

**EMRI** | breast 2009 |

# MRI of the Breast and Female Imaging

EXAMINATION

+

ANSWERS



# Q1:

Cortical tubers and subependymal nodules in fetal brain

- a. may be detected sonographically
- b. are typical of intracerebral bleeding
- c. are visible only on MRI and typical of TSC**
- d. are related to callosal agenesis

## Q2:

### Dorsal induction abnormalities

- a. mean the same as migration abnormalities
- b. occur at any time of fetal life
- c. include ischemic and hemorrhagic lesions
- d. are the earliest group of fetal abnormalities and occur in the first 4-5 weeks of gestation**

## Q3:

The key sequence in the detection of breast cancer is:

- a. T2 weighted spin echo
- b. T1 weighted spin echo without Gadolinium
- c. T1 weighted spin echo with Gadolinium
- d. T1 weighted spin echo with Gadolinium and fat saturation**

## Q4:

After injection of the USPIO

a. The normal lymph node on T2\* GRE is bright

**b. The normal lymph node on T2\* GRE is dark**

c. The normal lymph node on T1 GRE + Gadolinium + fat sat is bright

d. The normal lymph node on T1 GRE is bright

# Q5:

## Algorithm of female pelvis examinations

- a. CT, sonography, MRI
- b. MRI, sonography, CT
- c. sonography, MRI, CT
- d. sonography, CT, MRI

## Q6:

T1 fat saturation sequences are necessary in diagnosing

- a. leiomyomas
- b. endometriosis**
- c. adenomyosis
- d. endometrial carcinoma

# Q7:

Indeterminate adnexal masses on US

- a. should undergo further imaging by CT
- b. should undergo further imaging by MRI**
- c. should be primarily assessed by pelviscopy
- d. are in the majority of cases cancer

## Q8:

MR Imaging technique for staging endometrial cancer

- a. no fasting is needed
- b. slice thickness larger than 4mm is suggested
- c. T2 WI in 3 planes are necessary
- d. the examination field extends from the iliac crest to the symphysis pubis

## Q9:

The low/reduce value of apparent diffusion coefficient (ADC) in breast DW- MRI is characteristic of:

- a. benign lesions
- b. malignant lesions**
- c. normal parenchyma
- d. abscess

## Q10:

The increased choline signals in MR spectroscopy could be detect in:

- a. only malignant lesions
- b. only benign lesions
- c. Only normal parenchyma
- d. Malignant lesions and in some benign lesion

# Q11:

The following statement is correct:

- a. a mass with a high signal is always benign
- b. if there is only ductal enhancement and no mass there is only in situ carcinoma
- c. a mass with smooth borders and homogeneous enhancement can be a medullary carcinoma
- d. an invasive ductal carcinoma is most of the time unifocal

# Q12:

Possible features of invasive ductal carcinoma are:

- a. a stellate mass
- b. a focal area of enhancement
- c. a smooth, round homogeneous mass
- d. a, b and c are correct

# Q13:

In BRCA1 gene mutation carriers, the most common malignancy is:

- a. ILC
- b. tubular ca
- c. medul. ca
- d. mucinous ca

# Q14:

Non-enhancing septa on CE-MRI are seen in:

a. radial scars

**b. fibroadenoma**

c. fresh scars

d. IDC

## Q15:

What is (at this moment) the best technique for preoperative staging of invasion of the axillary region in women with breast ca

- a. CT axillary region
- b. MR axillary region
- c. UZ axillary region
- d. **US axillary region +/- FNAC**

# Q16:

What is the first step to avoid complete axillary dissection:

- a. Sentinel lymph node procedure
- b. MR axillary region
- c. US axillary region + FNAC
- d. Pet CT

# Q17:

Using MRI to determine the extent of a ductal carcinoma in situ

- a. MRI has a higher specificity than MG
- b. Only a small percentage of malignant lesions show the typical pattern of a nonmass lesion in a ductal or segmental distribution
- c. Lesions of low and high nuclear grade are equally detectable on MRI
- d. Due to variable contrast kinetics of DCIS lesions, interpretation should be based on morphology rather than on kinetic curve

# Q18:

## Invasive lobular carcinoma

- a. Is a rare pathologic type of breast cancer, representing less than 3% of all malignancies
- b. Is rarely palpable at clinical examination
- c. Predominantly appears as regional or diffuse enhancement on MRI
- d. Is most accurately depicted (hence delineated) on MRI compared with mammography and ultrasound

# Q19:

Which of the following statements on MR guided breast biopsy is correct:

- a. Make sure the breast is compressed as tight as possible
- b. Make sure the lesion in the breast is positioned in the centre of the compression plate**
- c. Any enhancing lesion, only visible on MR, should be punctured under MR guidance
- d. The smallest possible needle entrance should be made, and is giving the best biopsy and esthetic (skin) results

## Q20:

Which of the following statements on MR guided breast biopsy is correct:

- a. It is not necessary to have image without fat-sat on the pre-operative MR
- b. Post-biopsy Gd-enhanced MR, immediately after the solution, can always tell you whether the lesion was removed/partially removed or not
- c. Sometimes, the lesion is no longer enhancing during the MR-biopsy MR, because of the compression
- d. Lesions close to the thoracic wall are the most difficult to reach

# Q21:

Extra question in case of ex aequo:

In which year was Jan Mikulicz-Radecki born?  
(statue in the entrance hall of Wrocław  
University Hospital)

1850