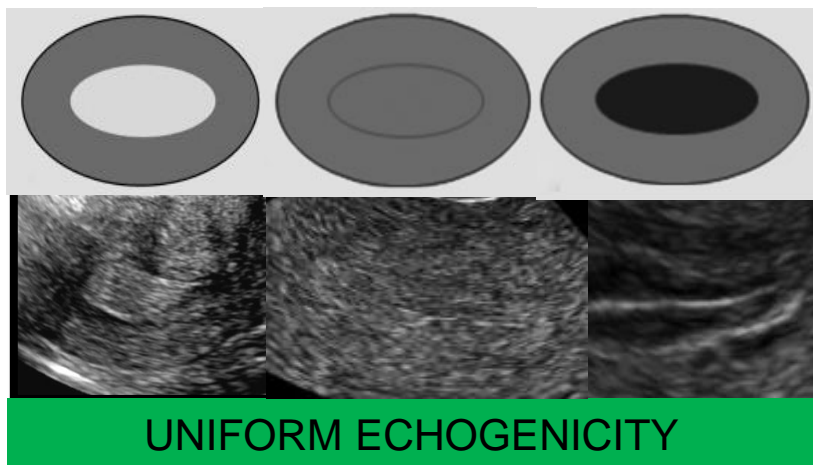
ENDOMETRIAL ECHOGENICITY

REGULAR   **IRREGULAR**   **INTERRUPTED**
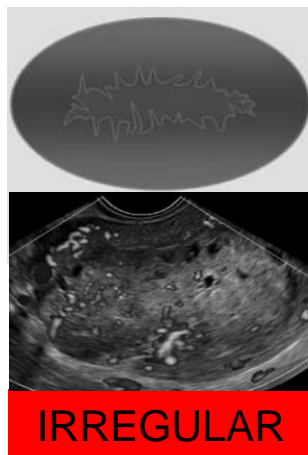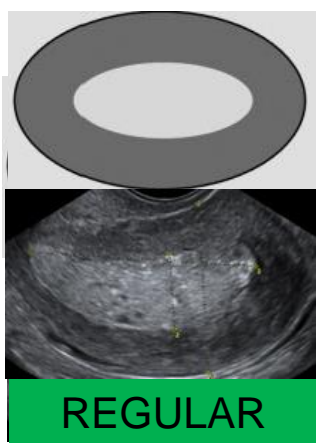
Figure 5a

ENDOMETRIAL – MYOMETRIAL JUNCTION

Assessment of endometrial vascularity according to IETA
(Leone et al UOG 2010)

