IAEA/ESNM Webinar Series on Paediatric NM
Paediatric thyroid scintigraphy

Self-assessment questions

Q1: New born screening for congenital hypothyroidism (CH) – which of the following statements is correct?
1. In country without CH screening, the diagnosis is done when clinical symptoms occur, and the prognosis is good if the patient is compliant.
2. CH occurs in 1/10 000 births
3. There are no neurological effects of CH.
4. The aim of the screening is to diagnose CH at birth time, in order to give an early treatment.

Answer: 4

Q2: Congenital hypothyroidism (CH) – which of the following statements is correct?
1. Both US examination and Scintigraphy are recommended by European guidelines
2. The treatment must be delayed until both US and thyroid scintigraphy are done.
3. The daily treatment of CH is recombinant TSH.
4. If the baby has a sublingual thyroid, the migration of thyroid tissue can go on during infancy.

Answer: 1

Q3: Interpretation – which of the following statements is correct?
1. An hypoplasia is a thyroid located under the sternal notch, in the mediastinum.
2. Double ectopias do not exist.
3. An athyreosis is the absence of thyroid tissue in normal or ectopic position.
4. If the thyroid is eutopic, the CH is never a lifelong disease.

Answer: 3

Q4: Perchlorate discharge test (1) – which of the following statements is correct?
1. The perchlorate test can be done whatever the isotope injected for the scintigraphy
2. If technetium 99m is used for the thyroid scintigraphy, the perchlorate dose must be doubled.
3. A perchlorate test is positive if the thyroid activity increases.
4. The perchlorate is able to discharge iodine from the thyroid cells, not from the colloid.

Answer: 4
Q5: Perchlorate discharge test (2) – which of the following statements is correct?

1. Pinhole acquisition is preferable to planar acquisition, because it is less influenced by a small difference in the distance between the thyroid and the collimator.
2. For calculation, no background subtraction is needed.
3. In CH, eutopic thyroid frequency is close to 45%.
4. If the test is negative, the treatment may be stopped.

Answer: 3

Q6: Dosimetry – which of the following statements is correct?

1. The effective dose of a thyroid scintigraphy with iodine-123 is 33 mSv
2. The effective dose of a thyroid scintigraphy with iodine-123 is 3.3 mSv
3. The effective dose of a thyroid scintigraphy with technetium is 5 mSv
4. The effective dose of a thyroid scintigraphy with technetium is 0.5 mSv

Answer: 2

Q7: Cervical or thyroid nodule – which of the following statements is correct?

1. A cervical nodule may be the unique thyroid tissue of a child with normal TSH.
2. In childhood, a thyroid nodule is always benign.
3. Graves’ disease with a homogenous goiter is a good indication of thyroid scintigraphy.
4. There is no thyrotoxicosis in childhood.

Answer: 1

Q8: In case of injection failure...

1. ... the thyroid scintigraphy is impossible
2. ... an oral administration of iodine-123 is possible.
3. ... an anterior acquisition 1h only after oral administration is recommended.
4. ... an oral administration leads to smaller contamination risk than an intravenous injection.

Answer: 2