Can be on anything to do with microbiology (you can choose the topic)

of Microbiology Paper Osorio L, Ramirez M, Bonelo A, Villar LA, Parra B. Comparison of the diagnostic accuracy of commercial NS1-based diagnostic tests for early dengue infection. Virol J. [Internet] 2010 [cited 2011 March 24]; 7: 361. Available from http://www. ncbi. nlm. nih. gov/pubmed/21134275 Dengue is one of the vector borne diseases that spreads rapidly in the urban regions of tropical and subtropical countries. The disease, though self limiting can turn into severe and lethal form in atleast10 percent of cases. The clinical presentation and laboratory findings of dengue are similar to other febrile illnesses in the tropical subtropical regions. Thus it is important to have a diagnostic test that is specific for dengue so that early case management can be initiated and false results are not feeded to the dengue surveillance system. Basically, 3 are 3 laboratory tests useful for the diagnosis of dengue infection and they are viral isolation in culture, detection of viral RNA, and specific IgM/IgG antibodies in paired sera. The gold standard for diagnosis is a combination of these 3 tests. However, it is not practice to do all the 3 tests in a patient at a particular setting. Viral isolation is expensive, needs technology and results are obtained after 6 - 10 days, which ia very late for initiation of management and hence this test cannot be used regularly. PCR technique results are ofcourse fast, but are expensive and not available in all clinical settings. Immunochromatographic and ELISA tests for the detection of IgM/IgG antibodies which give results within minutes or few hours, but these antibodies can be detected only after 4-5 days of onset of the disease. Also, paired sera samples showing seroconversion or a fourfold titer increase are essential to confirm diagnosis. In view of the disadvantages associated with the traditional testing methods, newer commercial tests have come up, one

of which is non-structural protein-1 detection of dengue virus, commonly known as NS1-based Dengue test. The specificity of this test is reported to be between 86. 1% and 100% and false positives are considered rare. Researchers of this study compared and explored the diagnostic accuracy and also the reproducibility of these tests and explored various factors that influenced the sensitivities. The methodology for this study involved paired analysis of samples that were previously characterized as positive and negative for one of the tests: viral isolation, RT-PCR, IgM seroconversion. 310 samples were studied, of which 218 were positive and 92 were negative. The samples were masked and tested for Platelia™ Dengue NS1 Ag, second generation Pan-E™ Dengue Early ELISA, SD Dengue NS1 Ag ELISA, Dengue NS1 Ag STRIP™, and SD BIOLINE™ Dengue Duo (NS1/IgM/IgG) by 2 observers. From the results of the study it was evident that simultaneous detection of the commercially available NS1/IgM/IgG is useful in the early diagnosis of dengue infection in both endemic and no-endemic regions. However, negative result does not rule out the possibility of dengue infection. The authors recommend further research in this regard to ascertain the performance of these tests in establishing early diagnosis of dengue infection.