COLOR SCORE

1 2 3 4

VESSEL PATTERN

SINGLE

SINGLE BRANCHING

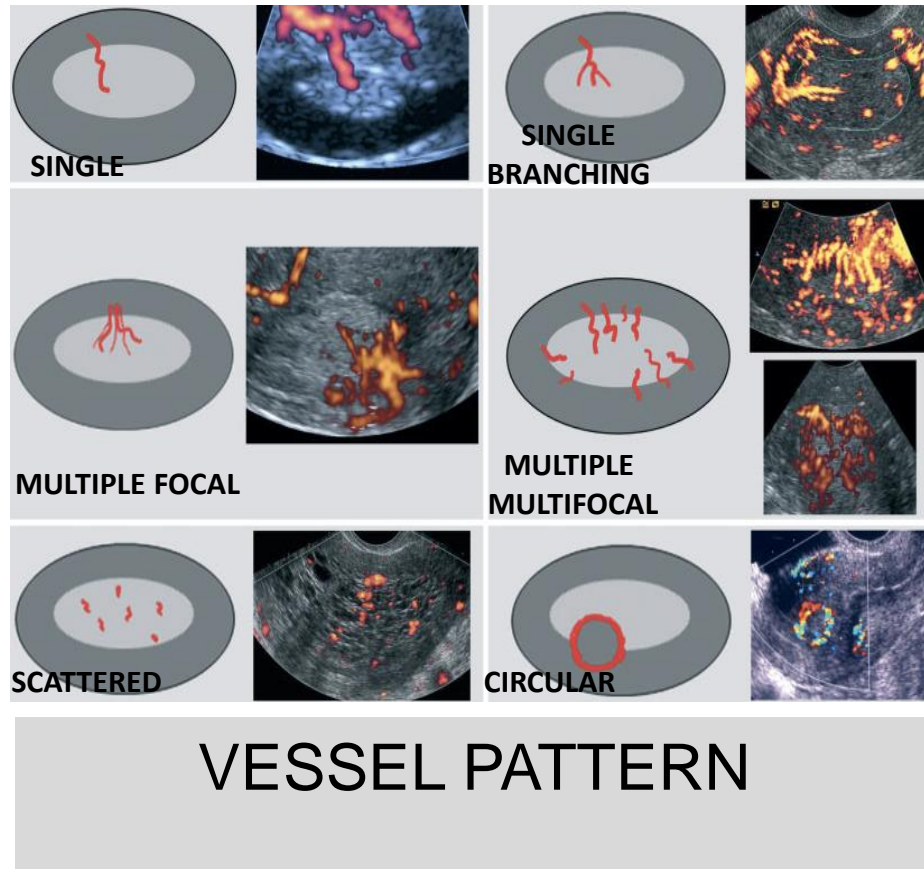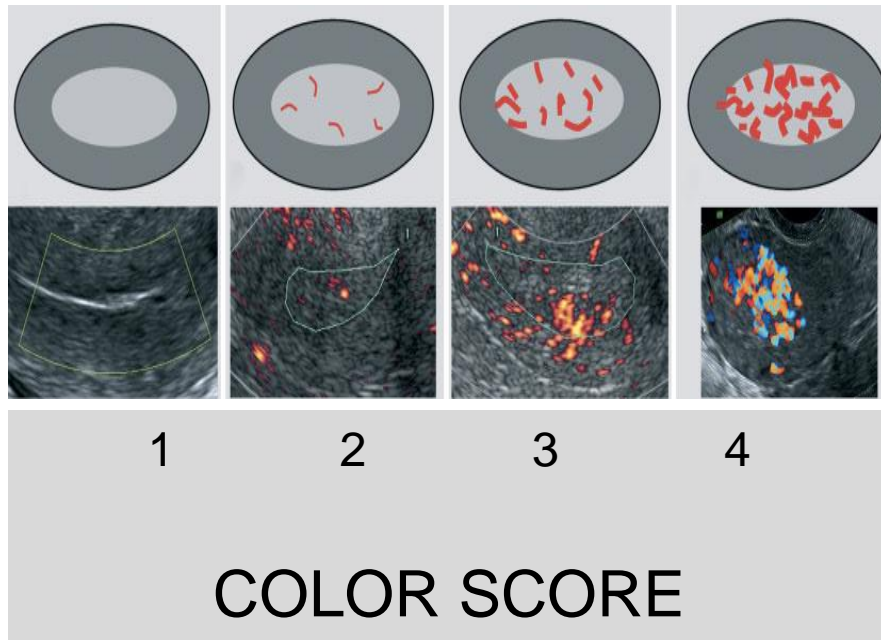MULTIPLE FOCAL

