

TEST 2

1

The measurement of the **thickness of the intima-media complex** of the extracranial segments of the carotid arteries during their ultrasound examination in principle is being done on the posterior wall of the distal segment of the common carotid arteries. The normal value of this index is

- ☐ (a) ≤ 0.4 mm.
- ☐ (b) ≤ 0.6 mm.
- ☐ (c) ≤ 0.8 mm.
- ☐ (d) ≤ 1.0 mm.

2

Which one of the following cancers **does not frequently** cause brain metastases?

- ☐ (a) the lung cancers.
- ☐ (b) the breast cancers.
- ☐ (c) the bone cancers.
- ☐ (d) the melanoma.

3

CADASIL is an acronym from **Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and L...**

- ☐ (a) Leukoaraiosis.
- ☐ (b) Leukoencephalopathy.
- ☐ (c) Leukopaenia.

4

One of the following statements about **the Virchow – Robin spaces** is not true. Which one?

The Virchow – Robin spaces

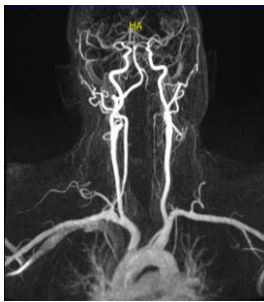
- ☐ (a) are anatomical structures that are situated in the central nervous system.
- ☐ (b) are also known as „perivascular brain spaces“.
- ☐ (c) under certain circumstances they can have a pathological character.
- ☐ (d) are from first, second, third and fourth type.

Which one of the following statements about **the Guillain – Barré syndrome** is true?

- ☐ (a) the Guillain – Barré syndrome can worsen after an initial good response to intravenous treatment with polyvalent immunoglobulins.
- ☐ (b) the treatment in case of worsening of a Guillain – Barré syndrome that has been improved after an initial treatment with intravenous immunoglobulins is also the intravenous perfusion of polyvalent immunoglobulins.
- ☐ (c) the Guillain – Barré syndrome not only could worsen but it could also relapse.
- ☐ (d) all these statements are true.

This 58-years old man does not see the objects that are situated on his right side, he has a 4/5 weakness in his left upper limb and in both his lower limbs, the Babinski sign is positive on the left, he also has a reduced sensitivity for touch caudal to his neck and residual urine of 360 ml. All these problems have appeared 36 hours earlier without any visible reason and have been completed in a few hours, remaining permanent since that moment.

The angio-MRI of his cerebral arteries (antero-posterior view) shows a pathological particularity that helps understand the aetiology of his problem:



And this pathological particularity is:

- ☐ (a) occlusion of the brachiocephalic trunk.
- ☐ (b) high degree stenoses of both carotid bulbs.
- ☐ (c) the left vertebral artery has a very narrowed and irregular lumen.
- ☐ (d) this examination is normal.

This 61-years old patient who for years takes haloperidol because of a chronic psychiatric illness comes for her first neurological consultation because of disturbed gait. Her clinical examination shows the presence of **a symmetric extrapyramidal syndrome dominated by slowing of the movements and muscle rigidity**.

What is the most probable aetiology of this problem?

- ☐ (a) side effect of long-lasting antipsychotic treatment.
- ☐ (b) Wilson's disease.
- ☐ (c) Parkinson's disease.
- ☐ (d) simulation.

8

Only one of the statements below about **the amyloid transthyretin polyneuropathy** is not true. Which one?

- ☐ (a) it can damage both the sensory and motor nerves and also the autonomous nervous system.
- ☐ (b) it damages not only the peripheral nervous system but also the visual system, the heart muscle and the kidneys.
- ☐ (c) it is an autosomal dominant disease that has been described for the first time in Portugal.
- ☐ (d) unfortunately, nowadays there is still no treatment for this disease.

9

Only one of the statements below about **the reversible posterior leukoencephalopathy** is not true. Which one?

- ☐ (a) it has been described for the first time in 1996 and it represents one of the types of the reversible leukoencephalopathies.
- ☐ (b) the diagnosis is established on the basis both of the clinical picture and of the results from the brain MRI.
- ☐ (c) this pathology is not present in children.
- ☐ (d) in case of on-time and correct treatment the patient's health status returns to the normal.

10

Chipault's law allows to determine in advance

- ☐ (a) the relationship between the level of the spinal column and the spinal cord metamere(s) that is (are) situated on this level.
- ☐ (b) the success or the lack of success from the application of antibiotics in case of meningitis.
- ☐ (c) the result of the operation in case of intervertebral disc hernia on cervical level.
- ☐ (d) the effect of an antiepileptic treatment.

