Report on the project "Perinatal Monitoring" (April 1984)
Commission of the European Communities, Medical and Public Health Research

H.P. van Geijn, project leader

Department of Obstetrics and Gynecology
Academic Hospital
de Boelelaan 1117
1007 MB Amsterdam, The Netherlands

The first activities regarding the project "Perinatal Monitoring" date back to December, 1975, when an EC-sponsored workshop on "Perinatal Intensive Care" was held in La Spezia, Italy. During this meeting the need was clearly felt to establish (1) criteria and (2) standards for perinatal monitoring. To meet this objective however, information other than on applications of perinatal monitoring was required i.e. data concerning the course of pregnancy, the process of labour and delivery and the neonatal period. The project had its official start in 1980 and the activities during 1980-1982 have been focused on the establishment of the basic requirements for carrying out the project. At the end of 1982, the project came under the responsibility of COMAC/BME (Biomedical Engineering). In January 1983, a proposal for continuation of the project was submitted. The title of the project had been changed from "Criteria for Perinatal Monitoring" (CPM) to "Perinatal Monitoring " (PM).

The Council Decision of January 1983 states: "Continuation of the project relating to criteria for perinatal monitoring, with emphasis on technological development and assessment of devices and procedures for non-invasive monitoring, and extension to prevention of mothers' distress and risk as well as of foetal loss".
The program of the project was formulated as:

1. Definition of high risk groups for perinatal monitoring (WG/HRC)
2. Description and evaluation of cardiotocograms (WG/CTG)
3. Evaluation of the condition of the newborn infant (WG/INF)
4. Development and evaluation of new methods for perinatal monitoring (WG/MET).

Program items 1-3 were approved, while item 4 was considered as an exploratory activity that needed further elaboration in close contact with COMAC/BME.
The project organization was adapted to this new program and for each program item a working group was formed: WG/HRC, WG/CTG, WG/INF and WG/MET. Each working group is represented in the Project Management Group (PMG) by its chairman and secretary. The Project Management Group is completed by the project leader and the key person to the processing center.

In 1983 resources to monitor (the equipment) are sufficiently available in the various hospitals of EC countries. For that reason, the need to identify high risk populations and to establish risk criteria was felt less urgent than at the start of the project. The major concern, however, regards the use of electronic fetal monitoring itself (workshop WG/HRC, Gent, May 17-18, 1983).
Study of interventions based upon cardiotocographic recording in a group of

J.Perinat.Med. 12(1984)

patients at high risk for fetal hypoxia is the primary responsibility of WG/HRC. A description of the protocol is available upon request. This study will primarily deal with the clinical significance of fetal heart rate patterns for the detection of fetal hypoxia and moreover, the effectiveness of obstetric interventions decided upon fetal cardiotocographic tracings. A data base is collected from well-documented high risk pregnancies including labour and delivery and neonatal data and a follow up. Severe intrauterine growth retardation in the previous pregnancy is the primary entry criterion for inclusion in the data base.
This prospective, multicentered study, in which 50 hospitals from all 10 EC countries participate, appears feasible within the limitations of time, money and contribution of obstetric departments in EC countries. The organization of this study, including an exercise on its effectuation, has been the topic for the second workshop of the working group HRC, held in Perugia (Italy), October 24-25, 1983.

Part of this study is the evaluation of the newborn infant. A commonly accepted system that will be included in the protocol has been discussed during a workshop in Cork, Ireland, March 26-27, 1984, organized by WG/INF.

While WG/HRC will primarily deal with the clinical significance of cardiotocographic recordings, the description and computerized evaluation of cardiotocographic recordings is subject of study within the working group "Description and evaluation of cardiotocograms" (WG/CTG).
A trial to test and evaluate a system for visual description of cardiotocograms was held and has been discussed at the first workshop of this working group, Nijmegen, May 16-17, 1983. This first trial was followed by a second trial, that has been completed during the second workshop of WG/CTG, Toulouse, October 27-29, 1983. Accounts on both trials are given in the 2nd progress report of the project Perinatal Monitoring (ref.no. PM 83-9-15).

"Technological development and assessment of devices and procedures for non-invasive monitoring", as stated in the council decision, became the primary task for the working group "Development and evaluation of new methods for perinatal monitoring" (WG/MET). As mentioned before, the activities of WG/MET were considered to have an exploratory character and have been planned in close collaboration with COMAC/BME. A seminar on "New Methods for Perinatal Monitoring" will be held in Copenhagen, Denmark, May 7-8, 1984.