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Novel, Safe, Cheap, and, easily to get 'Vinegar as a decalcifying agent ' for bone tissue Histopathological demonstration

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Abstract

Bone is the strongest part in the human and animals, as well examination and reporting any histopathological changes of the different bone tissues is quite difficult than any other tissues, and to obtain satisfactory paraffin or celloidin of bone, the inorganic calcium must be removed (Jimson et al., 2012) through the decalcification process. There are numbers of decalcifying agents used in both veterinary pathology and histology research laboratories (Gayle Callis, 1998). So choosing the appropriate one depend upon some factors such as; time for decalcification with ribboning of sections, good nuclear staining and minimal edema (Bancroft and Gamble, 2016). I used a novel, household, safe solution which is the commercial table vinegar; the method was: an egg as a model (outer egg shell), sunken into commercial table vinegar solution Hienz ®, the decalcification resulted after only one day. After that a rabbit mandible was used to monitor the effect of vinegar on bone sample and inspected daily, the results come matching the outer egg shell but it took 28 days. So, I conclude that; may use the commercial table vinegar which contain 4-8 % acetic acid as a novel, safe, cheap, available decalcifying agent in both histology and pathology laboratories.

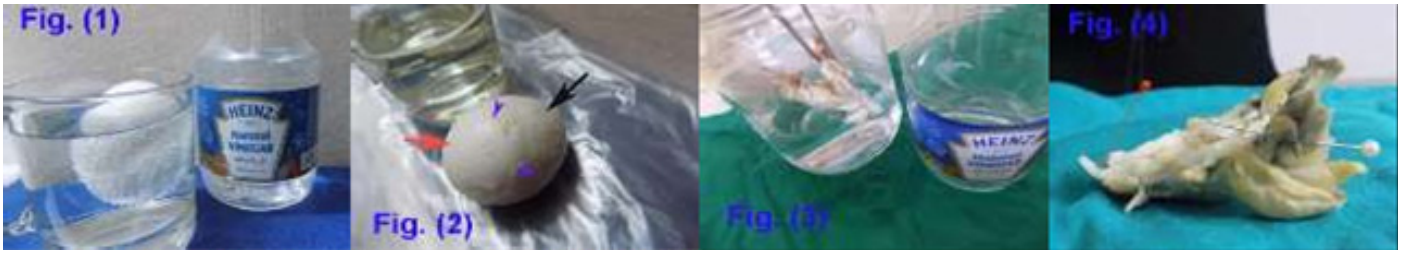

Fig. (1): Photograph showing an egg sunken into natural table vinegar.
Fig. (2): Photograph showing an egg after one day of sunken into natural table vinegar, the black arrow pointed to area of decalcification, while two blue head arrow represent the separate line between the decalcified area and not decalcified area (red arrow).
Fig. (3): Photograph showing the rabbit mandible sunken into natural table vinegar.
Fig. (4): Photograph showing the rabbit mandible after 28 days sunken into natural table vinegar; decalcified as the metal pins penetrate all bony area of the mandible (white pin penetrate the mandibular angle, while the red pin penetrate the tooth in mandible).

Biography

Nesreen M. Safwat, is a versatile writer and researcher that published extensively in specialized field (Pathology), (2006) with general grade: Very good with degree of honor ranking: second over my class. Master degree in Pathology (2011) and PhD in pathology (2015) both from Faculty of Veterinary Medicine, Beni-Suef University. Her experience as A lecture of pathology in Pathology Department, Faculty of Veterinary Medicine, Beni-Suef University. Her main interest pathology field; Oncopathology, surgical pathology, orthopedic pathology, diagnostic pathology of some viral and bacterial organisms, anatomical pathology, inventing some new techniques aiding in histopathology laboratories all over the world.

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