International Ovarian Tumor Analysis (IOTA) "easy descriptors"

MD1 Tumor with ascites and at least moderate color Doppler blood flow in postmenopausal woman

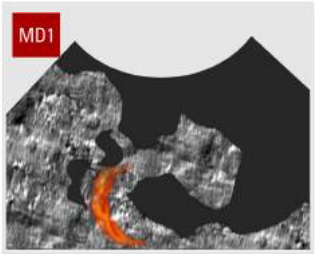
MD2 Age > 50 years and CA 125 > 100 U/mL

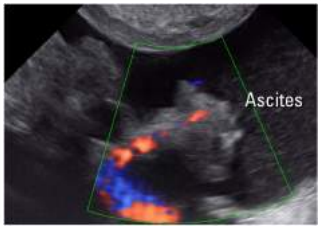
BD1 Unilocular tumor with ground glass echogenicity in premenopausal woman (suggestive of endometrioma)

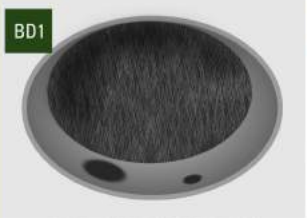
BD2 Unilocular tumor with mixed echogenicity and acoustic shadows in premenopausal woman (suggestive of benign cystic teratoma)

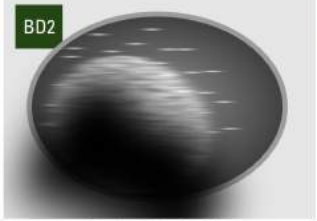
BD3 Unilocular tumor with regular walls and maximal diameter < 10 cm (suggestive of simple cyst or cystadenoma)

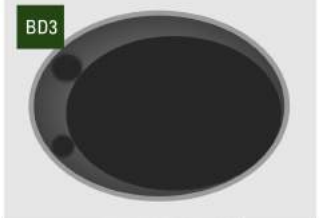
BD4 Remaining unilocular tumor with regular walls

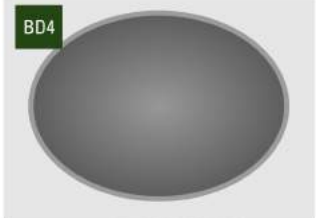


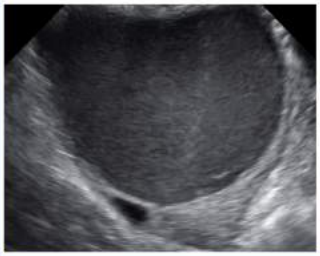


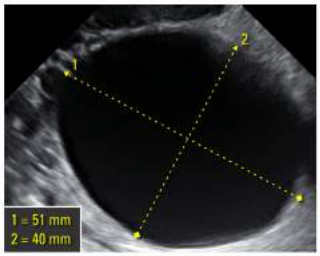


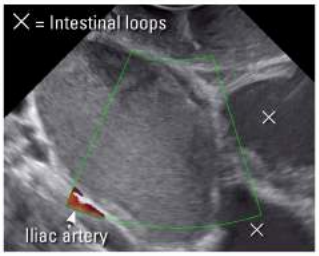








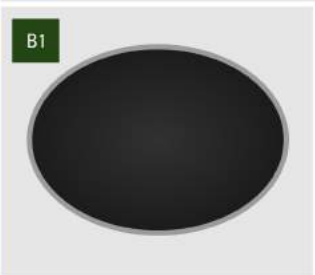


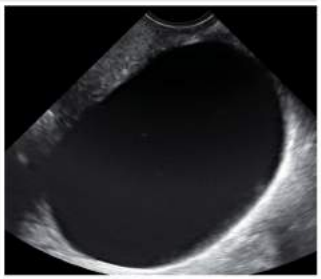


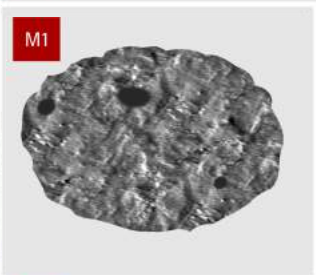
International Ovarian Tumor Analysis (IOTA) simple rules

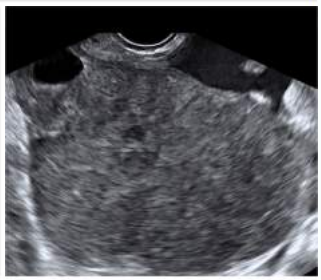
B1	Unilocular cyst
B2	Presence of solid components, maximal diameter < 7 mm
B3	Presence of acoustic shadows
B4	Smooth multilocular tumor, maximal diameter < 100 mm
B5	No blood flow (color score 1)

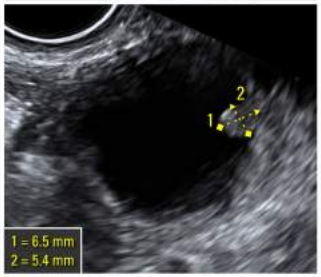
M1	Irregular solid tumor
M2	Presence of ascites
M3	At least four papillary structures
M4	Irregular multilocular solid tumor, maximal diameter >100mm
M5	Very strong blood flow (color score 4)

