

**Conclusions.** Further in vivo studies are required to investigate *Spirulina platensis* fractions potential toxic effects. In particular researches are needed to evaluate the use of control-release formulations in order to maintain the *Arthrospira platensis* pigments concentrations at antibacterial active doses.

**Key words:** Antibacterial resistance, reducing pathogens, *Spirulina platensis*, organic antimicrobials

### 324. INTERFERONS. UTILIZATION IN ANTIVIRAL THERAPY

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**Introduction.** IFNs are a class of soluble glycoproteins with a strong antiviral activity, classified into three types: Type I (IFN- $\alpha/\beta$ ), II (IFN- $\gamma$ ) and III (IFN- $\lambda$ ). Because of the clinical failures using only antiviral medications and the generation of drug-resistant strains, IFN treatment became a good option because it targets the host's immune response and not the specific viral proteins.

**Aim of the study.** Study and analysis of existing data in the literature on antiviral activities of IFN and their use in antiviral therapy in human diseases.

**Materials and methods.** The presentation represents a literature review based on previously completed research into the role of IFN in the treatment of viral diseases.

**Results.** Because of their ability to modulate immune responses, IFNs have become attractive therapeutic options in controlling chronic viral infections. Type I IFNs were part of standard treatment for VHC and VHB infections and no IFN-resistant viral subpopulations were observed. In addition, there is an increased interest in testing the antiviral efficacy of type III IFN in HCV infection, based on the fact that the type III IFN receptor is more restricted in its expression and is present on the hepatocytes. IFN- $\gamma$  combined with highly active antiretroviral therapy (HAART) dramatically reduced morbidity and mortality associated with HIV, being used successfully in treating opportunistic infections associated with HIV.

**Conclusions.** Although they are effective, IFNs need to be used with caution, because they are powerful cytokines that affect a wide range of cells; as a result, patients usually had side effects and a part of them had systemic effects.

**Key words:** Interferons, type I IFN, type II IFN, type III IFN, antiviral therapy.

### 325. HELICOBACTER PYLORI INFECTION. DIAGNOSTICS METHODS

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**Introduction.** More than half of the adult global population are carriers of *H.pylori*, a Gram-negative microaerobic human pathogen, which is associated with various gastroduodenal diseases. Diagnostic tests are divided into noninvasive (UBT, SAT, serology) and invasive

methods (culture, histology, PCR, RUT). Using the appropriate test is important to avoid diagnostic error.

**Aim of the study.** The aim of this paper was to review the application principles of *H. pylori* diagnostic methods in practice.

**Materials and methods.** A systematic literature search for both original researches and review articles in biomedical databases was made through Google scholar, PubMed and Medline.

**Results.** UBT is useful to confirm eradication and screening, no sampling errors, useful for children with false negative result in case PP, antibiotics intake, gastric pathologies and false positive in case of urease positive bacteria growth, also it doesn't provide data about bacterial resistance. SAT is preferred in children rather than serological and UBT which may be equivocal or difficult to perform with false positive in case of contamination or cross reaction with other species. It is affected by the stool quality without data about resistance. Serological test is the cheapest without false negative result except in early infection, which is recommended for screening because it is not influenced by GIT pathologies and drugs but without data about resistance and differentiation between active and past infection. RUT need at least 10000 organism to obtain a positive result with false negative result due to PPI and achlohydria and false positive result due to other urease positive bacteria. PCR provide data about antibiotic resistance, its limitations are the cost, equipment, time, skilled staff. Culture provide data about antibiotic resistance but it is the most expensive method and time-consuming. Histological examination limitation is due to the dependence on the operator skill, interobserver variability, site, size, number of biopsy taken and staining method type.

**Conclusions.** The choice of diagnostic tests to determine *H. pylori* infection status depends on the sensitivity, specificity, availability, cost, and rapidity of the results, laboratories level, the patients clinical status. Unfortunately, none of the currently used methods are able to fulfill this criteria. One solution is to combine the results of two or more techniques, and compare with results of each method being evaluated.

**Key words:** *H.pylori* , invasive and Non-invasive methods

## PUBLIC HEALTH SECTION

### 326. THE EFFICACY OF DIETS FOR WEIGHT MAINTENANCE AND FUTURE WEIGHT VARIATION

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**Introduction.** Approximately 80% of individuals who intentionally achieve weight loss of  $\geq 10\%$  body weight will regain that weight within one year (yo-yo effect). By between 1 and 5 years after finishing a hypocaloric diet, around 95% of people return to their initial weight (Brownell & Rodin, 1994).

**Aim of the study.** To investigate the association between history of multiple weight loss diets followed by weight regain, namely weight cycling (WCy).

**Materials and methods.** This study is based on a literature review of different articles from the open access data base <https://www.ncbi.nlm.nih.gov/pubmed> and scientific papers.