

## MANAGEMENT OF POST-DATISM WITH ELECTRONIC FOETAL HEART RATE MONITORING†

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The inaccessibility of the fetus to direct examination had made assessment of its condition in utero difficult. Until recently, estimation of fetal risk in postdatism was based on either indirect biochemical methods such as maternal estriol or upon statistical chance derived from cumulative experience. Since the advent of electronic fetal heart rate monitoring, it is now possible to keep a close watch on the condition of the fetus and judge the optimum time and mode of delivery.

### Material and Methods

Ninety-two cases of postdatism were monitored antepartum at the Nowrosjee Wadia Maternity Hospital, from the year 1979 to 1981. All the cases were atleast 7 days post-dated as calculated from their last menstrual period. Antepartum fetal heart rate monitoring was done by both the nonstress test and the stress tests.

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### Results

With the nonstress test, the incidence of non-reactive patterns was found to be much higher with an increase in the number of days post-term. In the first group, where the patients were postdated by 7-15 days (56 cases), only 20% (11 cases) of the patterns were non-reactive, while in the second group, where the patients were postdated by more than 15 days (36 cases), 66.6% (24 cases) of the patterns were non-reactive.

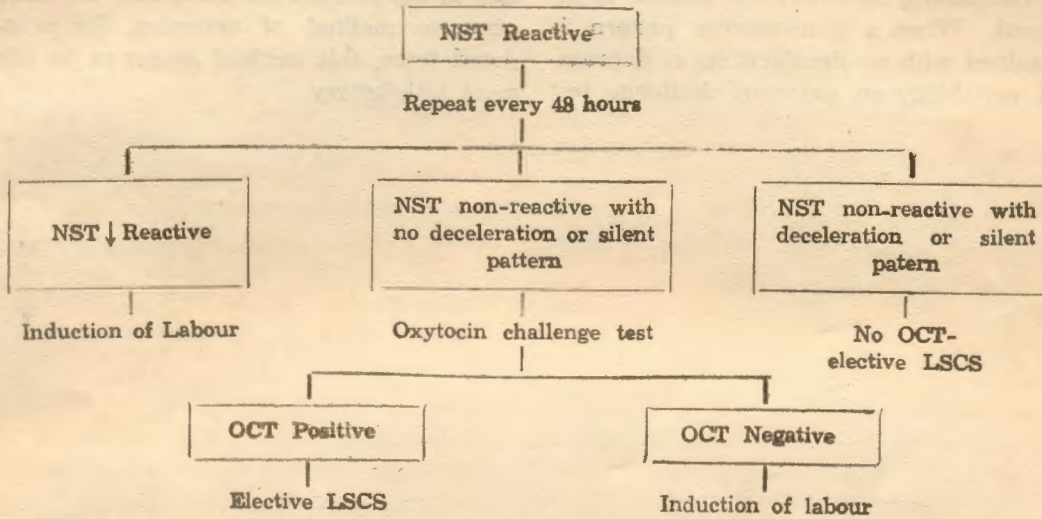
A reactive pattern in the non-stress test showed an acceleration of 20-30 beats per minute with fetal movements with a normal fetal heart rate variability of 8-12 beats per minute.

Out of 57 cases who had a reactive pattern, 12 cases were taken up for caesarean section for indications other than postdatism. Of the remaining 45 cases, 44 delivered normally with no evidence of fetal distress. An oxytocin challenge test had been done on 9 of these cases and as expected had been negative. This suggests that, by and large, a patient with a reactive pattern can be expected to have a safe vaginal delivery with no fear of placental insufficiency. There was 1 case of intrauterine fetal death within 96 hours of a reactive pattern, occurring before the

onset of labour. Because of this mortality we picked up 10 cases at random and monitored them closely from the beginning to determine a safe period between two consecutive non-stress tests.

Out of 10 cases who started off with a reactive pattern, 5 remained reactive and subsequently delivered normally. Out of the remaining 5 cases, 2 cases turned non-reactive with a positive oxytocin challenge

test and subsequently delivered normally, while 10 cases had a positive test. Five of these cases had an elective caesarean section while the remaining 5 were allowed a trial of labour. Out of these 5 cases, 4 developed fetal distress and had to be taken up for an emergency caesarean section while only 1 delivered normally. This indicated that, had an oxytocin challenge test been done on the other 18 cases



test within 48 hours and 3 within 72 hours. All 5 cases were more than 15 days post-dated when the sudden change in the pattern occurred, clearly demonstrating the rapidity with which the condition of the fetus worsened with an increase in the duration of days. Hence, all cases of postdatism must be monitored at least every 48 hours, even if the pattern is reactive.

Out of 30 cases who had a non-reactive pattern, 18 cases did not have an oxytocin challenge test done. Of these, 10 cases delivered normally and 8 had fetal distress requiring an emergency caesarean section. Of the remaining 12 cases who had an oxytocin challenge test done, 2 cases had a negative oxytocin challenge

test and subsequently delivered normally, while 10 cases had a positive test. Five of these cases had an elective caesarean section while the remaining 5 were allowed a trial of labour. Out of these 5 cases, 4 developed fetal distress and had to be taken up for an emergency caesarean section while only 1 delivered normally. This indicated that, had an oxytocin challenge test been done on the other 18 cases

it might have been possible to screen out the 8 cases of fetal distress and thereby decrease the fetal risk considerably. In cases where a persistent deceleration is found with fetal movements or Braxton Hicks contractions, or, where the variability is markedly reduced to 2-3 beats per minute—silent pattern, an oxytocin challenge test should not be done as the fetus would be unable to withstand the stress of uterine contractions.

A non-reactive pattern with an acceleration of less than 10-15 beats per minute or no acceleration with fetal movements but a normal variability, must be followed up by an oxytocin challenge test. If the test is positive, showing a persistent late deceleration with a uterine contraction rate

of 3 per 10 minutes, a caesarean section is advisable. If the test is negative, showing no decelerations with uterine contractions, labour must be induced.

*Plan of Management*

The non-stress test is performed on all patients who are postdated by more than 7 days. A reactive non-stress test is repeated every 48 hours. At the first sign of decreasing reactivity the patient is induced. When a non-reactive pattern is obtained with no deceleration or decreased variability an oxytocin challenge test

is performed. If it is positive the patient is taken up for an elective caesarean section, while if it is negative labour is induced and the patient monitored in the intrapartum period. If a deceleration or a silent pattern is obtained the oxytocin challenge test is not performed but an elective caesarean section is carried out.

There have been no fetal mortalities dating from the introduction of this plan and in the present situation, with no other accurate method of assessing the postdated fetus, this method seems to be the most satisfactory.

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