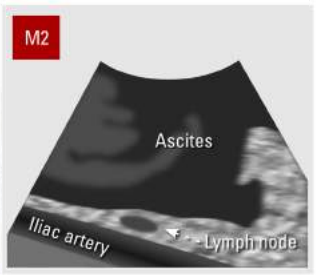


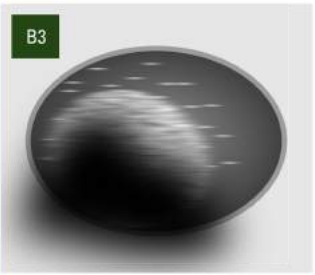


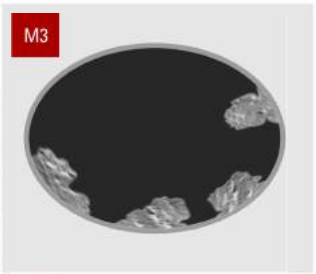


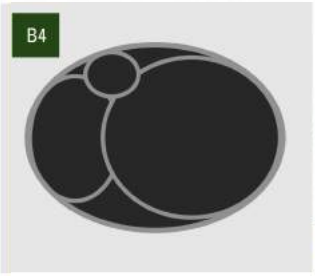


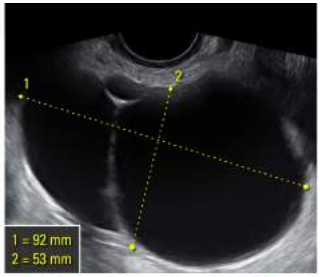


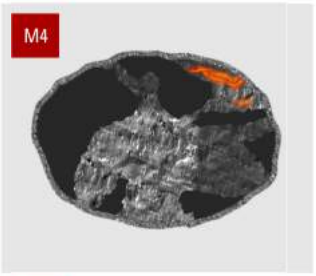


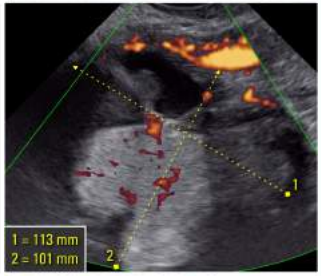


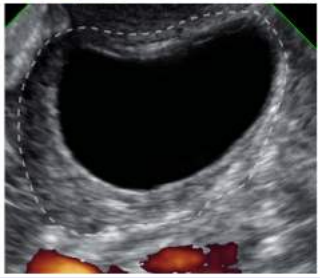


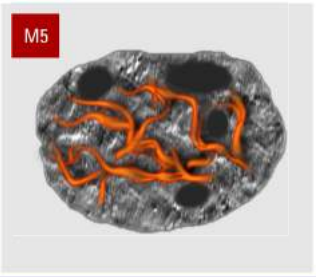


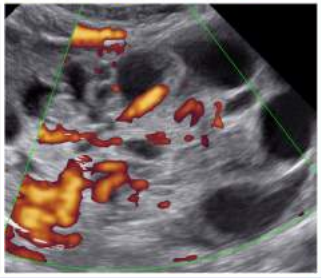












IOTA

TABLE OF LESIONS

Terms and definitions from the International Ovarian Tumor Analysis (IOTA) group

Unilocular cyst

1

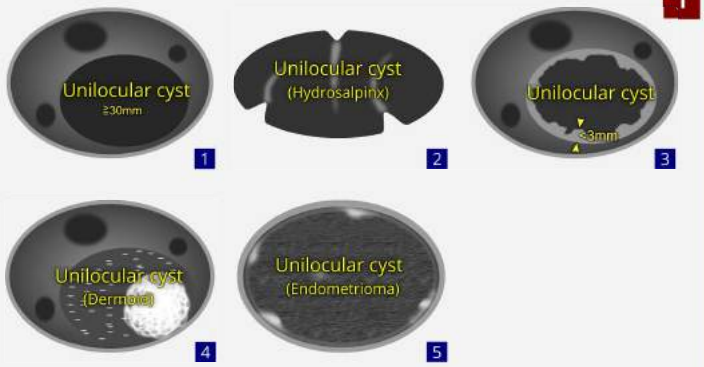
1 A unilocular cyst without septa and without solid parts or papillary structures.

2 If a cyst has only incomplete septa and no real septa, it is recorded as unilocular. An incomplete septum as seen in hydrosalpinges is defined as a thin strand of tissue running across the cyst cavity from one internal surface to the contralateral side, but which is not complete in some scanning planes.

3 If there is irregular internal cyst wall without a solid papillary projection, than the cyst is also unilocular by definition. The height of excrescences should be less than 3 mm.

4 The hyperreflective and avascular area ("white ball") in the center of dermoid cyst should not be classified as a solid papillary projection.

