Appendix 1 Multiple Choice Questions and Answers

1. What is the main objective of O-RADS in relation to ovarian cancer?
   A) To diagnose ovarian cancer at an early stage
   B) To assess the response to chemotherapy
   C) To stratify patients based on their genetic predisposition
   D) To guide management decisions while minimizing unnecessary surgical procedures

2. According to the O-RADS US system, which category indicates an 'almost certainly benign' lesion with less than 1% risk of malignancy?
   A) O-RADS 0
   B) O-RADS 1
   C) O-RADS 2
   D) O-RADS 3

3. What does O-RADS 3 category signify in terms of risk of malignancy?
   A) High risk, more than 50% likelihood
   B) Intermediate risk, between 10% and 50% likelihood
   C) Low risk, between 1% and 10% likelihood
   D) Incomplete evaluation

4. Which feature is included in the description of typical features of a hemorrhagic cyst according to the O-RADS US lexicon?
   A) Multilocularity with solid components
   B) High color score in Doppler studies
   C) Retracting clot with concave margins
   D) Presence of significant solid tissue

5. What is the management recommendation for an O-RADS 1 category lesion, which represents a normal ovary in a premenopausal patient?
   A) Immediate surgical evaluation
   B) Routine follow-up in 6 months
   C) No additional imaging or follow-up necessary
   D) Repeat ultrasound in 12 weeks

6. When was the Ovarian-Adnexal Reporting and Data System (O-RADS) lexicon for US published?
   A) 2010
   B) 2015
   C) 2018
   D) 2020

7. Which US feature is most likely to be found in an O-RADS 2 category lesion?
   A) Irregular solid lesion with high color score
   B) Simple cyst less than 10 cm in diameter
   C) Multilocular cyst with solid components
   D) Ascites with peritoneal nodules

8. What does an O-RADS 0 category indicate in the O-RADS US system?
   A) Normal premenopausal ovary
   B) High risk of malignancy
   C) Incomplete evaluation
   D) Lesion with low risk of malignancy

9. In the O-RADS US system, which category requires additional imaging study such as MRI?
    A) O-RADS 1
    B) O-RADS 0
    C) O-RADS 5
    D) O-RADS 3

10. What is the risk of malignancy associated with O-RADS 5 category lesions?
    A) Less than 1%
    B) 1% to less than 10%
    C) 10% to less than 50%
    D) 50% or more

11. Which management strategy is recommended for a lesion classified as O-RADS 4?
    A) No follow-up necessary
    B) Routine imaging follow-up
    C) Consultation with a gynecologic oncologist
    D) Only clinical follow-up

12. What is the definition of a simple cyst according to the O-RADS US lexicon?
    A) A cyst with solid components and septations
    B) A cyst that is anechoic with a smooth wall and posterior enhancement
    C) A cyst with irregular walls and increased vascularity
    D) A multilocular cyst with low color score

13. O-RADS 2 category lesions are described as having what level of risk for malignancy?
    A) High risk, greater than 50%
    B) Low risk, 1% to less than 10%
    C) Almost certainly benign, less than 1%
    D) Very high risk, greater than 70%

14. Which of the following is a characteristic of a typical endometrioma as per the O-RADS lexicon?
    A) Multilocular cyst with solid components
    B) Homogenous low-level internal echoes
    C) High color score with irregular solid components
    D) Simple cyst with posterior shadowing

15. What is the management recommendation for a lesion categorized under O-RADS 5?
    A) Immediate referral to gynecologic oncology
    B) No follow-up or routine follow-up
    C) Annual follow-up with MRI
    D) Ultrasound follow up 12 weeks later

16. Which US feature is NOT typically associated with a hemorrhagic cyst according to O-RADS?
    A) Retracting clot with concave margins
    B) High color score and vascularity
    C) Reticular pattern within the cyst
    D) No flow at color Doppler

17. For which O-RADS category is the presence of ascites particularly concerning for malignancy?
    A) O-RADS 1
    B) O-RADS 2
    C) O-RADS 4
    D) O-RADS 5

18. O-RADS 4 category lesions have which level of risk for malignancy?
    A) Less than 1%
    B) 1% to less than 10%
    C) 10% to less than 50%
    D) 50% or more

19. What is a characteristic feature of lesions in the O-RADS 1 category?
    A) Papillary projections
    B) Multilocular cyst
    C) Corpus luteum <3cm
    D) İrregular thick cyst wall

20. What is typical feature of peritoneal inclusion cyst according to O-RADS?
    A) Contour that follows the adjacent pelvic organs and peritoneum
    B) Reticular pattern
    C) Hyperechoic component with acoustic shadowing
    D) Homogenous low level echoes

21. In the context of O-RADS, what does a lesion categorized as O-RADS 4 typically signify about its characteristics?
    A) It is likely benign and requires no follow-up.
    B) It poses intermediate risk of malignancy and may need gynecologic oncology referral.
    C) It is almost certainly benign.
    D) Evaluation is incomplete and needs further imaging.