11

Which one of the statements below about **the NIHSS scale** is not true?

- ☐ (a) the minimally possible result is 0 points and the maximally possible result is 42 points.
- ☐ (b) a NIHSS scale result < 6 points indicates a high probability for good recovery.
- ☐ (c) **the NIHSS scale** can be completed in seven minutes.
- ☐ (d) the NIHSS scale result is a better predictor of the lesional volume in case of stroke in the dominant brain hemisphere (i.e. in the left brain hemisphere in 98 % of the human beings).

12

The anti-PF 4 antibodies are the cause of

- ☐ (a) the stiff-person syndrome.
- ☐ (b) the heparin-induced thrombocytopaenia.
- ☐ (c) myasthenia gravis.
- ☐ (d) one of the types of the Guillain – Barré syndrome.

13

Which one of the following statements about **the transcranial ultrasound examination of the intracranial cerebral arteries** is true?

- ☐ (a) the most frequently used acoustic windows during the transcranial ultrasound examination of the intracranial cerebral arteries are the transtemporal and the suboccipital acoustic windows.
- ☐ (b) this examination gives a certain amount of anatomical data about some brain structures and these data can be useful in the everyday neurological practice.
- ☐ (c) during the examination through the transtemporal acoustic window in horizontal plane both on the right and on the left side it is possible to view and to examine the following arteries: the terminal segments of the internal carotid artery, the first (A1) and the second (A2) segments of the anterior cerebral artery, the anterior communicating artery, the first (M1) and the second (M2) segments of the middle cerebral artery, the posterior communicating artery, the first (P1) and the second (P2) segments of the posterior cerebral artery and the terminal segment (the head) of the basilar artery.
- ☐ (d) all these statements are true.

14

Which one of the following statements about **the carotid body** is not true?

- ☐ (a) the carotid body is a chemical receptor.
- ☐ (b) the hyperplasia of a normal carotid body can be observed in persons exposed to a permanent hypoxia.
- ☐ (c) the activation of the carotid body leads to the acceleration and to the deepening of the breathing.
- ☐ (d) the carotid body tumours are always asymptomatic.

15

Which one of the following statements about **the patent foramen ovale** is true?

- ☐ (a) it is considered a post-partum anatomic heart anomaly and it represents a non-closure of a part of the interatrial septum.
- ☐ (b) it can represent the only interatrial septum anomaly, but it can also be accompanied by an aneurysm of the same wall.
- ☐ (c) the presence of this anatomic anomaly is reliably related to the occurrence of several neurological disorders, including ischemic strokes – especially, but not only, in young persons.
- ☐ (d) all these answers are true.

16

Which one of the following statements is not true?

The subarachnoid cysts

- ☐ (a) are empty spaces in the skull and in the spinal canal that are filled with cerebrospinal liquid and their walls are formed by the arachnoid mater.
- ☐ (b) are subdivided into primary ones and secondary ones.
- ☐ (c) about the half of the subarachnoid cysts are situated into and in the vicinity of the Sylvian fissure.
- ☐ (d) are benign formations that are clinically asymptomatic.

17

The brain stereotactic surgery

- ☐ (a) is both radiologic and neurosurgical procedure.
- ☐ (b) allows to reach any region of the brain with a precision of less than a millimetre in all three dimensions of the space.
- ☐ (c) uses different systems for orientation and navigation into the skull which reference points could be different.
- ☐ (d) all this is true.

18

The median nerve innervates two and a half muscles in the thenar eminence. Which one of the muscles of the thenar eminence in the list below is not innervated by the median nerve?

- ☐ (a) the abductor pollicis brevis muscle.
- ☐ (b) the adductor pollicis muscle.
- ☐ (c) the opponens pollicis muscle.
- ☐ (d) the superficial head of the flexor pollicis brevis muscle.

19

The traumatic brain injury is linked to many short-term and long-term complications. Which one of the following complications after a traumatic brain injury does not represent a possible long-term complication?

- ☐ (a) partial and / or generalized epileptic seizures.
- ☐ (b) epidural haematoma.
- ☐ (c) meningitis.
- ☐ (d) residual neurological deficits.

20

In 1979 Bird et al. described **7 clinical criteria** that allow the diagnosis of which one of the following diseases?

