CORPUS CALLOSUM AND SPLIT BRAIN

Pratibha Mukherjee
Scientific adviser: Phd Polyakova A.

Corpus Callosum: - This is a broad band of white nerve fibers that joins the two hemisphere of the brain.

Functions: It allows communication between right & left hemisphere. It is responsible for transmission of neural messages between hemispheres. It controls eye movement, awakening-attention balance & solid targeting.

Disorders of Corpus Callosum:

1. Agenesis- when the corpus callosum is missing.
2. Dygenesis- underdeveloped (thin) corpus callosum.

Symptoms:

A. Inability to connect seen images.
B. Delayed walking.
C. Difficult motor skills.
D. High tolerance of path.

- Corpus Colostomy: - It is the surgical procedure resulting in partial or complete disconnection between two hemispheres.

Last measure taken to treat EPILEPSY (Seizures).

- Corpus Colostomy results in a condition called SPLIT BRAIN
- In Split-Brain, the right & left hemisphere work differently & are not able to transfer information with each other.

Explanation – Split Brain

1) Visual Test: -A Picture of Dog is shown to both visual fields separately

1st Condition:- Left Visual Field Result- Patient can't verbally say that he saw a dog but he can draw it on a paper Reason- The left visual field is controlled by right hemisphere, but speech-control is done by left brain; & there is no connection between both. Therefore:- VOCAL SKILL ABSENT VISUAL SKILL PRESENT	2nd Condition:- Right Visual Field Result- Patient can say that he say a dog but cannot draw it on paper Reason- The right visual field is controlled by left brain & left brain also controls speech. Therefore :- VOCAL SKILL PRESENT VISUAL SKILL ABSENT

2) Tactile test

Sperry and Gazzaniga for their test placed an object in the right hand of a subject, but they could not see or hear it. The brain then sent messages about its tactile characteristics to the left hemisphere so that the subject was able to verbally describe it. When the same thing was done but with the left hand, subjects could not name or describe it. The researchers wanted to find out if the subjects knew what the object was in their left hand, so they asked them to match it to a group of various objects placed in front of them, which they did very easily. The lack of patients having a corpus callosum made it so that the information about what was in the left hand could not be transmitted from the right side of the brain to the left, so that the subject could not verbalize what they were holding.

Conclusion: Corpus Callosum is needed for the brain to function as one -organ

INTERESTING FACTS ABOUT STOMACH

Rayudu Vijaya
Scientific adviser: Phd Polyakova A.

The stomach serves as a first line of defense for your immune system. It contains hydrochloric acid, which helps to kill off bacteria and viruses that may enter with the food you eat.

Hydrochloric acid also provides an environment for a very special enzyme, called protease, to act. Protease chops up proteins (meat, fish, chicken, some plants) so your body can digest them easier.

When you blush (when your face turns red), the lining of your stomach ALSO turns red!

When you swallow your food, you also swallow small amounts of air. When you drink soda, or other carbonated beverages, you also get lots of air in your stomach. The best, and easiest, way to get rid of all of this air is to burp!

Your stomach produces a new layer of mucous every two weeks. It does this because hydrochloric acid could digest your stomach and other organs, and the mucous protects the stomach from that happening.

An adult stomach can hold around 1.5 liters (nearly a half gallon) of food/drink.

Since the stomach pre-digests the food, it makes it easier for the rest of your body to get energy from the food. As a result, animals with stomachs can move around more than animals without (roundworms and hydras don't have stomachs), and animals with stomachs can also run larger brains with all the extra energy, making them smarter. Lastly, since the stomach can store so much food, it allows you to go longer in-between meals.

Food doesn't break down completely in the stomach. In fact, only the first part of digestion happens in the stomach; most of it happens in the small intestines.