22. Which scenario best applies to O-RADS 3 classification for management of ovarian lesions?
    A) Routine surgical intervention is necessary.
    B) Follow-up imaging or clinical follow-up may be sufficient.
    C) Direct referral to gynecologic oncology is mandatory.
    D) No imaging follow-up is needed.

23. What is the recommended management for premenopausal woman with O-RADS 2 lesion that is smaller than 3cm, non-simple unilocular and have smooth inner margin cyst?
    A) No imaging follow-up is needed
    B) Immediate surgical removal
    C) Further evaluation by MRI
    D) Specialist consultation

24. Which O-RADS category suggests a high risk of malignancy with a recommendation for direct management by a gynecologic oncologist?
    A) O-RADS 1
    B) O-RADS 2
    C) O-RADS 4
    D) O-RADS 5

25. For a lesion evaluated as O-RADS 4, what is the primary next step in management?
    A) Repeat ultrasound or alternate imaging study
    B) No follow-up necessary
    C) Immediate referral to gynecologist
    D) Routine follow-up in one year

26. Which feature is NOT part of the O-RADS US lexicon for describing typical dermoid cysts?
    A) Hyperechoic lines and dots
    B) Reticular pattern with clot retraction
    C) Floating fat levels
    D) Hyperechoic component with acoustic shadowing

27. In the O-RADS system, how is a simple cyst in a postmenopausal woman typically managed if it is less than 3 cm in diameter?
    A) Follow-up imaging within three months
    B) Annual follow-up for five years
    C) No further imaging required
    D) Immediate surgical evaluation

28. What criterion differentiates an O-RADS 3 from an O-RADS 4 lesion?
    A) The presence of solid components with CS= 2-3
    B) The size of the lesion being over 10 cm
    C) Loculation
    D) The presence of septations

29. Which type of cyst is typically classified under O-RADS 2 due to its benign nature?
    A) Endometriomas
    B) Hemorrhagic cysts
    C) Complex cysts with septations
    D) Simple cysts

30. What management strategy is generally for typical hydrosalpinx?
    A) Regular imaging follow-ups
    B) Surgical intervention
    C) Gynecologist consultation
    D) MRI

Answers

1. D	2. C	3. C	4. C	5. C
6. C	7. B	8. C	9. B	10. D
11. C	12. B	13. C	14. B	15. A
16. B	17. D	18. C	19. C	20. A
21. B	22. B	23. A	24. D	25. C
26. B	27. C	28. A	29. D	30. C

Appendix 2 The dataset of study

Number of Question	ChatGPT 3.5	ChatGPT 4	ChatGPT 4.o	Gemini 1.5pro	Gemini 1.0	Perplexity	Perplexity pro	Mistral large	Llama 3 70b	Claude 3 Opus	Claude Sonnet	General radiologist
1.	1	1	1	1	1	1	1	1	1	1	1	1
2.	1	1	1	1	1	1	1	1	0	1	0	1
3.	1	1	1	1	1	1	1	1	1	1	1	1
4.	1	1	1	1	1	1	1	1	1	1	1	1
5.	1	1	1	1	1	1	1	1	1	1	1	1
6.	1	1	1	1	1	1	1	1	1	1	0	1
7.	1	1	1	1	1	1	1	1	1	1	1	1
8.	1	1	1	1	1	1	1	1	1	1	1	1
9.	0	0	0	0	0	0	1	1	0	1	0	0
10.	1	1	1	1	1	1	1	1	1	1	1	1
11.	1	1	1	1	1	1	1	1	1	1	1	1
12.	1	1	1	1	1	1	1	1	1	1	1	1
13.	0	1	1	1	0	1	1	1	1	1	0	1
14.	1	1	1	0	1	1	1	1	1	1	1	1
15.	1	1	1	1	1	1	1	1	1	1	1	1
16.	0	1	1	1	0	0	1	1	1	1	1	1
17.	1	1	1	1	1	1	1	1	1	1	1	1
18.	1	1	1	1	1	1	1	1	1	1	1	1
19.	1	1	1	1	1	1	1	1	1	1	1	1
20.	1	1	1	1	1	1	1	1	1	1	1	1
21.	1	1	1	1	1	1	1	1	1	1	1	1
22.	1	1	1	1	1	1	1	1	1	1	1	1
23.	1	1	1	0	0	0	1	1	0	1	1	1
24.	1	1	1	1	1	1	1	1	1	1	1	1
25.	1	0	1	0	0	0	0	1	0	0	1	1
26	1	1	1	1	1	0	1	1	1	1	1	0
27	1	1	1	1	1	1	1	1	1	1	1	1
28	0	1	1	1	1	1	1	1	1	1	1	1
29	1	1	1	1	1	1	0	0	1	1	1	0
30	0	0	0	0	0	1	0	1	1	0	0	1
Accuracy	83%	90%	93%	83%	80%	83%	90%	96.66%	86.60%	93%	83%	90%

True:1
False: 0