

Prifysgol Cymru
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University of Wales
Trinity Saint David

- **BSc (Hons) Health and Social Care Level 5**
- **Module: Introduction to Physiology (BMHP5003)**
- **Poster Presentation: Cardiovascular disease: STROKE**
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CARDIOVASCULAR DISEASE : STROKE

Understanding Stroke!

What is Stroke?

- A stroke is a severe life-threatening medical disease that occurs when a portion of the brain's blood supply is cut off. Our brain cells are unable to get the oxygen and nutrients they need from the blood and die within a few minutes.
- This may result in long-term brain damage, incapacity, or death. Strokes are a life-threatening medical emergency that need prompt care (NHS, 2021)

Types of Strokes

There are two kinds of strokes:

• Ischemic stroke

occurs when a blood clot clogs or plugs a blood artery in the brain. This is the most frequent kind; about 80% of strokes are ischemic.

• Haemorrhagic stroke

occurs when a blood artery ruptures and bleeds into the brain. (Medlineplus.gov, 2021)

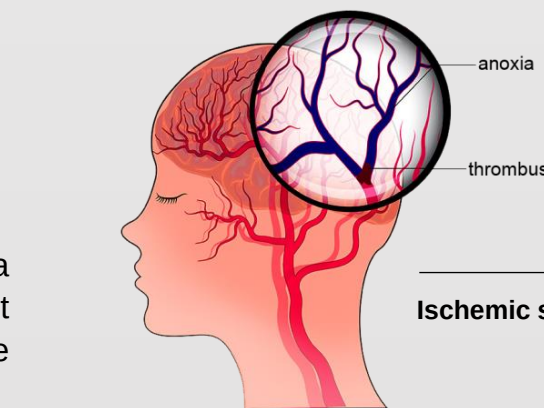
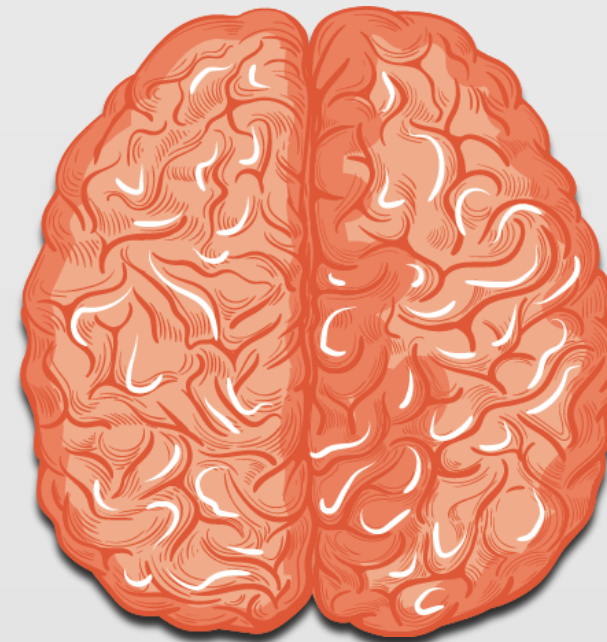
Physiology

The effects of stroke vary from person to person based on the type, severity, location, and number of strokes.

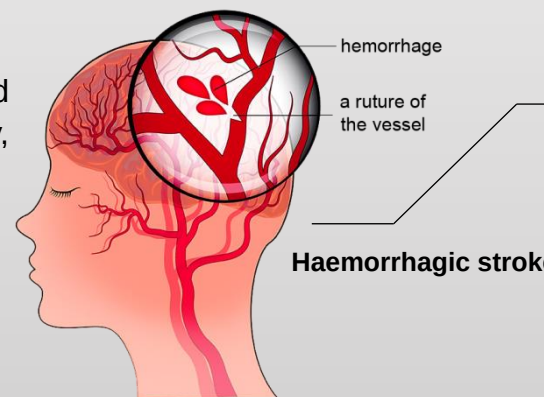
The brain is divided into 3 main areas:

- Cerebrum (right and left sides or hemispheres)
- Cerebellum (top and front of the brain)
- Brainstem (base of the brain)