- ☐ (a) giant cell arteritis (Horton's disease).
- ☐ (b) fibromyalgia.
- ☐ (c) rheumatoid arthritis.
- ☐ (d) polymyalgia rheumatica.

21

The symptomatic peripheral facial nerve palsy can be caused by

- ☐ (a) vascular lesions in the caudal part of the pons.
- ☐ (b) intracranial and extracranial tumours.
- ☐ (c) traumatic brain injury and other injuries of the head.
- ☐ (d) all these answers are correct.

22

The Uhthoff's phenomenon is a clinical phenomenon that can be observed in which of the following diseases?

- ☐ (a) multiple sclerosis.
- ☐ (b) generalized epileptic seizure.
- ☐ (c) brainstem stroke.
- ☐ (d) idiopathic peripheral facial nerve palsy.

23

A generalized epileptic seizure could lead to

- ☐ (a) humerus fracture.
- ☐ (b) lateral bite of the tongue.
- ☐ (c) loss of memory for the time immediately before the seizure.
- ☐ (d) all these statements are true.

24

Which of the following statements about **the dementia with Lewy bodies** is not true?

- ☐ (a) it is encountered more and more frequently, and it has characteristics both of the Alzheimer's disease and of the Parkinson's disease.
- ☐ (b) nowadays there is already an aetiological treatment for the patients with the dementia with Lewy bodies.
- ☐ (c) nowadays the dementia with Lewy bodies can be diagnosed as „probable“ or as „possible“ on the basis of the criteria for this disease that have been established in 2017.
- ☐ (d) nowadays the final diagnosis of the dementia with Lewy bodies can be established only after autopsy of the brain.

25

Which one of the following statements is true: in a significant percentage of the patients with ischemic stroke in case of correct indication **the treatment with fibrinolysis followed by endovascular interventional treatment**

- ☐ (a) allows a better treatment of this subtypes of ischemic strokes, especially when the bigger cerebral arteries are involved (in such cases the stroke treatment only with fibrinolysis is not always (enough) efficient).
- ☐ (b) the completion of the fibrinolysis with an eventual endovascular interventional treatment makes it possible to obtain an eventual treatment success even after the time window allowed for the application of the fibrinolysis.
- ☐ (c) the methods for endovascular interventional treatment of the ischemic strokes are in process of permanent improvement.
- ☐ (d) all these statements are true.

TEST 2 [ANSWERS]

1

The correct answer is (c).

Our documents 029 and 030 give the opportunity for getting a deep knowledge about the theoretical and the practical aspects of the brain arteries ultrasound examination both in their extracranial segments (document 029) and in their intracranial segments (document 030).

2

The correct answer is (c).

Among all types of cancer there are five types that most frequently cause brain metastases:

- the lung cancers.
- the breast cancers.
- the digestive system cancers.
- the cancers of the urogenital system.
- the melanoma.

Our documents 038 and 130 present cases of brain metastases in somatic cancers. Except the description of these cases in these documents one can find a lot of useful theoretical information about this frequently encountered medical problem.

3

The correct answer is (b).

CADASIL = Cerebral **A**utosomal **D**ominant **A**rteriopathy with **S**ubcortical **I**nfarcts and **L**eukopaenia.

Our document 050 presents a clinical case of CADASIL with the typical results from the brain scanner and brain MRI as well as with the necessary theoretical information on this topic.

4

The correct answer is (d).

Nowadays three types of Virchow – Robin spaces are known: Virchow – Robin spaces from first, second and third type.

Our document 074 presents two clinical cases of Virchow – Robin spaces that are followed by useful theoretical information.

5

The correct answer is (d).

Our document 061 presents the clinical case of a patient with the Guillain – Barré syndrome that worsens after an initial good therapeutic response to intravenous treatment with polyvalent immunoglobulins. From our case it is possible to learn how to treat this condition and in its theoretical section, besides anything else, it is possible also to learn what is the difference between a worsening and a relapse of a Guillain – Barré syndrome.

6

The correct answer is **(c)**.

This angio-MRI of the cerebral arteries shows a pathologically changed left vertebral artery and thus, together with the anamnesis and the clinical picture, speaks in favour of a spontaneous dissection of the left vertebral artery what is the basis of this patient's actual neurological problem.

Our documents 065 and 066 present clinical cases of spontaneous dissection of the vertebral artery with a rich illustration and both documents also dispose of useful theoretical knowledge.

7

The correct answer is **(a)**.

In our document 060 you can consult this case and in the following theoretical section you can find the list of the drugs which use could lead to a drug-induced Parkinsonian syndrome.

