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Is the elderly primipara really at high risk?

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The first written document about an elderly primipara was about Sara, in the Bible (Genesis, chapter 17, paragraph 17). Since then, numerous works have appeared dealing with the problem of the elderly primipara and describing the complications and the risks for mother and fetus. In an ample study in 1974, DOROTHY NORTMAN [8] expressed her opinion that the mother's age affects the pregnancy, increasing the maternal, fetal and neonatal mortality, and resulting in a higher incidence of DOWN's syndrome and congenital malformations. It is without doubt that the elderly primipara (EP) is at greater than average risk in her pregnancy, but is this risk really so high as in a pregnant woman with juvenile diabetes or chronic renal failure? And if so, how can one reduce the fetal and maternal mortality and morbidity? To elucidate these points was the aim of the present study.

1 Material and methods

According to the definition accepted in 1958 by the Council of the International Federation of Obstetricians and Gynecologists, **an elderly primipara (EP) is one aged 35 years or more at her first delivery**. Since in our country puberty occurs early and women get married at the young age of about 16–17 years, we have compared our study group with two different age groups of control subjects. The total women studied including controls was 402, all being delivered in the University Obstetrical Department of Hasharon Hospital, over a 5-year period, from 1970 through 1974. During this period, **26.776 deliveries were recorded**, of which 8.403 (31.4%) in primiparae.

The test group (Gr. A) comprised 55 women between 35 and 38 years of age except two who were 42 years old. They represent 0.65% of all primiparae in the given period. The two control groups were formed of 97 (1.15%) primiparae aged 30 to 34 years (Gr.B); and 250 (2.9%) primiparae between 20 and 29 years of age, randomly selected, 50 for each two-year interval studied (Gr.C).

We recorded the gynecologic history of the women (number of abortions, spontaneous or induced, the treatment received for sterility of infertility; Tab. I); medical history of chronic diseases such as diabetes and hypertension; the course of the present pregnancy, labor, delivery and puerperium; and the baby's state at delivery and during the first days after birth. The results obtained for the 3 groups were compared with respect to complications of pregnancy, mode of onset of labor, mode of delivery, puerperal complications and fetal outcome.

2 Results

The course of the pregnancy and the eventual complications are shown in Tab. II. Another parameter investigated was the onset of delivery. We have considered a normal beginning of the labor when the onset was by efficient contractions at term pregnancy. Labor beginning by premature

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Tab. I. Previous gynecologic history in the 3 groups of women

	Group A		Group B		Group C	
	No. women	%	No. women	%	No. women	%
	55	100	97	100	250	100
Spontaneous abortion	10	18.2	13	13.4	20	8.0
Artificial abortion	7	12.7	6	6.2	7	2.8
Ectopic pregnancy	–	–	1	1.0	–	–
Cerclage	2	3.6	5	5.2	2	0.8
Treatment for sterility	7	12.7	15	15.5	–	–
Conservative myomectomy	1	1.8	1	1.0	–	–

Tab. II. Course of pregnancy and antepartum complications in the 3 groups of women

	Group A		Group B		Group C	
	No. women	%	No. women	%	No. Women	%
	55	100	97	100	250	100
Normal pregnancy	46	83.6	78	80.4	220	88.0
Preeclampsia	3	5.5	12	12.4	12	4.8
Bleeding	6	10.9	7	7.2	18	7.2
Gestational diabetes	1	1.8	–	–	–	–
Essential hypertension	1	1.8	–	–	–	–
Anemia	6	10.9	7	7.2	18	7.2

rupture of the membranes (PRM) was considered abnormal. The results concerning this parameter are presented in Tab. III.

As regards the length of labor, considered from the first spontaneous contractions, or from the induction by oxytocin drip in the patients with PRM, until delivery, we found no differences between the 3 groups, as shown in Tab. III.

The mode of delivery is shown in Tab. IV. In the EP group most indications for cesarean section were for fetal distress or cephalopelvic disproportion, but the great majority were elective cesarean sections, of which one was performed in the patient with gestational diabetes.

Another parameter investigated in order to determine the maternal risk was the course of the puerperium. An equal percentage was recorded in the EP group as compared with the control groups, the period of hospitalization being of 4–7 days, according to the mode of delivery: spontaneous delivery or by cesarean section. As concerns the postpartum complications, 18.2% of the EP suffered from postpartum anemia compared with only 13.3% in group B and 15.2% in group C. In the EP group one woman (1.8%) died, from afibrinogenemia and irreversible shock.

Although of little relevance, we also studied the number of subsequent pregnancies and deliveries. So far, in the EP group 34.5% of the women have had another pregnancy, in group B 40.3%, and in group C 74.4%.