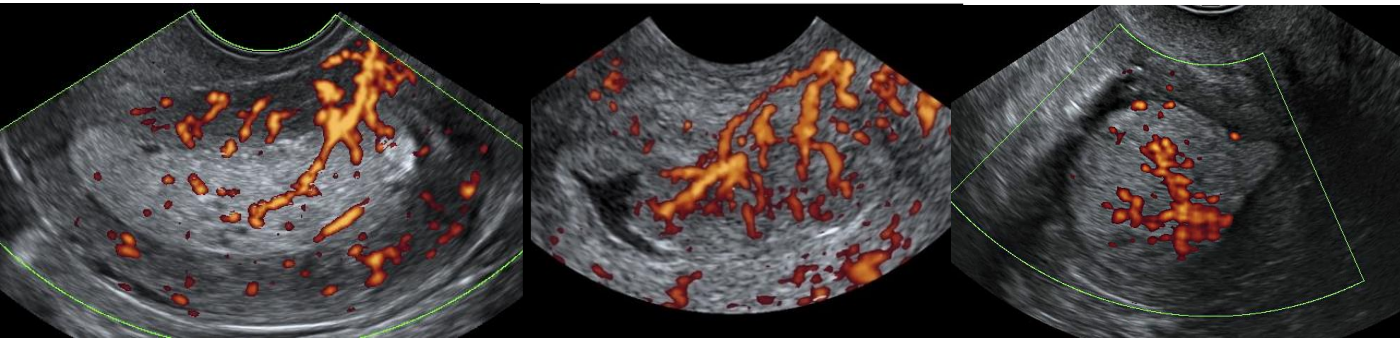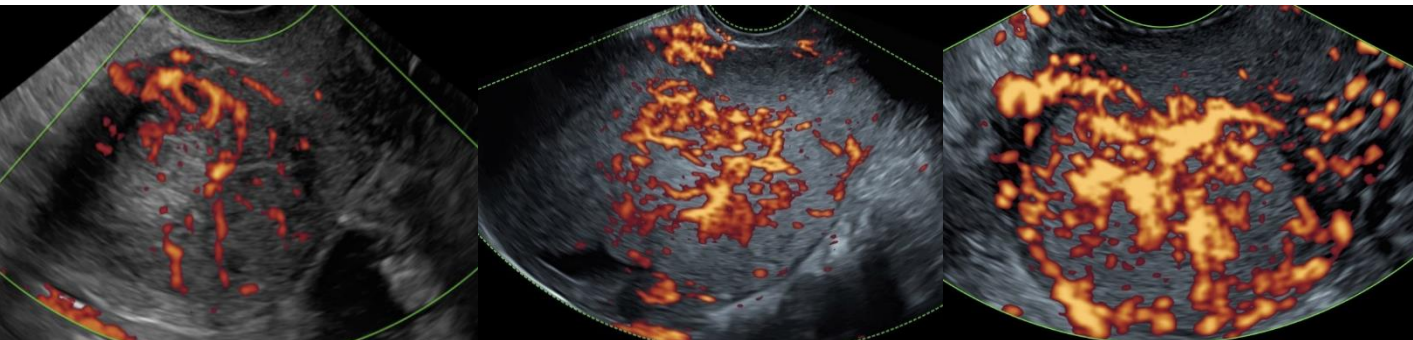MULTIPLE MULTIFOCAL

SCATTERED

CIRCULAR

Figure 5b

Sonographic vessel pattern may reflect tumour growth pattern (Epstein et al UOG 2011)

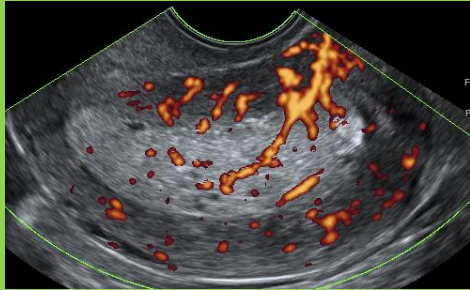Focal vessel-pattern associated with exophytic growth

Multiple multifocal vessel pattern associated with invasive growth

Figure 6

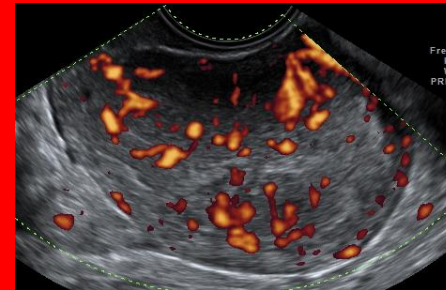# Morphology of endometrioid endometrial cancer (EEC) dependents on grade and stage
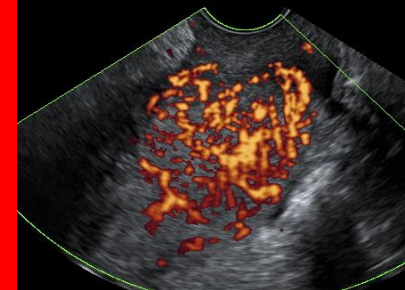## (Epstein et al UOG 2018)