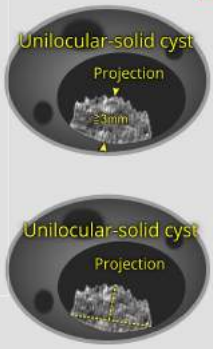
5 Similarly, "sludge" on the internal walls is not regarded as a papillary projection.



Unilocular-solid cyst

2

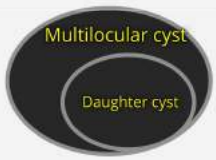
A unilocular cyst with a measurable solid component or at least one papillary structure. This category may include pyo- or hydrosalpinges with the so-called ‚beads-on-a-string' or "cogwheel" appearance if their height is greater than or equal to 3 mm. If the solid components comprise 80% or more of the tumor than the mass is called a solid tumor.



Multilocular cyst

3

A cyst with at least one septum but no measurable solid components or papillary projections. A septum is not classified as a solid component and is defined as a thin echogenic strand of tissue running accross the cyst cavity from one internal surface to the contralateral side.



Multilocular-solid cyst

4

A multilocular cyst with a measurable solid component or at least one papillary projection.

Solid tumor

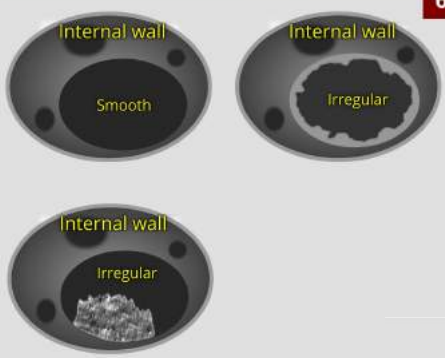
5

A tumor where the solid components comprise 80% or more of the tumor when assessed in a two-dimensional section. A solid tumor may contain papillary projections protruding into the small cysts of the solid tumor.

Internal cyst wall

6

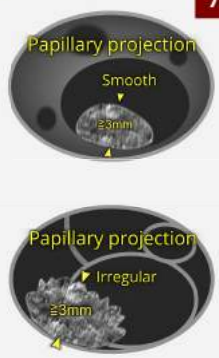
The internal cyst wall is described as being "smooth" or "irregular". If there is a solid papillary projection, then the wall is irregular by definition. In cases of "sludge" (as seen in endometriotic cysts), the internal walls are also called ‚irregular'.



Solid papillary projection

7

Solid papillary projections are defined as any solid projections protruding into the cyst cavity from the cyst wall with a height greater than or equal to 3 mm. The hyperechogenic avascular area of a dermoid cyst or sludge on the internal walls are not regarded as a papillary projection. Solid papillary projections are described as being "smooth" or "irregular" (e.g. califlower-like).



Cystic contents

8

The dominant feature of the cystic contents is described as:

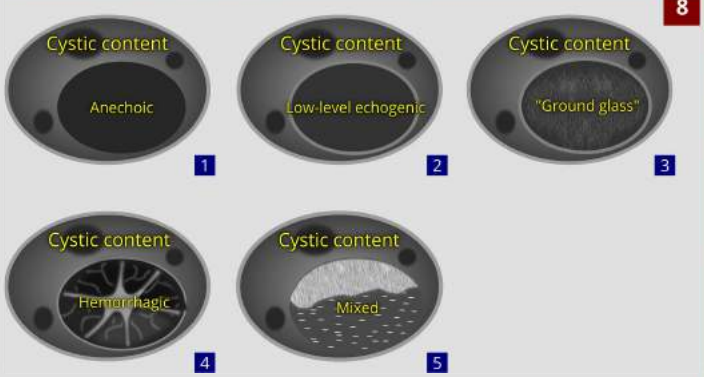
1 anechoic (black)

2 low-level echogenic (i.e.homogeneous low-level echogenic as seen in mucinous tumors)

3 "ground glass" appearance (homogeneously dispersed echogenic cystic contents, as often seen in endometriotic cysts)

4 hemorrhagic (with internal thread-like structures, representing strands)

5 or mixed (as often seen in teratomas).



Subjective assessment of blood flow

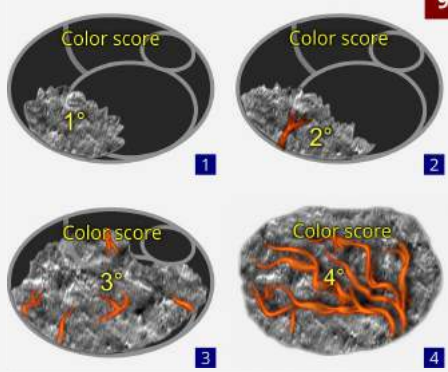
9

1 Color score of 1 is given when no blood flow within the septa, cyst walls, or solid tumor areas.

2 Color score of 2 is given when only minimal flow can be detected.

3 Color score of 3 is given when moderate flow is present.

4 Color score of 4 is given when the adnexal mass appears highly vascular with marked blood flow.



Acoustic shadows

10

The presence of acoustic shadows, defined as loss of acoustic echo behind a sound-absorbing structure, is noted.

Ultrasound Obstet Gynecol 2000; 16: 500-505