Fetal risk. The neonatal morbidity was determined by the APGAR score at 1 and 5 minutes after delivery, since this test indicated the need for intensive care for respiratory distress syndrome or for problems of the central nervous system. No difference in the APGAR score was found in the EP group compared with the control groups B and C, the recorded score in all 3 groups being between 8 and 9.

Tab. III. Onset of labor in the 3 groups of women

	Group A		Group B		Group C	
	No. women	%	No. women	%	No. women	%
	55	100	97	100	250	100
Normal onset of labor	28	50.9	56	57.7	157	62.8
PRM	27	49.1	41	42.3	93	37.2
Average duration of labor (hr)		8.6		7.5		9.2

Tab. IV. Mode of delivery in the 3 groups of women

	Group A		Group B		Group C	
	No. women	%	No. women	%	No. women	%
	55	100	97	100	250	100
Spontaneous delivery	20	36.4	59	60.1	198	79.2
Cesarean section	27	49.1	21	21.6	6	2.3
Vacuum extraction	6	10.9	15	15.8	40	16.2
Forceps	2	3.6	2	2.5	6	2.3

Tab. V. Fetal outcome in the 3 groups of women

	Group A		Group B		Group C	
	No. women	%	No. women	%	No. women	%
	55	100	97	100	250	100
Perinatal mortality	2	3.64	2	2.06	–	–
Small for date babies	8	14.54	11	11.34	8	3.20
Malformations and death	3	5.45	3	3.09	3	1.20
Down's syndrome	–	–	1	1.03	2	0.80

The average birth weight was 3.030 g (4.150–1.640) in the EP group, 3.070 g (4.250–1.950) in group B, and 3.200 g (4.760–1.980) in group C. The results regarding the baby's status at birth are shown in Tab. V.

3 Discussion

Authors from the XVIII century, such as SMELLIE, MAURICEAU and DENHAM, cited in MORRISON's study [6], when dealing with the problem of the EP, have emphasized the maternal rather than the fetal risk. MORRISON [6] pointed out the fetal risk, showing the high perinatal mortality and neonatal morbidity related to the EP. In his opinion, the factors contributing to the neonatal morbidity were pregnancy with a duration greater than 40 weeks and prolonged labor (over 20 hours). An Apgar score of 6 or less obtained in the first minute is indicative of the effect on the fetus. In his series of 127 cases, MORRISON recorded prematurity in 14% cases, the APGAR score less than 6 in 18%, and 25% of the women had prolonged labor which, together with a prolonged pregnancy, contributed to 75% of the cases of neonatal morbidity. In 23% of the patients there was PRM, and 31% had a cesarean section compared with only 3% in the control group. This

author, like DONALD [2] suggests the induction of delivery not later than one week past term, assessment of the pregnancy at term using estriol determination and amnioscopy for meconium, and more liberal use of cesarean section in EP. Other authors such as MULCAHY [7] and KANE [4] also describe the risks of pregnancies and deliveries in an elderly gravida. The results of these pregnacies are often abortions, stillbirths, neonatal death and congenital defects.

In their 1977 study, HORGER and SMYTHE [3] reviewed 440 pregnancies occurring in women over the age of 40 during a 10-year period. Only 2% were primiparae. The perinatal mortality rate in their group was 3 times greater than that of the general obstetric population and the incidence of congenital abnormalities was of 3.4%.

BIGGS (1) and LANCET (5) report less pesimistic data. According to BIGGS the mother's health and the fetal outcome are not influenced by the advanced maternal age, when the pregnancy is otherwise uncomplicated. LANCET (5) in his article concluded that the EP does not differ from other women of the same age who are not at their first delivery. Careful control of their pregnancy and delivery can prevent excessive fetal and maternal morbidity and mortality. He reported that in his department only 0.35% of EP had a complicated pregnancy, in contrast with the incidence of 1.4% reported by other authors.

Our results are in agreement with those reported by LANCET [5]. Although in our study the group of EP represents only 0.6% of the total number of primiparae, this is a group at incontestable risk. **The gynecological history and the chronic diseases related to age, i.e. hypertension and diabetes, account for risk more than the pregnancy itself. Elderly pregnant women are more careful during their pregnancy, attend their physician more often, giving him, therefore, a better chance to improve the outcome.**

Thanks to the new means at the physician's disposal such as advancing ultrasonic technology, hormonal and enzymatic evaluation of the feto-placental unit, bioelectric evaluation with and without stress testing, as well as by avoidance of prolonged pregnancy and the more liberal use of cesarean section, the chances of the EP group are now much better than in the past. Our results demonstrate this. **We have not recorded any greater incidence of EPH gestosis in this group compared with controls**, and there was no significant difference in the mode of onset or the duration of labor. Concerning delivery, **the rate of cesarean section was high in the EP group**, reaching 49.1% compared with only 2.3% in the age group 21–29 years.

