**Q: 2 Write down the different brain lobes and their functions?**

There are four lobes of brain such as

Frontal lobe

Temporal lobe

Parietal lobe

Occipital lobe

Brainstem

Cerebellum

Now we discuss their functions in detail

**Frontal Lobe**

The front lobe is considered as the emotional control center and home to personality and decision making abilities. This section consist of:

**Premotor Cortex**

This section is working for the storage of motor pattern

**Prefrontal area.**

This is one of the most important section in Frontal Lobe which involves the ability to project future consequences resulting from current actions and the judgment power to differentiate between things and events.  It consists of the following functions;

Concentration, Elaboration of thoughts, Judgment, Inhibition, Personality, Emotional Traits

**Broca’s Area:**

This area is located in the left hemisphere of the brain, it controls the language expression, production and the muscle movement involved in the speech.

**Temporal Lobe:**

The temporal lobe is one of the four major lobes of the brain in mammals. This section is located on the side of the brain near the temples and is responsible for auditory (hearing) information, memory and language recognition. This section consists of:

Auditory reception area, Expressed behavior, Receptive speech, Memory / information retrieval

**Motor cortex**

This area has arc shaped region, located in the rear of the frontal lobe which controls motor activity.

Voluntary motor activity (movement).

**Brain stem**

This section is most important for survival and the brain stem begins right where the spinal cord enters the skulls. This section contains processed information dealing with sight, sound and body movement. It also deals with the sleep and wake cycles.

Breathing, Digestion, Heart control, Blood vessels control, Alertness

**Parietal Lobe:**

This section is in resides behind the frontal lobe and part is protected by the parietal bone. This section also integrates sensory information such as temperature, taste, touch. This part has triangular shape this consist of the following functions:

Processing sensory inputs, Sensory discrimination, Body orientation, Primary somatic area, Secondary somatic area

**Wernicke’s area:**

This section is working for Language comprehension

**Occipital Lobe:**

This section is located at the bottom, back part of the cortex. This section control vision and visual processing.  Consist of visual information and have following sections;

 Visual reception area, Visual interpretation

**Cerebellum**

This section is located at the end of the bottom and it receives information from sensory systems, spinal cord and other parts of the brain. This section coordinates voluntary movement, such as balance, coordination, control and posture. So it helps for smooth, coordinated body movement.  of the following section and functions

Coordination and control of voluntary movement

**Q: 1Difference between Parkinsonism and Parkinson’s**

|  |  |
| --- | --- |
| **Parkinsonism** | **Parkinson’s** |
| It is a progressively neurological problem due to lesion in basal ganglia. Parkinsonism is similar to Parkinson’s Disease. | It is a neurological problem which is characterized by loss of dopamine neuron in substantia nigra.Parkinson’s Disease affects the nervous system.  |
| Parkinsonism is also sometimes called Secondary Parkinsonism or Atypical Parkinson Disease.  | Parkinson’s Disease is a type of Parkinsonism, but Parkinsonism is not necessarily Parkinson’s Disease. |
| Symptoms are caused by particular medications, other nervous system disorders, or another illness. Parkinson’s is a disease and Parkinsonism is a range of symptoms that are usually seen in patients with Parkinson’s disease.  | It is caused by a gradual loss of brain cells. Parkinson’s Disease makes up about 80% of the Parkinsonism cases. Some types of Parkinsonism are even worse than Parkinson’s. (Fortunately mine is a type that is much better.) |
| Parkinsonism is a broad range of symptoms that are usually associated with Parkinson’s Disease.These include tremors when resting, muscle stiffness, balance problems, stooped posture, freezing in the middle of an action, and slowness to get moving. In order to be diagnosed with Parkinsonism, a patient needs to have at least 2 out the 6 symptoms. | Some basic symptoms are muscle tremors, problems with balance and movement, joint rigidity and muscle cramps, sleep problems, depression, partial paralysis of facial muscles, soft voice, shuffling walk, and bradykinesia (which is a delay in initiating movement), |
| Degenerative cause of parkinsonism may be difficult to diagnose in the earliest stage and ancillary investigation may be limited. Parkinson’s Disease does not have a known cause. | Unlike Parkinson’s Disease, some types of Parkinsonism may stabilize, improve, or even go away completely (usually between a couple of weeks and 2 years after stopping whatever caused it). |
| The most commonly used medication is levodopa, carbidopa which helps to stop the tremors and stiffness.   | Types of Parkinsonism: Multiple System Atrophy (MSA), Progressive Supranuclear Palsy (PSP), Normal Pressure Hydrocephalus, Vascular or Arteriosclerotic Parkinsonism, and Drug-Induced Parkinsonism. |

**Write down the primary and secondary Clinical features of parkinson’s?**

**Primary**

1. Resting tremors

It looks like shivering which is mostly seen in finger, lips, hands, head tongue and jaws.