Stage 1A, grade 1 | **Stage 1A, grade 3** | **Stage 1B, grade 1** | **Stage II, grade 3**
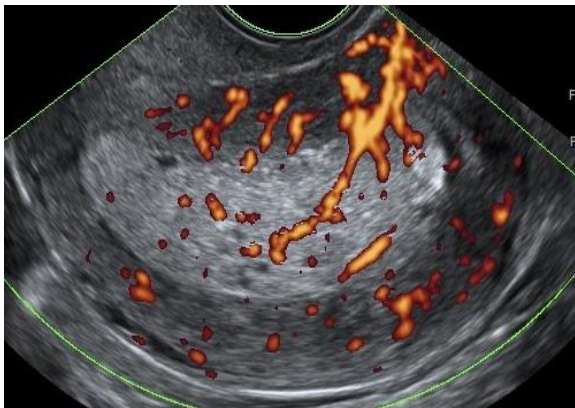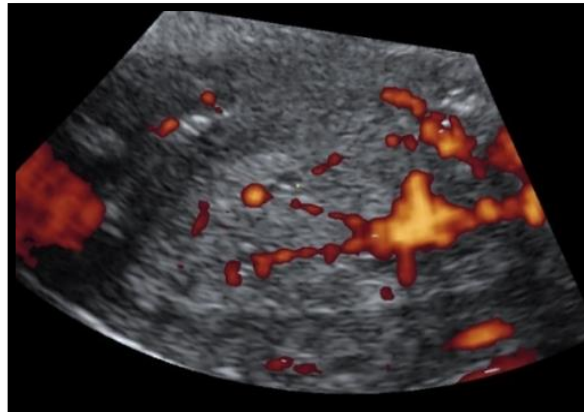
Low risk tumors

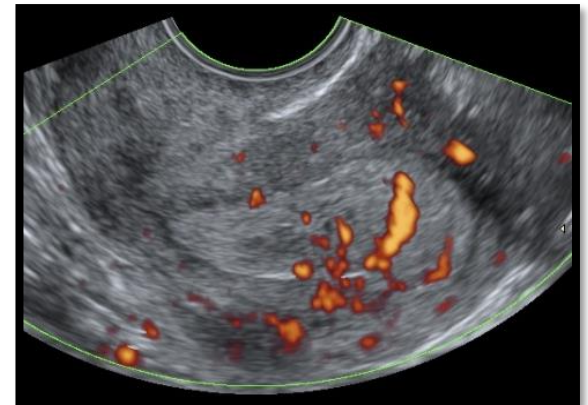High risk tumors

Figure 7

Ultrasound characteristics

LOW RISK CANCER

Regular endometrial-myometrial junction
Uniform Echogenicity

Single branching, or
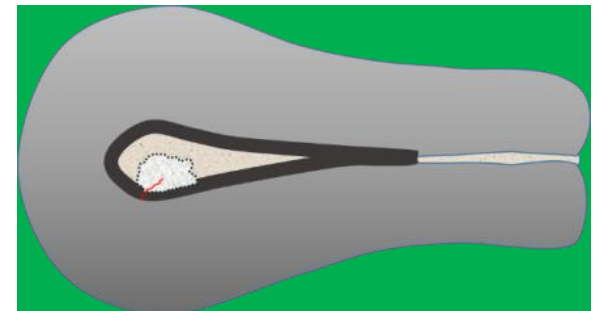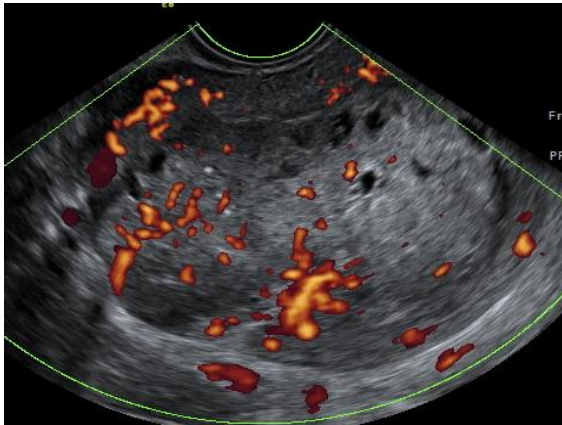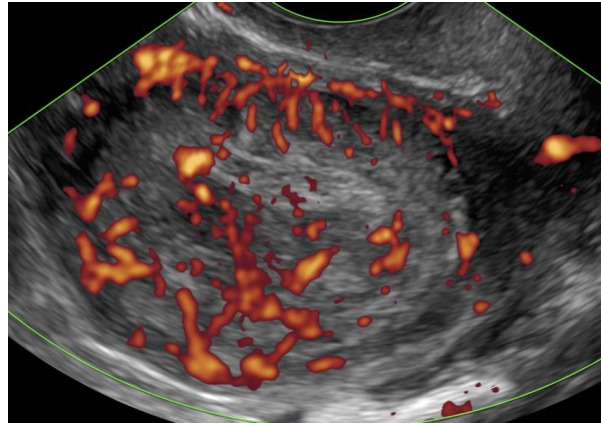Multiple focal vessels