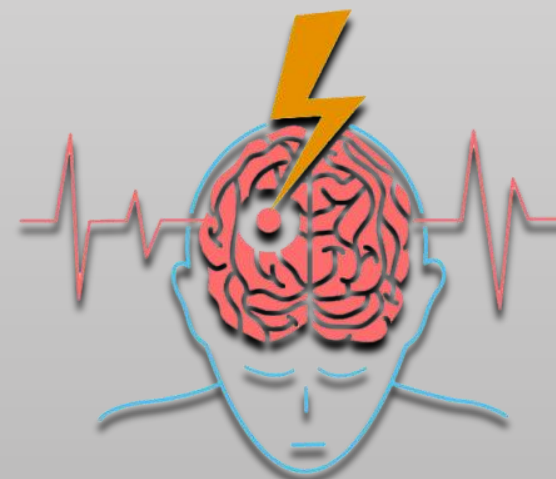
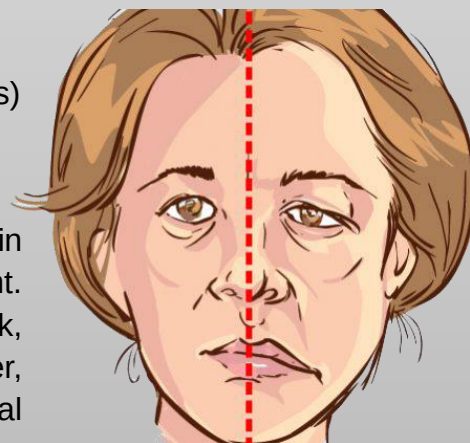
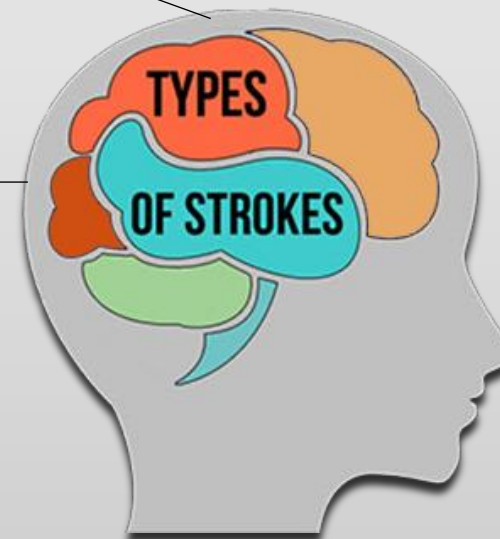
Depending on which of these regions of the brain the stroke occurs, the effects may be very different. A stroke may limit one's capacity to move, speak, eat, think and recall, control the bowel and bladder, control our emotions, and control other critical bodily processes. (Hopkinsmedicine, 2021)



Ischemic stroke



Haemorrhagic stroke



Risk factor

A stroke may strike anybody at any age. However, if we have specific risk factors, our chances of getting a stroke rise. Some stroke risk factors can be altered or controlled, while others cannot. Stroke risk factors that may be altered, treated, or controlled medically include Blood pressure that is too high. Heart disease. Diabetes. Smoking. Pills for birth control (oral contraceptives) TIAs have a long history (transient ischemic attacks). The number of red blood cells in our body is abnormally high. High levels of cholesterol and lipids in the blood. Lack of physical activity. Obesity. Excessive alcohol consumption. Unchangeable stroke risk factors include Age, race, and gender, as well as a history of previous strokes, all have a role. People with a family history of stroke have a higher risk of having a stroke. (Hopkinsmedicine, 2021)



Case study: Patient A

According to the lifestyle questionnaire completed on patient A, she is 48 years old, female, has high blood pressure, 180/90, weight 86kg while her height is 165cm, BMI calculation result (31.5) indicates that she is obese, she smokes, drinks, and eats fast food without any type of exercise. Hypertension, diabetes, high LDL cholesterol, and heart disease are all major risk factors for stroke. Patient A is more likely to develop at least either of these diseases because she is overweight. (Heidi Moawad, 2021)

Interventions

The patient may use her BMI result to have a conversation with her primary care physician about her weight and overall health. Exercising for the majority of weekdays. The most effective method of lowering blood pressure is via exercise. Consuming a sodium-reduced diet. Excess sodium (or salt) raises blood pressure. Limiting alcohol consumption. Prioritizing stress reduction. (NHS, 2021)

References

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Speaker notes:

