ÖCCURENCE OF FETAL COMPLICATIONS DURING LABOR IN A SO-CALLED "NON-RISK" GROUP

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Is there really such a thing as a delivery without risk for the fetus? What dangers may threaten it during labor when the pregnancy has been normal in all respects? These are the questions asked of the obstetrician, the answers to which, outside of the medical framework, are equally of interest to all those in charge of defining health policy for mother and child. For a long time, fetal risks have been studied in global populations, or in restricted, so-called "high-risk" maternal or fetal groups. To our knowledge, little work has been done on so-called "non-risk" groups. Nevertheless, the question of home delivery is raising once more.

METHODOLOGY For this study, we took into account the deliveries of the last 2 years (4126 births). By processing all the data stored in our file, we selected a so-called "non-risk" group, from which all women having an unfavourable condition were excluded. Results were compared with the rest of the population, that is, with the "at-risk" group. The very rigorous selection was performed in 2 steps. Firstly, at the initial prenatal visit, all women who had a previous pathological condition were excluded; as well those who did not conform to the normal age, weight, and height criteria; and all those who had undergone previous pathological pregnancies. This first choice resulted in the selection of 2420 women (59.3%). The second step performed at the end of pregnancy, allowed the further exclusion of those had a pathological condition during the actual pregnancy, cases of insufficient supervision, and cases of multiple pregnancy. Also eliminated were abnormal length of pregnancy, abnormal presentation or breech, premature rupture of the membranes, and antepartum death. We did not take into account cases of induced labor. Thus, we defined, at the time of delivery, a so-called "non-risk" group of 1319 women, representing 31.9% of the overall population. The "profile" of this group was compared with that of the rest of the population. It was found to be significantly different, whether ethnic origin, level of study, or profession was considered. Also a slightly larger number of primipara were found.

RESULTS In this group, we researched how labor developed, what complications affected the fetus, what artificial extractions were performed and their indications.

The total duration of labor was analogous in the 2 categories. The partial duration, 5 to 10 cm dilatation, was slightly longer in the selected group (2h30 against 2h18), because of the greater number of primipara (53.1% against 48.8%). In 15% of deliveries, an abnormality was noted during labor. The most frequently encountered was stagnation of dilatation (6.8%) and, less frequently, an arrest of progression of the presentation during the 2nd stage (4,5%). Also, 8% of selected women were given a drug to correct uterine activity and allow good development of labor. On the other hand, in 10.8%, there was total abstention from all therapy.

The rupture of membranes was spontaneous in 1/3 of the cases, in 22.2% before arrival to the hospital, and in 11.3% during the 1st stage. In the other 2/3, rupture was artificial. In 86.1% of these deliveries, the amniotic fluid remained clear up to the moment of birth, this being very significantly different from the at-risk group. In 6.2% of cases, however, the fluid was stained as early as the beginning of labor, in 7.7% it became stained during the 1st or the 2nd stage.

Above all, it is modifications in fetal heart rate pattern that

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point out the changes in fetal condition and demonstrate the frequency of the embarrassments to which it is subjected. On analysis of the traces in segment of 1 hour, the CTG is judged as normal, suspicious or pathological For the 3 final hours of the 1st stage, the incidence of normal recordings in our selected group fell from 79.4 to 63.9, and then to 42.1% in the final hour; whereas that of suspicious pattern passed from 19.3 to 33.4 then to 52.6%; and that of those classified as pathological increased from 1.3 to 2.7 and to 5.3%. This final category was the most interesting on analysis. Out of the 68 traces declared as pathological in the final hour, we noticed 45.6% of bradycardias of less than 120 bpm, and 2.8% of less than 100. In only 7.4% was there a tachycardia. There were no silent pattern and, as expect, very few late decelerations (1.5%). On the other hand, variable decelerations was the dominant element (85.3%) prolonged by a residual phase in 57.4%. These disturbances must be attributed to cord compression. This is predominant among the risks of fetal distress.

For each of the 2 groups, selected and at-risk, the number of funicular abnormalities visualized at birth was 40%. Above all, these comprised loose or tight cord round neck observed in 23.2% of deliveries. To these were added strap cords (4.8%), over-short or over-long cords (14%) and finally, knots (1.1%). A special place because of its severity was taken, not by prolapse, which was quite exceptional (1 case), but by lateral prolapse. Totally unforeseable it occured in 3.3% of deliveries. Beside these funicular abnormalities duly observed at the time of fetal disengagement, it must be emphasised that a certain number of cord compressions (25.1%) were only shown off as variable decelerations. In all, this type of deceleration was found in 56.1% of traces during the final hour. If to this figure are added the funicular abnormalities which did not lead to any alteration CTG, the risk may be evaluated as 66.9%.

