

THE INFLUENCE OF 21ST CENTURY SOCIETY IN CHOOSING THE MODALITY OF DELIVERY- A RETROSPECTIVE STUDY OVER DELIVERIES ASSISTED IN THE “DR. SALVATOR VUIA” CLINICAL HOSPITAL FOR OBSTETRICS- GYNECOLOGY OF ARAD BETWEEN 1984-2011

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Abstract: Introduction: Delivery, a natural act nevertheless associated with high maternal and fetal mortality in the past, registered remarkable progresses in its management due to the development of obstetric art, but more important of the cesarean section. Objective: Study of the modifications seen in the modality of delivery. Method: Clinical retrospective study of the period 1984-2011 in Arad Obstetric Department, that analyzes the dynamic of women and doctors preference for cesarean section instead of natural delivery. Results: In the studied period there were 109046 deliveries registered (3894.5 deliveries/year) and 17214 cesarean sections (614.78/year), the cesarean section rate being 15.79 percent for the whole timeframe. The number of births decreased constantly from around 5000 before 1990 to less than 3000 in 2011, though cesarean section rate raised from 7.80 percent in 1984 to 50.21 percent in 2011. Conclusion: Progresses in cesarean section technique, patient's will, doctor's comfort and society pressure led to a major change in solving delivery.

Cuvinte cheie: operație cezariană, naștere naturală

Rezumat: Introducere: Nașterea, un act firesc, dar asociat cu mortalitate maternă și fetală ridicată în trecut, a prezentat progrese evidente în manageriere, prin dezvoltarea artei obstetricale, dar mai ales a operației cezariene. Obiectiv: Studiarea modificărilor survenite la modalitatea de naștere. Metodă: Studiu clinic retrospectiv pe perioada 1984-2011 în maternitatea arădeană, care analizează dinamica schimbării preferinței femeilor și a medicilor pentru operația cezariană, în detrimentul nașterii vaginale. Rezultate: În perioada studiată au fost consemnate 109046 nașteri (3894,5 nașteri/an) și 17214 operații cezariene (614,78/an), rata de cezariană calculată pe întregul interval fiind 15,79 percent. Numărul de nașteri a scăzut constant de la aprox 5000 înainte de 1989, la sub 3000 în 2011, iar rata cezarienelor a crescut de la 7,80 % în 1984 la 50,21% în 2011. Concluzii: Progresele tehnicii de operație cezariană, dorința pacientei, comoditatea medicului și presiunea societății au dus la schimbarea majoră a viziunii terminării nașterii.

INTRODUCTION

Delivery is still an important topic for the medical community. The socio-economic-cultural transition from the 20th to the 21st century, correlated with progresses in ultrasound monitoring of the pregnancy and the development of safer cesarean section techniques led to a more surgical oriented attitude for delivery. Although the World Health Organization (WHO) recommends a cesarean section index of 15 percent, this index is much increased in Latin America, North America and Europe.(1,2)

There are multiple causes for this phenomenon, and among these a special attention should be given to: the characteristics of the studied population, the influence of mass-media channels, family planning aspects and patients will, nevertheless the doctor's comfort. The authors desire to also analyze a part of the complex consequences determined by the change of the mode of delivery and its implication for the medical community and society.

PURPOSE

The purpose of this study is to analyse the changes occurred in delivery methods.

METHODS

Based on the birth and cesarean section protocols registries, on the histopathological evidence and hospitalized patients observation sheet, we designed a large retrospective study for analyzing the modality of delivery in the “Dr. Salvator Vuia” Obstetrics and Gynecology Clinical Hospital of Arad in the period 1984-2011. The studied parameters (number of deliveries, number of cesarean sections, age, membrane status, fetal presentation, newborn weight and APGAR score) were statistically analyzed.

Selection of the patients

All deliveries in the birth registries were considered valid. We excluded from the study the results of pregnancies ended before 28 weeks of gestation or with newborns below 1000g of weight according to the Romanian legislation for that period, those being most of the time registered in the abortion evidence.

RESULTS

In the period 1984-2011 there were 110046 deliveries, 17214 of them through cesarean section. The global cesarean section index obtained is 15.64 percent. The average number of

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delivery/year is 3930.21 and the average cesarean section number is 614.78/year.

The number of deliveries and the cesareans section index weren't constant over the years, that being the reason for dividing the studied period in three timeframes according to the medical-social-economic changes in Romania: the period of forced births with disregard for consequences (1984-1989), the transition period (1990-2006) and the liberalization of cesarean section period (2007-2011).

Figure no. 1. Number of natural delivery and cesarean sections in the period 1984-2011

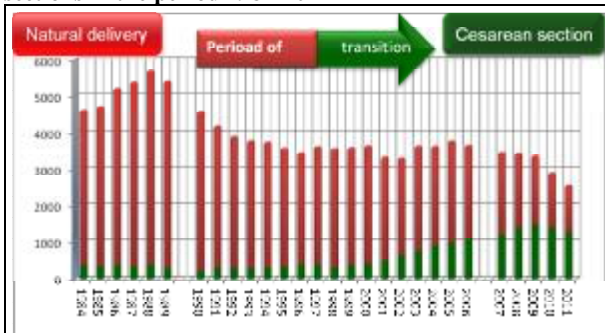


Table no. 1. Number of cesarean section, Average/ year and cesarean index/ age group;

