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Short Communication

Study of Different Methods of Disarticulating a Human Skull

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ABSTRACT

Study of individual bones of the human skull is one of the most fascinating topics in the medicine field. The human skull contains a plethora of bones and each bone contains a plethora of parts which are assigned with specific functions. The bone size ranges from the large frontal, parietals and occipital to minute vomer and nasal bones. Some bones are fragile like ethmoids and some bones are rock solid like petrous part of temporal bones. As a medicine student it is important to know each and every part of the individual bones in order to know the functions and also to understand the spatial orientation of all these bones. This study was done in the Department of Anatomy, DM-WIMS, Meppadi, Kerala using 5 skulls. Green gram was the most effective substance to disarticulate the skull. The Bengal gram was the quickest way to disarticulate the skull.

Key words: Bengal gram, Green gram, Petrous, Skull, Vomer.

INTRODUCTION

Study of individual bones of the human skull is one of the most fascinating topics in the medicine field. The human skull contains a plethora of bones and each bone contains a plethora of parts which are assigned with specific functions. [1] The bone size ranges from the large frontal, parietals and occipital to minute vomer and nasal bones. Some bones are fragile like ethmoids and some bones are rock solid like petrous part of temporal bones. [2] As a medicine student it is important to know each and every part of the individual bones in order to know the functions and also to understand the spatial orientation of all these bones.

In the present scenario in the medical education little importance is being given to understand individual bones that form the skull because of the shortage of time and also lack of skilled technicians in the Department of Anatomy. The knowledge of how to disarticulate a skull is being lost slowly but surely in this part of the world. The present study aims to study the different ways to disarticulate the skull and to find out the very best method to do so. The present study throws some light on different methods and the best method which is easy and also cost effective to disarticulate the skull.

MATERIALS AND METHODS

This study was done in the Department of Anatomy, DM-WIMS, Meppadi, Kerala using 5 skulls. The skulls were checked externally and internally. The skulls which had fused sutures were discarded. The first skull was filled with water after sealing all the orifices and then was put in a pressure cooker. The second skull was filled with spit balls and then immersed in water. The third skull was filled with green gram [3] and then was immersed in water. The fourth skull was filled with ground nuts and was immersed in water. The fifth skull was filled with Bengal gram. [4] In the second, third, fourth and fifth method even the orbits and infra temporal fosssa was filled with the above said materials.

Fig 1: Showing the spit balls that were used to disarticulate the skull.

Fig 2: Showing the green gram that was filled in the orbital cavity.

Fig 3: Showing the green gram that was filled in the cranial cavity.

Fig 4: Showing the Bengal gram that was filled in the cranial cavity.

Fig 5: showing the groundnut that was filled in the cranial cavity.

RESULT

The first method destroyed the whole skull. Only the neurocranium was disarticulated irregularly but not the splanchnocranium.

The second method no disarticulation actually was seen but the spitballs itself was in a fluid state of matter.
The third method was successful in disarticulating minute bones of the orbit and even nasal cavity but took a long time (3-4 days) to be effective.
The fourth method was the quickest (1 day) but the disarticulation was complete.
The fourth method was successful but the orbit was not disarticulated and not even the zygomatic bone was disarticulated.

DISCUSSION

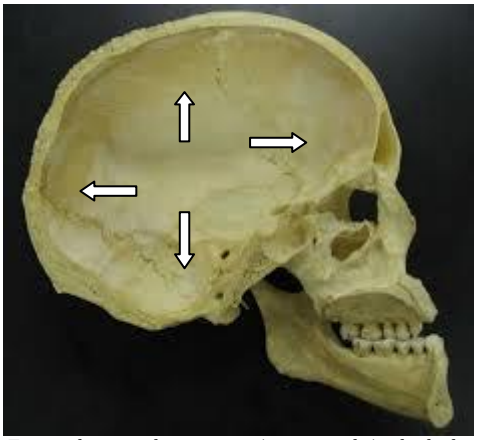

Fig 6: Figure showing the pressure (arrow marks) which should be acting uniformly on the skull from the interior.

One of the easy ways to disarticulate the skull is to put a substance inside the cranial cavity and the substance in turn put a uniform increasing pressure that will influence the bones to give away the bonding at the suture joints.

In the first method the method failed because of lack of uniform force. In the second method the substance did not resist the increasing resistance and it itself changed the state of matter. The third substance is minute and the small size of the green gram made the work slow but was very effective in maintaining the natural shapes of the bones. The fourth and fifth substances were quick to do the work but were not very sharp in maintaining the shape of the bones especially the fragile bones of the nose and the orbit.

CONCLUSION

The third substance that is the Bengal gram was the most effective substance to disarticulate the skull. The fourth and fifth substance was the quickest way to disarticulate the skull.

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