

**Stage I: Applicative research:****Period: 01.09.2006 – 15.11.2006****Results:**

- Clinical study protocol;
- Biological study protocol;
- Imaging study protocol;
- Morphologic study protocol;
- Epidemiologic study protocol;
- Computerized entrance system specifications;
- Creation of a study data sheets;
- The study over the ultrasonic image analysis and processing methods;
- The initiation of the clinical and US screening

**Stage II: Applicative research:****Period: 16.11.2006 – 30.04.2007****Results:**

- The data base has been created in order to investigate the invasive and non-invasive biologic parameters so as to characterize the NAFL and to test the imagistic methods which make it possible to differentiate fibrosis from steatosis and also to stage the fibrosis;
- A retrospective study has been done on the diagnostic value of the biological non-invasive markers for hepatic fibrosis in chronic C Viral Hepatitis. Moreover, by releasing the results it can be realized the replacement of the invasive parameters through hepatic biopsy by non-invasive parameters;
- The gallbladder motility study has been initiated;
- Computerized imagistic methods have been elaborated and the software module has been created.

**Stage III: Applicative and precompetitive research. Support activities:**

**Period: 01.05.2007 – 30.10.2007**

**Results:**

- 5000 patients have been screened through ultrasonic methods in order to identify their metabolic profile;
- A wide epidemiologic study has been carried out regarding the risk factors involved in NAFL determination on 3000 cases and on 1000 cases for gallstone disease (GD);
- The metabolic component for C Viral Infection has been investigated through complex biologic and morphologic determinations;
- It has been done research over the pathogenic mechanism involved in NAFL determination (insulin resistance, cytokine profile, oxidative stress) ;
- The study over the gallbladder motility in GD and Metabolic Syndrome has been continued;
- Appropriate ultrasonic image analysis methods and software modules have been implemented.

**Stage IV: Applicative research:**

**Duration: 01.11.2007 – 30.05.2008**

- The screening activity has been continued on 8000 patients through ultrasonic methods in order to identify the metabolic profile;
- The mathematic modulation techniques and image processing techniques have been validated so as to confirmatively diagnose and stage the NAFL;
- The software modules have been integrated and tested in the medic's office;
- Statistics processing have been elaborated;
- The metabolic component of C Viral Infection has been investigated through complex biologic and morphologic determination;
- Research over the pathogenic mechanism involved in NAFL and GD determination have been done (insulin resistance, cytokine profile, oxidative stress);
- The study over the gallbladder motility in GD and Metabolic Syndrome has been continued;

- The case-control study has been continued (intermediary processing on a number of 2961 cases);
- An intermediary activity report has been done and it contains the technical-economical feedback of the stage.

## **Stage V: Conclusions, implementation and dissemination:**

**Period: 01.06.2008 – 10.10.2008**

### **Results:**

- The optimization and evaluation of the software applications;
- Statistic processing;
- The determination of the prevalence and the identification of the risk factors for NAFL and GD through a wide clinic epidemiology study (10089 patients);
- The finalization of the statistic processing in order to identify the metabolic component of C Viral Infection (hepatic steatosis, insulin resistance, the disturbance of the iron metabolism with complex morphology, biology, virology and imagistic exploration) – see also the final scientific report;
- Complex, comparative analysis of the performance of the invasive and non-invasive diagnosis means of investigation in the C chronic Hepatitis staging diagnosis (see also – final scientific report);
- Final statistic processing involved in NAFL determination (insulin resistance, cytokine profile, oxidative stress); see also – final scientific report;
- Final evaluation for the NAFL invasive and non-invasive means of diagnosis; see also – final scientific report;
- The elaboration of the screening and diagnosis strategy for the NAFL, in collaboration with ISP;
- Teaching support materials;
- The recommended screening and diagnosis strategy;
- Articles and communications;
- Web page;
- Presentation CD;