Sparse vascularization

Figure 8

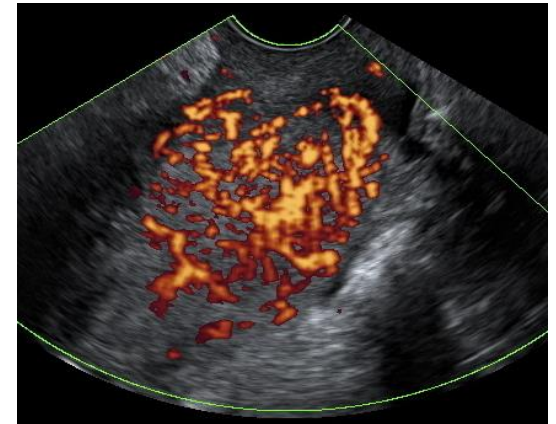# Ultrasound characteristics

HIGH RISK CANCER

Irregular endometrial-
myometrial junction
Non-uniform echogenicity

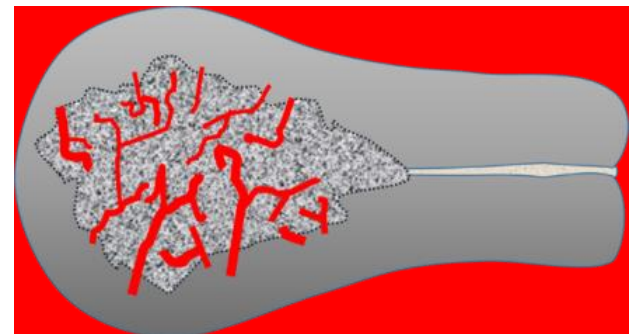Multiple, multifocal
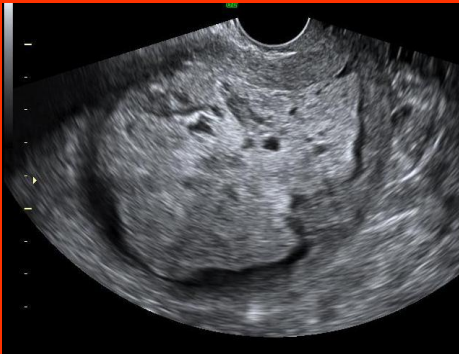vessel pattern

Color score 3-4

Figure 9

Endometrial Morphology –
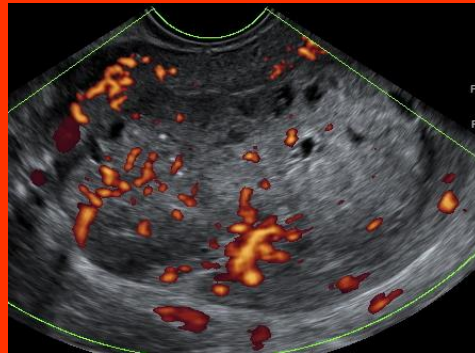# non-endometroid tumours
(Epstein et al UOG 2018)

Non-endometrioid tumours are all high-risk tumours
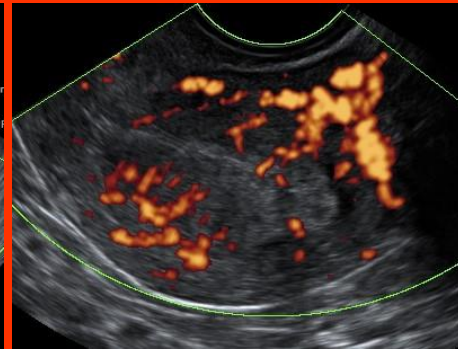