8

The correct answer is **(d)**.

In our document 095 we present a clinical case of amyloid transthyretin polyneuropathy with the result of this patient's electromyographic study and after that this pathology is discussed from the theoretical point of view.

9

The correct answer is **(c)**.

Our document 012 presents a clinical case of reversible posterior leukoencephalopathy with a long follow-up period and this pathology is presented not only from the clinical point of view but also from the point of view of its brain MRI dynamics. Of course, the clinical case is followed by theoretical discussion of this pathology.

10

The correct answer is **(a)**.

Chipault's law is described in our document 131 and from this document a lot can be learned about the epidural metastases both from the clinical and from theoretical points of view.

11

The correct answer is **(c)**.

The NIHSS scale is presented in detail in our document 005 that is one of altogether five documents (004, 005, 006, 074 and 075) in our first two books that deal with transient ischemic attacks both from the practical and from the theoretical points of view.

12

The correct answer is **(b)**.

Our document 122 presents a clinical case of heparin-induced thrombocytopaenia and it also describes the iceberg phenomenon as well as other useful facts about the heparin-induced thrombocytopaenia.

13

The correct answer is **(d)**.

Our document 030 present a thorough discussion of the transcranial ultrasound examination of the intracranial cerebral arteries from theoretical and from clinical points of view.

14

The correct answer is **(d)**.

Our document 134 presents a clinical case of carotid body tumour and gives useful information about this anatomical structure and its tumours.

15

The correct answer is **(d)**.

Our document 049 presents a clinical case of ischemic stroke in the presence of a patent foramen ovale and this presentation is followed by useful practical and theoretical information about the patient foramen ovale.

16

The correct answer is **(d)**.

The subarachnoid cysts are benign formations are some of them are clinically asymptomatic but some of them have clinical expression.

Our document 028 presents two clinical cases of subarachnoid cysts and a detailed information about the subarachnoid cysts in general.

17

The correct answer is **(d)**.

Our document 123 gives a practical example for the use of the brain stereotactic surgery. This practical example is followed by a detailed description of **the brain stereotactic surgery and of the stereotaxic brain biopsy**.

18

The correct answer is **(b)**.

In the thenar eminence, through its recurrent branch, **the median nerve** innervates

- the abductor pollicis brevis muscle,
- the opponens pollicis muscle and
- the superficial head of the flexor pollicis brevis.

In the thenar eminence, through its deep palmar branch, **the ulnar nerve** innervates

- the adductor pollicis muscle and
- the deep head of the pollicis brevis muscle.

The classical clinical presentation of the carpal tunnel syndrome is presented in our document 040, while in the document 063 are presented clinical cases of initial and of very advanced forms of carpal tunnel syndrome.

19

The correct answer is **(b)**.

The epidural haematoma is an acute complication after traumatic brain injury. The other complications from the list above could occur both as short-term and as long-term complications after traumatic brain injury.

Our documents 132 and 133 present clinical cases of traumatic brain injury.

20

The correct answer is **(d)**.

At least three out of these seven criteria are necessary to diagnose this disease. According to Bird, in the presence of 3 out of these 7 criteria the sensibility for the presence of polymyalgia rheumatica is 92 %, and the specificity for this disease is 80 %.

Our document 052 presents a clinical case of polymyalgia rheumatica that is followed by a complete theoretical information about this disease.

21

The correct answer is **(d)**.

Our documents 036 and 109 present clinical cases of symptomatic peripheral facial nerve palsy that are followed by theoretical discussion of this problem.

22

The correct answer is **(a)**.

In case of acute deterioration of the neurological state of a patient with a known multiple sclerosis, the Uhthoff's phenomenon is the main differential diagnosis with a new attack of this disease.

You can find more about the Uhthoff's phenomenon in our document 034.

23

The correct answer is **(d)**.

Our document 045 describes a clinical case of humerus fracture as consequence of a generalized epileptic seizure.

24

The correct answer is **(b)**.

Our document 165 that you can find in our third book presents a clinical case of dementia with Lewy bodies that is followed by detailed supplementary information.

Our third book pays a special attention to the different degenerative diseases of the human central nervous system.

25

The correct answer is **(d)**.

Our document 258 presents such a clinical case of a patient with ischemic stroke treated by fibrinolysis followed by endovascular treatment with excellent result.

Our fourth book pays special attention to the different vascular diseases of the human nervous system with presentation of the current diagnostic and treatment approaches for these diseases.