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NEW TECHNIQUE TO MOUNT SPECIMEN IN THE FORMALIN FILLED JAR FOR ANATOMY MUSEUM WITH ALMOST INVISIBLE SUPPORT

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ABSTRACT

Specimens in Anatomy museum are mounted by various methods according to anatomical while handling so specimens, organs with their attached vessels and excretory ducts are mounted on glass/acrylic plate/ and used X-Rays plate/ plastic sheets. Organs are stitched parts, organs etc. Specimens lying in the formalin filled glass jar without any support will alter its position with threads. Excessive tight stitches damage the organs specially the brain while heavy organs that are loosely hanging on the X-Ray plate/ plastic sheet will not retain their normal position. Some used paraffin wax blocks but specimen still needed support to maintain the position. Here we supported the mounted specimens with cylindrical pieces of transparent plastic soda bottles without the use of needle and threads. This mounting technique is very easy, less time consuming and does not damage the specimen.

Keywords: Easy Mounting method, mounted organs, brain, threads, Transparent Plastic soda Bottle.

INTRODUCTION

Anatomy department is also known by its Museum. Human body parts, organs, soft parts and also hard parts are presented in many ways but the most popular method being mounting specimen in glass or acrylic jar filled with 10% formaldehyde solution [1,2] . The lid is tightly sealed with either mixture of white paraffin and bees wax or by cello tape.

Many specimens particularly of limbs are mounted by stitching two or more thread on its upper end and the threads are sealed with the jar after tightening them according to position of limb but even then the lower end of the limb is not fixed hence the possibility of change in position is always there as well the thread decreases the beauty of specimen.

Many specimens particularly of organs are mounted by stitching them with thread on acrylic/plastic plate. If the stitches are tight they damage the tissue especially fragile tissue like brain. In such method initially tight stitches will produce damage to it and with the passage of time due to the weight of the organ/part the stitches become loose and the organ/part is not in their original position since the organ is not perfectly immobile. The threads reduce the beauty of the specimen. Plaster of Paris can be used to mount brain specimen. Virendra Kumar NIM mounted brain in paraffin wax [3] .In both the specimen with block of plaster of Paris or wax has to be made immovable which will need an extra support.

Specimen prepared nicely and properly mounted (i.e. its position should be maintained) increases the beauty of the specimen which will not allow change its position in jar even if the jar is moved. Therefore a specimen should be totally immovable in the glass jar for better inspection by the students and if it is totally immovable then it can be transferred easily from one place to another to teach the students and also labelling on the jar with black OHP pen may be done which give direct information as it is seen in text book

and if the support to the organ is almost invisible then it will definitely increase the beauty of the specimen.

Srikant Natarajan et al [4] used polyethylene terephthalate (PET, PETE or polyester) in place of centre glass rod and stitched them with specimen to support it. In our method we did not use threads to support the specimen.

MATERIAL AND METHOD

We used transparent plastic soda bottle after removing the pasted label on it. Then the plastic soda bottle was properly washed to make it absolutely clean.

Then cylindrical piece of transparent plastic soda bottle was cut of required length with the help of scalpel or scissors to support the specimen of limbs, organs, brain as well as most of the foetuses. Soda bottle is preferred because its plastic is thick. Then cylindrical piece of it was compressed and put between specimen and back wall of jar. It provided enough pressure which will permanently hold the specimen in its position. Whenever the support to the back of the specimen alone was not sufficient extra support with the same material was also provided to the side/sides of the specimen. Another cylindrical piece of transparent plastic soda bottle can be placed below the specimen to provide it support from below. Then the specimen became immobile and the jar was filled with 10% solution of formalin and sealed the lid by wax or cello tape. They became totally immovable in the glass jar filled with 10% solution of formalin. Cylindrical piece of transparent PET bottles (preferably soda bottles) are preferred because its size is suitable to fill the gap between the specimen and the jar in most cases. In this method needle and threads were not used to support the specimen. This is a simple and easy to perform and less time consuming technique to support the mounted the specimen.

Here some pictures are shown how different organs or parts were supported with this method. Arrows indicate the supports.

