# MANAGEMENT OF TWIN LABOR

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*Investigations were carried out on 68 labors in twin pregnancies. It was observed that, upon stimulation of uterine contractions by means of oxytocic agents, mainly oxytocin (90%), the mean duration of labor was significantly reduced to about 7 hours, and prolonged labors (over 20 hours) were completely eliminated. The time between delivery of the first and the second baby is now below 30 minutes in all cases, and this is regarded as the optimum time. No neonatal deaths were observed in labors taking place at term. The condition of the newborns at birth was estimated in accordance with the Apgar score and it was found that the second newborn scored worse than the first one; a fact definitely related to the higher proportion of operative procedures during delivery of the second twin (48%) as compared to the first one (10%).*
*The authors stress that, owing to the introduction of the method of conducting twin labors, maternal mortality has been completely eliminated and twin perinatal mortality has been markedly reduced: from about 28% in 1923-1962 to about 10% in recent years.*

The concept of active management of labor introduced in our Department by Bulski in the 1950s has been developed and applied also to cases of multiple labor by Sternadel in the 1960s, who worked out the principles of obstetric management in twin and triple labors on a material of nearly 800 multiple pregnancies (Sternadel 1964*c*, 1966*a*, 1966*b*, 1967*a*, 1967*b*, 1967*c*, 1967*d*, 1968). The investigations reported at that time included the period of activity of the Department up to 1965. Part of twin labors from previous investigations were conducted in accordance with the principles of active management and obstetric anesthesia, while the remaining twin labors from 1965 to early 1972 were mostly conducted according to the methods used in active management. The investigations were carried out on 68 cases in which stimulation of uterine contractions was effected with oxytocic agents, mainly oxytocin in intravenous drip infusion, as well as spasmolytic and anesthetic agents. Besides that, the final stage of twin labor, i.e., delivery of the second fetus and expulsion of afterbirth, was conducted using oxytocin and methergin like drugs, which not only facilitated delivery of the other fetus but also prevented excessive loss of blood. Among these 68 cases of twin labor investigated by the authors there were 2 cases of postmature labor (over 42 weeks of pregnancy), 36 labors at term, 24 premature, and 6 at the border of prematurity and immaturity.

Comparative analysis of this group of labors and the group of twin labors from the previous period (Sternadel 1966*a*), all with spontaneous deliveries, showed that upon stimulation of uterine contractions, with oxytocin mainly (90%), the mean duration of labor was significantly reduced (to 7 hours); the so-called prolonged labors lasting over 20 hours have been completely eliminated. The duration of twin labor in hours in this group is shown in Table 1.

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Table 1. *Duration of Twin Labor*

| Hours of labor | 2-6 | 6-12 | 12-18 | Total |
|---|---|---|---|---|
| Labor at term | 13/34 | 18/48 | 7/18 | 38/100 |
| Premature labor | 14/58 | 6/25 | 4/17 | 24/100 |

The previous investigations (Sternadel 1967*b*) suggested that delivery of the second fetus should occur not earlier than 10 minutes and not later than 40 after delivery of the first one. This interval between the first and the second delivery is advantageous for the fetuses as well as for the mother (hemorrhages). In the present investigations it was observed that the time elapsed from the first to the second delivery never exceeded 30 minutes; thus, the optimum time was achieved. In the whole group the second fetus was born within 20 minutes after the first one in 72% of cases, and between 20 and 30 minutes in 28%. Owing to active management, no death of newborn delivered in a twin labor at term, i.e., from the 38th to the 42nd week of pregnancy, has occurred.

The condition of the newborns at birth was evaluated according to Apgar score and the newborns delivered as second scored slightly worse (Table 2).

Table 2. *Conditions of Twins at Birth and Perinatal Mortality* (% values)

| | Newborns in good conditions (score 8-10) | Total perinatal mortality |
|---|---|---|
| First twin | 86 | 11 |
| Second twin | 66 | 12 |

At the time when the methods of active management of labor had not yet been in use in our Department, the condition of the second twin at birth was generally much worse (Sternadel 1967*d*). The worse condition of the second twin could have been explained with a higher frequency of obstetric interventions in deliveries of the second twin as compared with the first one (Table 3).

The percentage of Cesarean sections in this group of twin labors was 4.5%, showing no difference from the results obtained in previous years, since it has been established that multiple pregnancy does not *per se* require such a method of delivery (Sternadel 1966*b*), the indications pointing to Cesarean section being the same as in single pregnancy.

Of all drugs used for reducing labor pains and acting spasmolytically, the most beneficial was Dolantin (pethidine). In this group of cases it was used in 66% of labors at term and 61% of premature labors, while inhalation anesthesia with trichloroethylene and methoxyflurane was given in 28% and 8% of cases, respectively. Administration of these drugs

Table 3. *Interventions in Twin Labor* (% values).

| | Manual assistance | Version | Extraction of fetus | Forceps | Total |
|---|---|---|---|---|---|
| *Labor at term* | | | | | |
| First fetus | 5-14 | — | — | 1-3 | 6-17 |
| Second fetus | 8-23 | 3-8 | 4-11 | 1-3 | 16-45 |
| *Premature labor* | | | | | |
| First fetus | 4-16 | — | — | — | 4-16 |
| Second fetus | 7-29 | 4-16 | 2-8 | — | 13-53 |

in especially selected cases had no effect on the condition of the fetus at birth. Maternal deaths in twin labor have not occurred since 1962 when a mother died in twin labor due to severe septicemia. Due to prophylactic measures and active management of twin labors, a significant reduction in perinatal mortality of twin fetuses was obtained, from about 28 % in the years 1923-1962 (Sternadel 1967*d*) to 11-12 % in recent years.

## CONCLUSIONS

1. In selected cases of twin labors the methods of active management of labor and obstetric anesthesia can and should be applied.
2. Intravenous drip infusion of 5 I.U. of oxytocin at a proper rate is particularly recommended for stimulation of uterine contractions.
3. In twin labors at term, pethidine is recommended as anesthetic and spasmolytic agent, while inhalation anesthesia may be used only during the delivery of the second fetus, especially when obstetric operation is performed.
4. In twin deliveries before term, controlled stimulation of uterine contractions can be applied, but inhalation anesthesia should not be given and the drugs of the type of pethidine should be restricted as much as possible.
5. By appropriate management of twin labor the duration of labor can be maintained within proper limits, prolonged labors are eliminated, the labor becomes safer for the mother and more favorable for the twins.

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