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Reconstitution of the anatomy museum to facilitate integrated self-directed learning

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This work was conducted in two parts. Part I: The reconstitution and rearrangement of the anatomy museum faculty of veterinary medicine Cairo University in the form of modular center in which its basic unit was the module. So we prepare different learning materials including anatomical dissected specimens, museum-jar specimens, plastinated specimens, colored bones, casts, models, radiographs, photos used by hand, at lases and charts in addition to many paper and computer assisted recourses as handouts, books, frequent quizzes for self assessment by the students, short videos, electronic books, needed sites and CDs contain lectures prepared in power point presentations for anatomy, histology, pathology, surgery, medicine and pharmacology to the specific topic used in the module. Part II: A descriptive survey applied on 592 veterinary educators all over Arab republic of Egypt to analyzed ten aspects of comparison between self learning modules using multimedia as a method of teaching with the traditional learning. The results of the survey revealed that the students recommended its use with a record 95.27% and other students not recommended with a record 4.72%. The results obtained were discussed with those concerned with the use of integrated self directed learning.

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Effects of onion (*Allium cepa*) and chloramphenicol on haematological parameters, histopathology and survival of catfish *Clarias gariepinus* (Burchell, 1822) sub-adult infected with *Pseudomonas aeruginosa*

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The study was carried out to evaluate the antimicrobial characteristics, immunostimulant ability and survival of *P. aeruginosa* infected *Clarias gariepinus* sub-adult exposed to chloramphenicol and *Allium cepa* (onion). The antibacterial efficacy of chloramphenicol and onion extract was screened against type culture of *P. aeruginosa* ATCC 27853 at 100%, 75% and 50% concentration using agar well diffusion method. Minimum inhibitory concentration (MIC) was determined using microtube broth dilution method and minimum bactericidal concentration (MBC) was also determined. *P. aeruginosa* infected fish were exposed to chloramphenicol and onion in vivo in prolonged bath treatment twice daily for 7 days. A total of six (6) experimental fish from the treatments were tested for their cellular immune response to *P. aeruginosa* and to the different treatment. Histological changes were evaluated before, after challenge and after treatment. Percentage survival was calculated by recording number of mortality. There was no significant ($p>0.05$) difference in their susceptibility to the test bacteria. However, MIC for chloramphenicol and onion were greater than 50 mg/ml and MBC of 50 mg/ml was only obtained for onion. Haematological values of infected fish revealed significant ($p>0.05$) decrease in packed cell volume (PCV, 22.33 ± 0.3), haemoglobin (HB, 6.97 ± 0.2), red blood cell (RBC, 1.27 ± 0.1), lymphocyte (52.33 ± 0.9) and significant ($p>0.05$) increase in white blood cell (WBC, 17.13 ± 0.5), neutrophil (47.33 ± 1.2) than that of control fish with PCV (34.67 ± 5.2), HB (9.77 ± 0.2), RBC (2.23 ± 0.3), lymphocyte (69.00 ± 2.3) and WBC (10.80 ± 0.3), neutrophil (30.33 ± 2.9) but no significant ($p>0.05$) changes were observed in all blood parameters among infected fish treated with chloramphenicol and *A. cepa*. Photomicrograph of damaged organs (gills, liver and stomach) showed moderate regeneration of organs exposed to chloramphenicol and onion. Percentage survival was high in infected and treated experimental fish. Antibacterial potentials of onion can therefore be exploited as alternative in combating infections of *P. aeruginosa* in fish.

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