The One Disorder That Literally Crushes Your Mind

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Recommended Citation
Fuentes, James, "The One Disorder That Literally Crushes Your Mind" (2019). Posters@Research Events. 31.
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The One Disorder that Literally Crushes your Mind
Hydrocephaly, Its Causes and Diagnosis in Past Populations
The College at Brockport
Presenter James Fuentes
Mentor: Tiffany Rawlings, PhD

Introduction

Hydrocephaly is one of the most debilitating neurological disorders. Given its prevalence, in order to treat it, it is key to understand whether it is a congenital disorder (birth defect) or the result of physical trauma. Multiple genetic disorders, and in some cases physical trauma can induce hydrocephaly. Severe forms, if left untreated, can lead to childhood death while individuals with non-severe hydrocephaly can live for years without treatment. Observing hydrocephaly’s impact on past populations can provide data that can eventually lead to advancements in its treatment. This study is based on cranial measurement analysis and literature review.

Hydrocephaly affects one in every 10,000 individual. Looking at how individuals in the past survived with this disorder without treatment can lead to breakthroughs regarding the treatment of this disease.

This study focuses on the most likely cause of Cranium 10s deformation.

Research Question

What is the most probable cause of cranium 10s deformation?

Materials

- Yellow Mustard Seeds
- 4000 ml beaker
- Sliding calipers
- Anthropometer
- Protractor
- Scotch tape
- Measuring cone
- First Aid Kit
- Plastic Bin

Limitations

Since this project involves human remains, no invasive tests were done as to preserve all available information.

Methods

Most measurement methods used came from Standards for Data Collection From Human Skeletal Remains Proceedings of a Seminar at The Field Museum of Natural History (Aftandilian D et al., 1994).

To find cranial capacity the Mustard seed technique was used (Manjunath., 2002)

Mandibular angle was determined by tracing the outline of both mandible angles and using a protractor to measure.

Results

These are some of the measurements taken. All the measurements are available upon request.

- Maximum Cranial length = 18.7 cm
- Maximum Cranial breadth = 16.2
- Bizygomatic Diameter = 13.5 cm
- Cranial Base length = 9.4
- Cranial Capacity = 1830cc’s

Conclusions

The most probable cause of cranium 10s hydrocephaly is the presence of an arachnoid cyst with an unknown drainage site.

References

References are available upon request

Acknowledgments and Contact Info

I would like to offer a special thank you to Barbara Thompson, Helen Cheves and Dr. Craig Waleed of the McNair Program for their support. In addition to those aforementioned I would also like to offer a special thank you to Dr. Algerton Kelley and my mentor Dr. Tiffany Rawlings for all their support as well.

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