As one might expect, the type of delivery was most frequently normal : vaginal spontaneous delivery for 90.8% of women. Nevertheless, 1.4% had an acute section and forceps extraction was necessary in 7.8%. These figures differ considerably from the other group. Analysis of the indications reveals that 19 cesarians were performed : in 5 cases, for severe fetal distress, associated in 3 other cases with dystocia and in 11 cases, for dynamic dystocia without any fetal consequence. Forceps were motivated by isolated pathological CTG (27 cases) association of this with non-progression of the presentation (12 cases), or arrest of progression exclusively (64 cases). If all cases of fetal distress, whatever the cause, are considered together, we find that 47 infants were extracted for this reason : 8 cesarians (0.6%) and 39 forceps (3%).

The condition of the neonates was very satisfactory : 90.5% of the Apgar scores reached 8 or more at 1', 98.5% at 5'. It has to be noticed that 1% (14 newborns) were below 4 at 1' for which, however, the pH was greater than 7.10. At 5'only 3 of these remained low. These cases of neonatal distress followed on from a fetal distress on 10 occasions. As for the 8.5% of the neonates scored between 4 and 7 at 1', most of them were quite normal at 5'. In addition, an acidosis of a pH less than 7.15 was recorded for 50 deliveries (4.2%). 13 of these (1.1%) below 7.10 had all the same an Apgar score of more than 4. In 9 cases this advanced acidosis was connected with a funicular anomaly. These figures explain why reanimation was necessary in 2.5% of these infants. It lasted for more than 10 minutes in 0.8% only. As for mortality, this as a result of the selection criteria, was exclusively related to the neonatal period; 3 infants died : the 1st death, supervened at 10' and

resulting from an acute distress of funicular origin, could perhaps have been avoided by a more rapid operation and a better-conducted reanimation; the 2nd was inevitable, in relation with a cardiac malformation; the 3rd died from a respiratory distress secondary to amniotic inhalation. The incidence of neonatal mortality was thus 0.23%, 3 times lower than that of the at-risk population (0.61%).For the whole of the 2 years 1979 and 1980, the overall perinatal mortality was 0.92%. A final remark concerns malformations. In 5 infants, a major malformation was undetected by investigations performed during pregnancy. The incidence, 0.4%, was very different from that of the overall population, where it rises to 2%.

DISCUSSION The study of this selected, so-called "non-risk" group emphasises the unpredictible dangers to the fetus during labor. If states of fetal distress as expressed by abnormalities of the fetal heart rate are added to the risks inherent in development of labor,it demonstrates that 15% of neonates may undergo difficulties at birth. This pourcentage is considerably higher (25%) in the at-risk group.

- The funicular abnormalities do not all have fetal repercussions, but their very high frequency should engender an attitude of caution.
- Cesarean section is rarely resorted to. On the other hand, the necessity for vaginal extraction is still high, being indicated one on 2 occasions for fetal distress.
- Neonatal mortality is very low, but, however, not zero; reanimation is sometimes necessary. Despite the detection of infant malformations during pregnancy, a small number exists for which the diagnosis will not be made.
- The condition at birth is excellent. Nevertheless persists a small percentage of depressed or acidotic neonates.
- The fetal heart rate monitoring remains a very powerful indicator. It shows numerous modifications in the traces, and only 40% are normal at the end of labor. Also, the appearence of a suspicious pattern should not be minimised but, on the contrary, great vigilance should be exercised if it becomes worse, enabling any necessary action to be taken in time, so that the consequences may be limited. This implies the same rigour of supervising as for at-risk groups.

CONCLUSIONS We may say that there is no such thing as delivery without risk, but that a woman without pathological antecedents, and in whom no abnormalities are noted during pregnancy, has the highest chances of having a perfectly well being child. However, there are dangers from which the fetus cannot always escape. Certain people, in these optimal situations and despite these realities, give priority to the environment choosing an "ecological" management of labor. Others, including ourselves, prefer the method of greatest security. The results we have presented here have confirmed us in this choice, even though we are fully aware of the constraints involved and the higher cost. But are not the life and future of a child worth such a price ?

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