Figure 1: material and instruments used

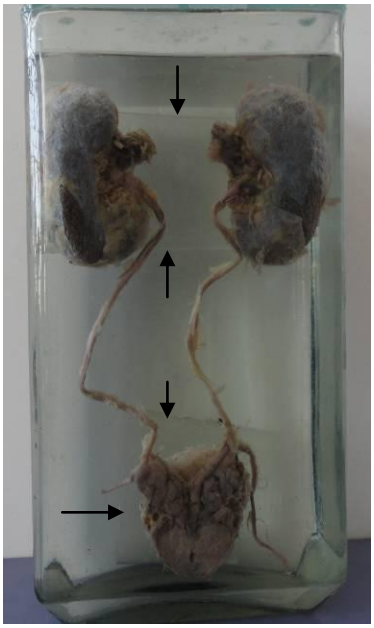

Figure 2a

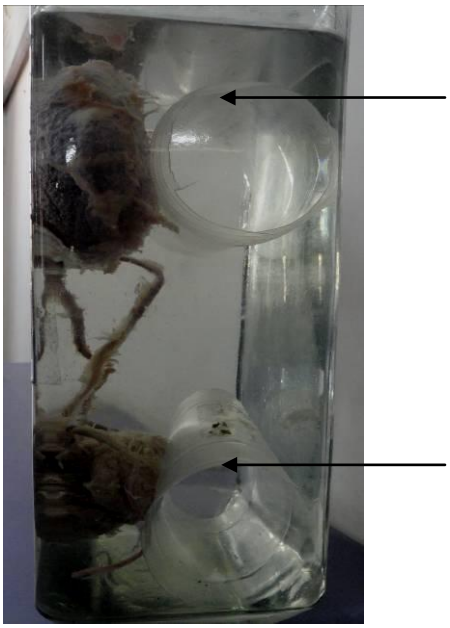

Figure 2b

Front and side views show kidneys and urinary bladder supported (arrows) from behind with two horizontally placed cylindrical pieces of transparent plastic soda bottles.

Figure 3: Front view shows cut section of Fibroid of Uterus supported (Arrow) from behind with one horizontally placed cylindrical piece of transparent plastic soda bottle.

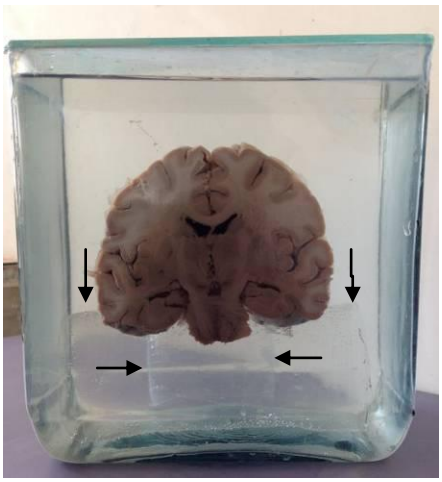

Figure 4a

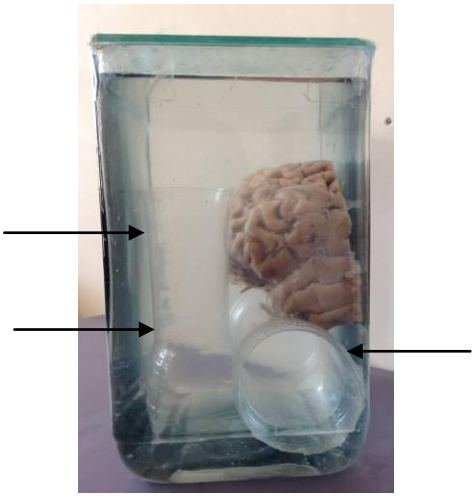

Figure 4b

Front and side views show coronal section of Brain supported (Arrows) from below and behind with one horizontally and one vertically placed cylindrical pieces of transparent plastic soda bottles respectively.

Figure 5: Front view shows Heart supported (Arrows) from below and on the side with one horizontally and one vertically placed cylindrical piece of transparent plastic soda bottle respectively.