A poster on a Cardiovascular disease: Stroke

we need to know what is stroke so lets define stroke. A stroke is a medical term that describes a temporary loss of brain function. The blood transports essential nutrients and oxygen to our brain. If we don't have blood, our brain cells may be damaged or killed, and we won't be able to accomplish our tasks. Because our brain controls everything our bodies do, a stroke will have an effect on how they function. For example, if we suffer a stroke and injure the part of our brain that controls our right leg, we may have weakness or numbness in that limb. Our brain influences how we think, learn, feel, and communicate. A stroke is a sudden occurrence that has direct repercussions for our bodies. (Stroke. Association, 2012)

Attacks are classified into two types:• An ischemic stroke occurs when a blood clot obstructs or blocks a blood artery in the brain. This is the most common kind; about 80% of strokes are ischemic.• A haemorrhagic (bleeding) stroke occurs when a blood vessel ruptures and bleeds into the brain .A transient ischemic attack is another disease that is comparable to a stroke (TIA). It's also known as a "mini-stroke." TIAs occur when the blood supply to the brain is temporarily cut off. The brain cell damage isn't permanent, but if you've had a TIA, you're at a significantly greater risk of having a stroke. (Medlineplus.gov, 2021)

Physiology: The consequences of a stroke differ from person to person depending on the kind, severity, location, and number of strokes. The brain is very complicated. Each part of the brain is in charge of a particular function or skill. When a stroke damages a region of the brain, the normal functioning of a portion of the body may be disrupted. This may lead to a disability. The brain is split into three sections: Cerebral Cortex (right and left sides or hemispheres) Cerebellum is a term used to describe the cerebellum (top and front of the brain) The brainstem (base of the brain)The consequences of a stroke may vary greatly depending on which of these brain areas is affected. A stroke, for example, may impair one's ability to walk, talk, eat, think, and remember, control the bowel and bladder, regulate our emotions, and manage other important physiological functions. (Hopkinsmedicine, 2021)

A potential risk: Strokes may hit anybody, regardless of age. But if we have any pre-existing medical conditions, we increase our chances of suffering a stroke. Stroke risk factors may be reduced, but not eliminated. alterable, treatable, or controllable medical stroke risk factors: High blood pressure Blood pressure of 140/90 or above may damage blood vessels (arteries) that feed blood to the brain, potentially causing strokes and neurological impairment. Heart disease is the second leading risk factor for stroke, and its fatal complications include the largest percentage of those who survive a stroke. Heart disease and stroke are both illnesses that have many risk factors in common. The presence of diabetes makes a person more vulnerable to a stroke than someone who doesn't have it. Smoking increases the chance of an ischemic stroke nearly double. Contraceptive pills (oral contraceptives)Transient ischemic attacks (TIAs) have a long history. TIA stands for "transient ischemic attack," a kind of mini-stroke. As stroke victims, they experience the same symptoms, but they don't have the symptoms for as long. A TIA occurs ten times more often among individuals who have had a stroke than in the general population. A higher than usual amount of red blood cells are present in our body. Cholesterol and lipids in the circulation increase the likelihood of atherosclerosis, which may cause arteries to thicken or harden (atherosclerosis). Cholesterol, calcium, and fatty substances may accumulate on the inside of the teeth as plaque. Cerebral blood flow decreases if plaque builds up within the arterial walls. When the blood supply to the brain is cut off, a stroke ensues. Not getting enough exercise. Too much body fat. Drinking too much alcohol. Age, ethnicity, and gender, as well as prior strokes, all contribute to stroke risk. The stroke risk is greater in those with a family history of stroke. (Hopkinsmedicine, 2021)

Case study: Patient A is 48 years old and weighs 86 kg, according to the results of a lifestyle questionnaire performed on her. She has high blood pressure (180/90) and is a female. Meanwhile, her height is 165cm, and the BMI calculation result (31.5) shows that she is overweight or obese. She smokes, consumes alcoholic beverages, and consumes fast food without engaging in any physical activity. A large number of risk factors for stroke include high blood pressure, diabetes, high LDL cholesterol, and cardiovascular disease. Patient A is more likely than the average person to suffer at least one of these illnesses because she is obese. (Heidi Moawad, 2021)

Actions: Using her BMI result, the patient may engage in a discussion with her primary care physician regarding her weight and general health. She can work out for the most of her workdays throughout the week. When it comes to reducing blood pressure, exercise is the most effective technique available. She can follow a diet that is low in salt. Excess sodium (often known as salt) causes high blood pressure. She can Keep alcohol usage to a minimum and try to give up smoking. Stress reduction should be given first priority as well. (NHS, 2021)

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