Fetal Movement Monitoring - By Mother's Perception

A. Padma Rao, K.M.C., Manipal

Foetal movements were known for centuries and rightly regarded as a sign of life of the foetus; but significance of change in the number of foetal moments that may occur before foetal distress and demise was not analysed and evaluated till the 1970s. It was done at Cardiff (Wales - U.K) in the early 70s.

Normal foetal movements are roughly estimated to be 86 movements per 12 hours at 24 weeks; 132 movements per 12 hours at 32 weeks of pregnancy and 107 movements per 12 hours at 40 weeks of pregnancy. These are average number of movements and their may be considerable variations in the same patient. It is not the absolute number of movements per day which is important in prognosis. It is the degree of change in frequency of foetal movements that is important.

When the patient informs that her foetal movements are not as frequent as before, the patient requires further investigation.

How best should our instruction be to the patient to count the foetal movements ?

Instruct her to count 10 consecutive movements and see how long the foetus takes to move 10 times. Normally the foetus will complete 10 movements in 15 minutes! But if the foetus takes more than one hour (60 minutes) to complete 10 movements, the patient should seek the help of her doctor.

Fifteen minutes to sixty minutes of counting foetal movements is quite reasonable. But the method that originated in Cardiff, called the cardiff count required the patient to count for 12 hours (9 am to 9 pm, Parson 1976). This procedure is to be adopted only when serious foetal jeopardy is diagnosed and the patient has to be in bed as a part of the treatment of some complication of pregnancy such as : Hypertension, IUGR, etc. If the movements are less than 10 in 12 hours - foetal distress is diagnosed (Pearson 1976). The main objection to this method was the lack of patient compliance to lie and count for 12 hours as a routine procedure. Therefore several methords of charting foetal movements emerged, such as the following:

1. Count for 30 minutes - 2 or 3 times daily. Less than 2 movements in 60 minutes - indicated foetal distress. (Sodovsky 1977).
2. Count for 2 hour period thrice weekly - Less than 3 movements per hour indicated foetal distress. (Neldham 1980)
3. Count for 60 minutes - thrice a day - or daily four times for 30 minutes each. Complete cessation of movements for one day or less than 10 movements for one hour for two days indicates decreased foetal activity (Harper 1981).
4. Count whenever convenient for over an hour. Less than 3 movements for 2 consecutive hours indicates decreased foetal movements (Rayburn 1982).
5. Count to 10 movements - no time restriction - Less than 10 movements for two consecutive hours indicates decreased foetal movements.

What is the gist of all the above statements which differ from each other only slightly ?

We may conclude that less than two or three movements per hour is a sign of impending foetal distress and that it needs further investigations.

How to instruct the patient to count foetal movements

1. Counting should be done in a quite place.
2. Anytime of day is suitable, though foetal movements tend to be more frequent in the evenings.
3. She should be instructed to recline in left lateral recumbent position (not supine position) and preferably after a meal.
4. She should mark each foetal movement on a paper

for the period of time she decides to count, (30 minutes or 60 minutes).

a. For routine foetal movement scoring in a patient without any pregnancy complication Cardiff count of counting to consecutive foetal movement is preferred. Normally 10 foetal movements occurs within 15 to 30 minutes. If it takes more than 60 minutes for 10 foetal movement chart is used routinely for all patients in some hospitals in U.S.A. (Rayburn - 1995).
b. She can count the foetal movements for 30 minutes twice a day. If movements are less than 2 or 3 hour, it is signal for further investigation to confirm foetal well-being.

Some shortcomings with Foetal Movements Scoring by the patient:

The data derived is entirely based on the patients perception of foetal movements. It is our experience that patients may count intestinal movements as a foetal movements after foetal demise and would refuse to accept foetal death. Or vice-versa, she in her anxiety would rush into the hospital exclaiming that foetal movements are absent when it is not so. In such a situation we should palpate her abdomen for foetal movements for about 30 minutes or even use the Stethoscope to hear the foetal movements. It is to be remembered that Pinard's Foetoscope was deviced originally to "hear" foetal movements.

Advantages of Foetal Movement Scoring

It does not require any instrument. It does not incur any expense. It can be done by the patient. Patient may develop more bonding towards her baby.

Some important points to remember about Foetal Movement scoring by the patient.

1. Foetal death can be anticipated within 24 hours after cessation of foetal movements.
   Therefore absence of foetal movements is a signal for immediate delivery.
2. Less than two hour period is an ominous sign and can be taken as "A movement alarm signal". Criteria for 'Movement Alarm Signal" varies from author to author.
3. Maternal perception of foetal movements has been decribed as of four types (Rayburn 1995).

   a. "Roll over or stretch" - sustained movement lasting three to thirty seconds. This is a strong movement.
   b. "Kick, Jab, Startle" short strong movement lasting 1-15 seconds. This is a strong movement.
   c. "Flutter, weak kick" short weak movement lasting less than 1 second.
   d. "Hiccup" Rapid & weak movement lasting less than 1 second. (Usually not perceived by patients)

4. A strong kick by the foetus is very reassuring.

Summary : Charting the mother's perception of foetal movements is the oldest and simplest method to monitor foetal well being in the second half of pregnancy, especially in the third trimester, singleton pregnancy-not in multiple pregnancy. This method of foetal monitoring is very practical and useful for a practicing obstetrician who may lack the facility of ready ultrasonography.

References :-

1. Rayburn W.F. - Foetal Movement Monitoring Clinical Obstetrics and Gynecol Vol: 38, Number 1 March 1995.