By more liberal use of cesarean section we reduced the perinatal mortality to only 2 cases and they were caused by prematurity. **The incidence of congenital malformations was not higher than in the control groups** and in our EP series no case of DOWN's syndrome was recorded. As for the maternal death recorded in our series it has, in our opinion, no relation to the gravida's age.

Concerning the erroneous idea that for the elderly woman this will be her first and last delivery, our study showed that **34.5% of the EP had another pregnancy and delivery**.

Summary

During a five-year period, from 1970 through 1974, 26.776 deliveries occurred in our department, of which 55 (0.6%) were in elderly primiparae (EP). This group was compared with two control groups. The first comprised 97 women aged 30–34 years, and the second one, 250 women between 20 and 29 years of age. The parameters investigated were: The gynecologic past history, the course of the present pregnancy, labor, delivery and fetal outcome.

In most of the cases, no significant differences were found between the EP group and the control groups. A striking difference was observed in the rate of cesarean sections, which was 49.1% in the EP group, as against only 2.3% in the age group 20–29 years.

It may be concluded that by more liberal use of cesarean sections, available means of antenatal care, and prompt intervention in cases of postmaturity and prolonged labor, one can reduce the maternal and fetal morbidity and mortality, and that the EP, although a group at risk, has nowadays a better outlook for both mother and fetus.

Key words: Elderly primipara (EP), fetal morbidity, fetal mortality, high risk pregnancy.

Zusammenfassung

Ist mit der älteren Erstgebärenden tatsächlich eine Risikoschwangerschaft verbunden?
Über einen Zeitraum von 5 Jahren, von 1970 bis Ende 1974, wurden in unserem Einzugsgebiet 26776 Entbindungen verzeichnet, von denen 55, d.h. 0,6%, auf ältere Erstgebärende (elderly primipara=EP) entfielen. Die EP-Gruppe wurde mit zwei Kontrollgruppen verglichen. Eine Kontrollgruppe umfaßte 97 Frauen im Alter von 30 bis 34 Jahren, während sich in der zweiten Kontrollgruppe 250 Frauen im Alter zwischen 20 und 29 Jahren befanden. Folgende Parameter wurden in unsere Untersuchung einbezogen: die gynäkologische Anamnese, der Verlauf der aktuellen Schwangerschaft, Wehenverlauf, Entbindung und fetaler Zustand.
In den meisten Fällen konnten wir keine signifikanten Unterschiede zwischen der EP-Gruppe und den Kontrollgruppen feststellen. Ein auffallender Unterschied zeigte sich jedoch bzgl. der Rate an Kaiserschnitten; diese betrug 49,1% in der EP-Gruppe gegenüber nur 2,3% in der Kontrollgruppe der 20–29 jährigen Frauen.
Ältere Erstgebärende treten mit einem Anteil von 0,6% recht selten auf. Die immer häufiger zur Anwendung kommende Beendigung der Schwangerschaft durch Sectio sowie die pränatale Überwachung mit den heute verfügbaren, modernen Geräten, aber auch das sofortige Einschreiten bei Überreife und verlängerter Austreibungsperiode können die mütterliche wie die fetale Morbidität bzw. Mortalität herabsetzen. Obwohl ältere Erstgebärende eine Risikogruppe darstellen, eröffnen sich dadurch bessere Chancen, sowohl hinsichtlich des Gesundheitszustandes der Mutter als auch des fetalen Zustandes.

Schlüsselwörter: Ältere Erstgebärende, fetale Morbidität; fetale Mortalität; Risikoschwangerschaft.

Résumé

La primipare âgée fait-elle réellement partie des grossesses à haut risque?
Pendant 5 ans, de 1970 à 1974, 26 776 accouchements ont eu lieu dans notre service, dont 55 (0,6%) chez des primipares âgées. Ce groupe a été comparé à deux groupes témoins: d'une part 97 femmes âgées de 30 à 34 ans, de l'autre 250 de 20 à 29 ans.
Les paramètres comparatifs furent: les antécédents gynécologiques, l'évolution de la présente grossesse, le travail, l'accouchement et l'état néonatal.
Dans la plupart des cas il n'y eut aucune différence avec les groupes témoins. Une différence frappante, toutefois, concerne les taux de césarienne: 49,1% dans le groupe étudié, contre 2.3% dans le groupe 20–29 ans.
Si l'on considère la rareté relative des grossesses tardives (0,6%) et l'efficacité d'un usage plus large des césariennes, de la disponibilité de soins néonatals modernes et d'une intervention rapide en cas de post-maturité et de travail prolongé, en matière de réduction de la mortalité et de la morbidité maternelles et foetales, on peut admettre que les primipares âgées, tout en constituant un groupe exposé, ont aujourd'hui de meilleures chances de bien-être maternel et néonatal.

Mots-clés: Grossesse à haut risque, morbidité foetale, mortalité foetale, primipare âgée.

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