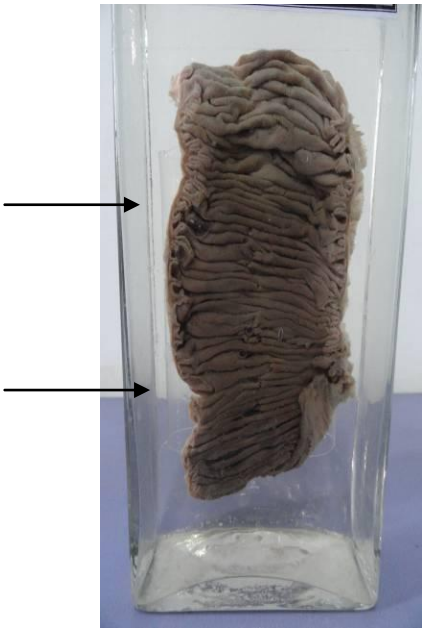

Figure 6a

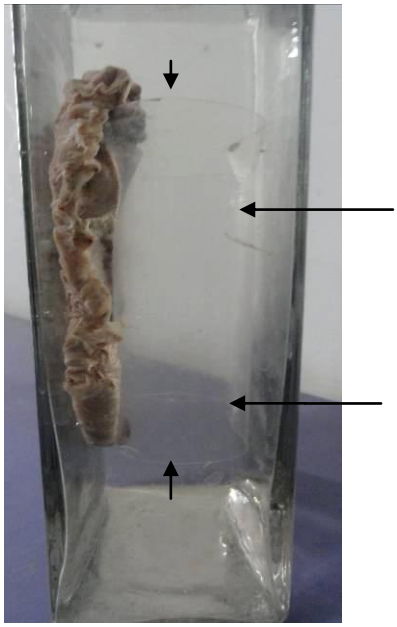

figure 6b

Figure 6a, 6b: Front and side views show Small Intestine supported (Arrows) from behind with single vertically placed cylindrical piece of transparent plastic soda bottle.

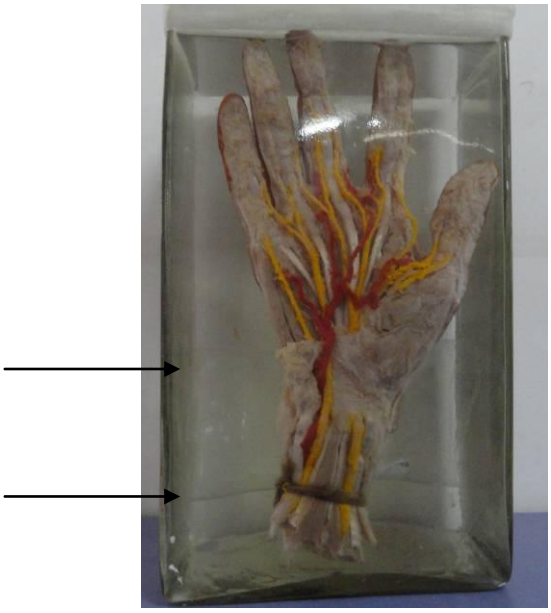

Figure 7: Front view shows front of Hand with distal part of forearm supported (Arrows) from behind with single horizontally placed cylindrical piece of transparent plastic soda bottle.

RESULT

We successfully used this technique to support specimen of different size and shape in our museum, still specimen of some foetuses required some support with threads. Most of the specimens of pathology can also be mounted with this method.

This method can be used to support mounted specimens of limb, organs (especially brain) and most of the foetuses. Since the support is almost invisible it gives appearance that body part or organ is hanging in formalin filled jar without any support. This method of support to the mounted specimens can be used in place of traditional use of threads and other means.

DISCUSSION

The advantages of using this method over the traditional thread method are that it provides proper support to the specimen without affecting the looks of specimen, second the specimen is not damaged by the use of needle as in this case thread is not used so needle is not passed through the specimen, third this procedure is less time consuming and requires less expertise in comparison to traditional methods and fourth some specimens which are difficult to support with traditional methods (e.g. Kidneys with Urinary Bladder) can be easily supported with this new technique, fifth specimen can be easily transported if required without change in their position, sixth the procedure can be repeated without damage to the specimen if something goes wrong and lastly empty soda bottles which are easily available and cheap provide permanent support to the specimen due to its durability. This certainly increases the beauty of the specimen.

CONCLUSSION

It is concluded that mounted specimen can be supported with small cylindrical pieces of PET (preferably soda) bottles without the use of threads. In future it can be used in place of traditional methods used so far with many advantages. It has a promising future in the field of museum techniques in anatomy.

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