

**New approach for large scale screening for the asymptomatic Hepatitis C Virus (HCV). Dr Yamanaka, Ademar Gastroenterology Center and Faculty of Medical Sciences, State University of Campinas, Campinas, Brazil**

**Abstract**

**Background:**

Combination of technologies such as Bioimpedance and spectrophotometry has been shown to be a safe technique when used in a number of biomedical applications. The aim of this research was to assess the utility of combination of technologies as rapid, cost-effective, and noninvasive tools to detect asymptomatic chronic hepatitis C Virus in large scale. It should be used to indicate the need for further evaluation – not as a basic for diagnosis

**Methods:**

91 patients were undergoing for lab tests including Anti-HCV test, and Liver Panel; ALT, AST, and for an examination E.S Complex (Electro Sensor Complex) system using a combination of technologies such as the Bioimpedance and the spectrophotometry. 41 patients (group 1) were found Anti HCV test positive and 50 patients were found negative (group 2). Statistical analysis was conducted between the 2 groups using receiver operating characteristic curves to determine the specificity and sensitivity to detect C hepatitis with the ES Complex algorithm calculated from data such as the conductivity measurement and the arterial stiffness.

**Results:**

The ES Complex algorithm using the stiffness index and delta for the conductivity value in the pathway right foot –left hand minus left hand-right foot had a sensitivity of 82.9 % and specificity of 84.8 % (cutoff > 201) and P = 0.0001.

**Conclusion:**

The E.S Complex has a very high sensitivity and specificity, and it can be used at low cost and rapid screening and follow ups in large scale for asymptomatic hepatitis C virus.