It is resting in nature

It exaggerated with emotional stress and physical stress.

1. Bradikinesia

Voluntary movement become slow.

Unable to perform any movement.

Dispute in repetitive movement.

1. Rigidity
2. Postural abnormalities

Poor balance in gait due to muscular weakness.

1. Masked face
2. Abnormal gait

It takes small steps without an arm swing at high speed.

It sudden fall due to poor maintaining balance.

It takes short quick steps gait with stooped posture due to displace centre of gravity.

**Secondary**

1. Psychological problems

2. Personality problems

3. Autonomic disturbances

4. Sensory problems

5. Sleep disturbances

6. Speech problems

7. Micrographia8. Cough

9. Sialorrhea

**Explain the physical therapy management?**

Patients at all stages of Parkinson’s disease benefit from physiotherapy, which helps to reduced rigidity and corrects abnormal posture. Speech therapy may help in dysarthria and dysphonia interfere with communication.

Maintain the function

Physiotherapy to improve the quality of life

To improve strength and stability in gait

To increase the range of motion aerobic capacity.

**Mask facial management:-** it is important because to manage their face expressions

It need mirror therapy

It should be practice of facial expressions like surprise.

It should be practice of facial expressions like frustration.

It should be practice of furrowing activity.

It should be practice of facial expression like nose wrinkling.

And he/she also needs to practice facial expression like smiling.

**Microghrapia management: -**

It should be practice of weighted pen for writing.

It should be needed extra wrapped of tape for heavy grip.

It needs typewriter and keyboard typing in the later stages.

**Gait management: -**

To perform achieved targeted movement.

To practice on a treadmill for walking balanced.

To practice with long steps having broad base.

And he/she also needs to practice with the help of cues verbal, music, counting, auditory and visual.

And also to improve active daily life modification includes dressing, bathing, and combing proper sleeping to reduce their tremor.

**Q:3 What is stroke?**

Stoke occurs when a blood supply to the brain is suddenly obstruct and it cannot pass enough oxygen and nutrients to the brain and dies brain cells. A stroke can also be occur as a result of other conditions such as arterial fibrillation, cardiomyopathy or blockage of tiny arteries inside the brain.

**Three types of stroke**

|  |  |  |
| --- | --- | --- |
| **Ischemic stroke** Obstruction of the blood flow to the brain, due to partial or complete clot of the vessels.Most common cause of stroke Thrombotic Embolic87% stroke are ischemic The brain depends on its artery to bring fresh blood from heart and lungs .It most prone to those who have diabetes, tobacco smoking and hypertension. | **Hemorregic stroke** Weakened artery in the brain leak, ruptured due to any pressure or head injury as a result the brain cells and tissues become damage.Subarachnoid hemorrhageIntracerebral hemorrhageThe most common cause is aneurysm.Emergency care is crucial for it.To reduce the blood flow. | **Transient ischemic stroke****A** temporary obstruction in a blood vessel to supplying blood to the brain is known as mini stroke. |

**Neurological complications and associated condition in stroke**

Modification of the normal state of awareness, including drowsiness or sleep.

Difficulties with multiple senses such as touch, taste.

Seizures

* Bladder and Bowel Dysf

Cardiopulmonary dysfunction

Cognitive dysfunction

Dysarthria

Bowl and bladder problem

Fracture risk

**Physical therapy intervention for stroke patient**

Strategies to Improve Motor Learning

Interventions to Improve Sensory Function

Interventions to Improve Unilateral Neglect

Interventions to Improve Strength

Interventions to Manage Spasticity

Interventions to Improve Movement Control

Strategies to Improve Upper Extremity Function

Strategies to Improve Lower Extremity Function

Interventions to Improve Functional Status

Interventions to Improve Postural Control and Balance

Interventions to Improve Gait and Locomotion