Clear cell   Carcinosarcoma   Serous   Mixed
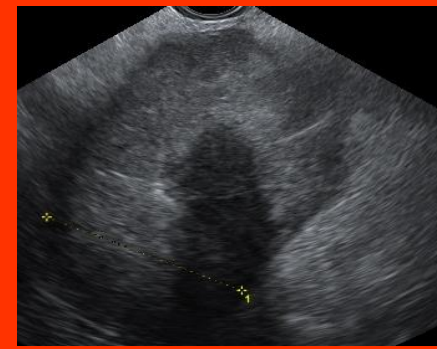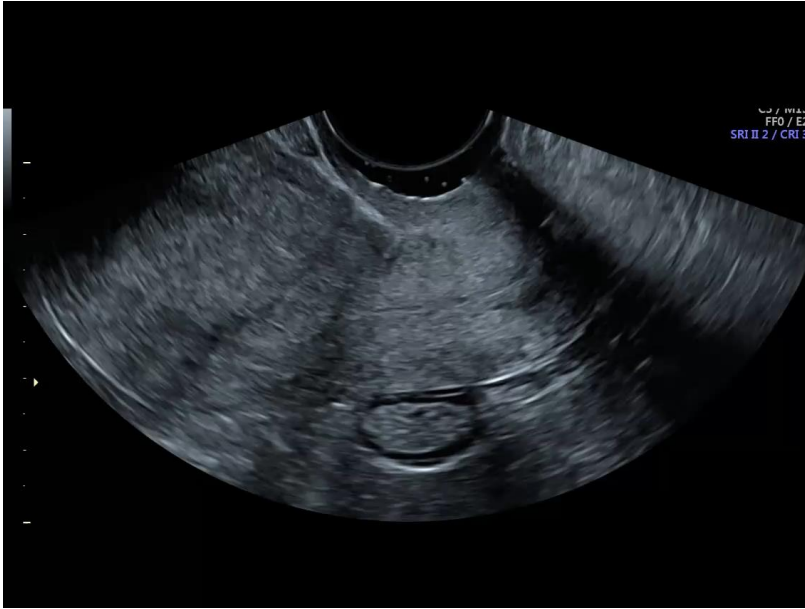
Figure 10

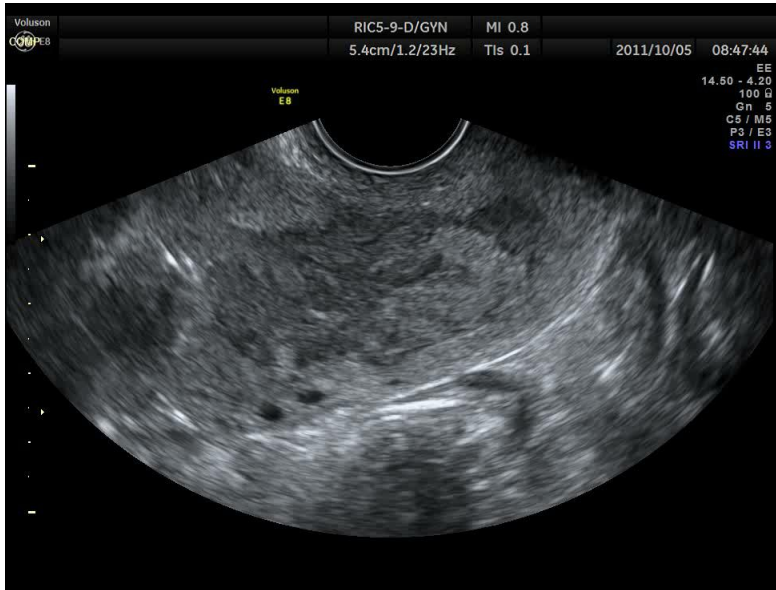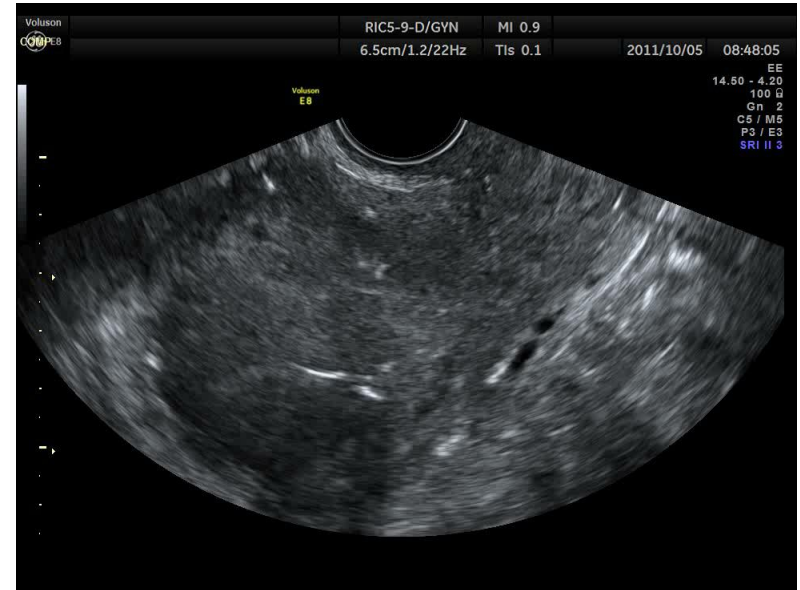# VIDEO – typical case low risk endometrial cancer

