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The One Disorder That Literally Crushes Your Mind 🧠

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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.

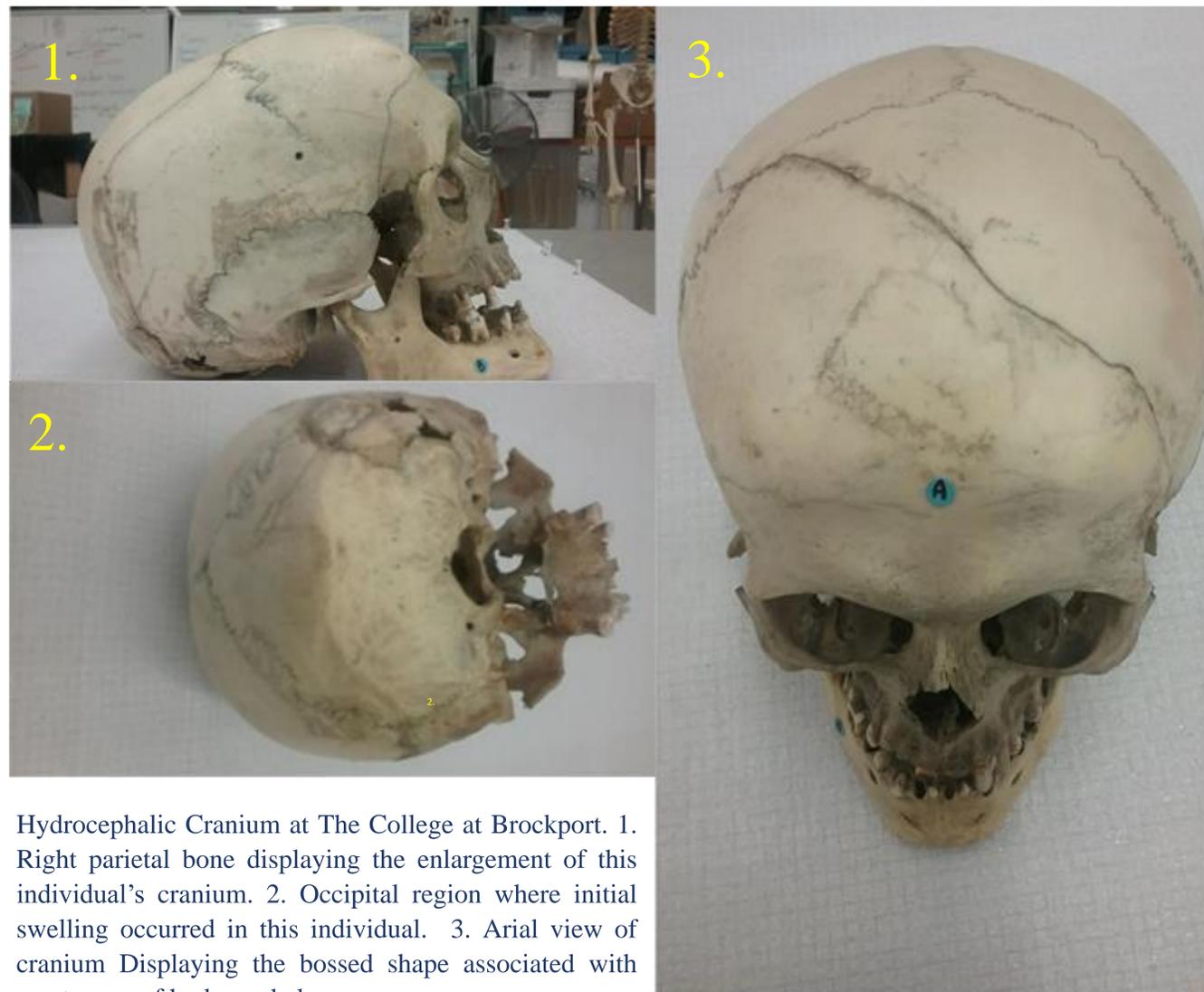
This study focuses on the most likely cause of Cranium 10s deformation.

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



Hydrocephalic Cranium at The College at Brockport. 1. Right parietal bone displaying the enlargement of this individual's cranium. 2. Occipital region where initial swelling occurred in this individual. 3. Arial view of cranium Displaying the bossed shape associated with most cases of hydrocephaly.

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

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