No cervical stromal invasion

Myometrial invasion < 50%

Figure 11

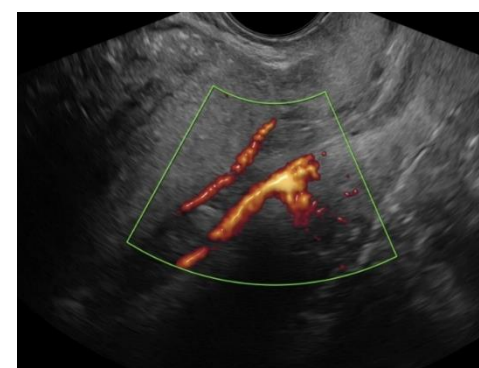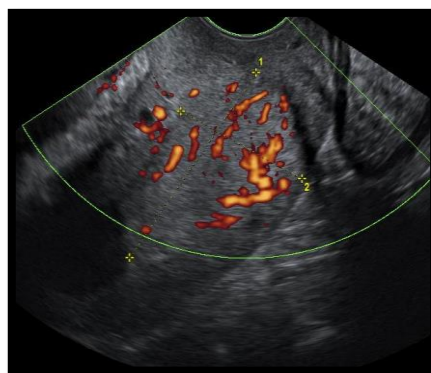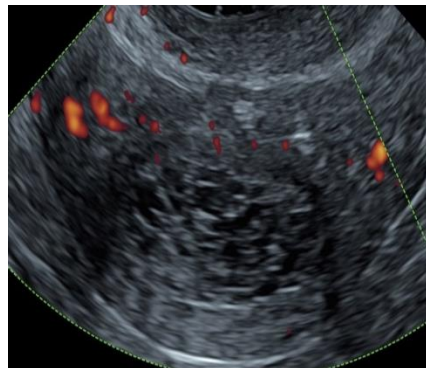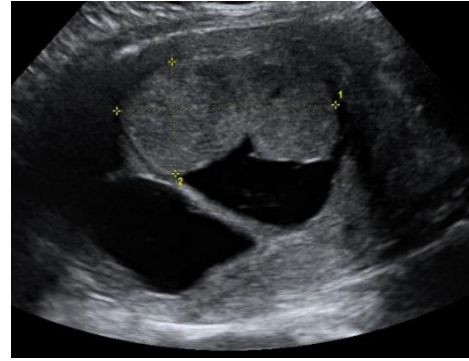# VIDEO – Typical case high risk endometrial cancer
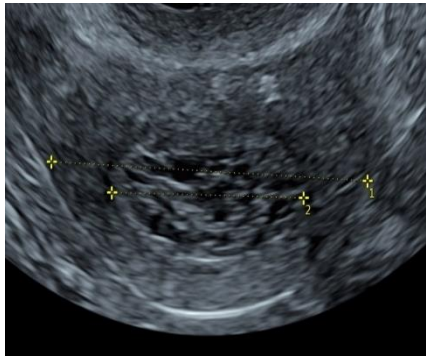

Cervical stromal invasion present

Myometrial invasion present

Figure 12

Differential diagnosis

Benign Endometrial polyp

Cervical cancer

Endometrial Stromal Sarcoma

Uterus completely infiltrated by colorectal cancer metastasis

Figure 13