Period/ Age	1984-1989			1990-2006			2007-2011		
	No.	M/year	%	No.	M/year	%	No.	M/year	%
<20 years old	189	31,5	10,06	678	39,88	8,04	508	101,6	7,51
21-30 years old	1083	180,5	57,67	5649	332,29	66,98	4363	872,6	64,48
31-35 years old	417	69,5	22,21	1423	83,7	16,87	1075	215	15,89
> 35 years old	189	31,5	10,06	684	40,24	8,11	820	164	12,12
Total	1878	313		8434	496,11		6766	1353,2	

nr= number of cesarean section, Av/Y = average number/year/ age group; % percent of cesarean section/ age group

The indications for cesarean section were in order of frequency: previous cesarean section (31.20 percent), with a growing incidence, cervix dystocia (15.66 percent), fetal distress (10.05 percent), fetal-pelvic disproportion (8.99 percent), placenta praevia (7.67 percent), hypertension (6.48 percent), complicated multiple gestation (2.04 percent), deflected cranial presentations (1.92 percent), ophthalmologic indications (1.67 percent) and other causes (8.82 percent).

The cephalic presentation was registered in 86.43 percent of cases. The membranes were intact in 64.58 percent of cases, while more than 6 hours ruptured membranes were 22.45 percent. 72.81 percent of the cesarean sections were performed between 38-40 weeks of gestation, 9.33 percent between 36-37 weeks, 6.26 percent before 35 weeks of gestation and 11.58 percent after chronological term.

Loco-regional rate of anesthesia grew from 7.51 percent in the period 1984-1989 to 91.95 percent.

New-born from cesarean section had normal weight (3001-4000g) in 57.22 percent of cases; 14.75 had below 2500g and 7.21 percent over 4001g. The APGAR score was over 7 in 66.23 percent of cases and below 4 in 28.12 percent.

DISCUSSIONS

The cesarean section rate had a constant increase all over the world, in the USA from 4.5 percent in 1979 to 31.8 percent in 2007. The American College of Obstetricians and

Gynecologists (ACOG) Task Force on Cesarean Delivery Rates (2000) recommended for 2010 a cesarean delivery rate of 15.5 percent for nulliparous women at 37 weeks or more of gestation with a singleton cephalic presentation.(3) Usha Kiran in 1998 estimated that the cesarean rate grew over 4 times in most of the countries.(2) Although in the Scandinavian countries the cesarean rate grew to only 13.6 percent in 1999 compared to 12.8 percent in 1987 (Norway), the in the other European countries the cesarean delivery rate raised significantly from 9 percent in 1980 to 21.3 percent in 2000 in England, or to 22.5 percent in Italy in 1995 or 25.3 percent in Australia in 2000.(1,4). Latin America countries report the highest cesarean section rate; in Chile it raised from 27.7 percent (1986) to 37.2 percent (1994), in Brazil the rate exceeded 50 percent in many centers, while in Mexico regional hospitals reported over 70 percent rate in 2012.(4,5) Only in Africa the index remained low: Kenya/ 6.7 percent (1998), Tanzania- 2.2 percent (1998) or Ghana- 4.1 percent (1996).(6) In 2010 the cesarean rate was (in percentages) 28.84 in Austria, 21.03 in Bulgaria, 18.80 in Germany, 14.30 in Holland, 36.15 in Portugal, with an European Union average of 26.27.(7)

By dividing the 28 years studied period in 3 timeframes we reflected the constant birth rate decline (from 5182.50/year to 3657.17/year and in the end 3155.80/year) an the exponential increase of the cesarean section number and index (313/year- 6.62 percent in the first period, 496.11/year- 13.50 percent in the second and 1353.2/year- 43.43 percent in the third). Birth rate decrease is significant (44.75 percent), while the cesarean section rate increased 6.56 times.

A higher maternal age at the moment of cesarean section is seen and nevertheless more important a higher number of elder patients/ year, as shown in table no. 1.

The tendency is best seen in Western part of Romania and at a euro-regional level, the cesarean section being over 40 percent. This

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value is relevantly higher than the national Romanian one of 30.38 percent in 2010.

The timeframes defined by the authors reflect first of all society's influence over birth rate and modality of delivery. The major consequence of the forced births period before 1989 correlated with a small cesarean rate led to high maternal mortality, especially due to unsafe abortion. It was followed by a transition period, when by liberalization of abortion and access to contraception methods, the birth rate decreased in parallel with a progressive increase of cesarean section rate. During the last years there is a dramatic decrease of the number of deliveries and a liberalization of cesarean section. We are able to say that this is both due to patient and doctor's will under society's pressure.

The influence of society is mainly seen in the decrease of the birth rate, due to better organized family planning, increase of maternal age at the first delivery because of better education and women's wish for professional achievements. High maternal age at first pregnancy leads to increase of cesarean section rate as the labour has more chances for an unfavourable evolution and more pathologies are prone to be present like hypertension or gestational diabetes. Better monitoring of pregnancy and fetus, the decrease of instrumental deliveries or the opposite- lack of pregnancy assistance and referral as emergency to the hospital are other pertinent explanations. Added to these we can mention: the mass-media pressure for medical community, patient's will to give birth free of pain, the commodity of doctors and the more frequent malpraxis accusations. The progress of surgical and anesthesia techniques, the reduction of intra and post operative complications and the relatively fast recovery after cesarean section, made it popular among the obstetricians as well.

The increase of cesarean section rate raises a series of problems for the obstetricians, especially the previous cesarean section and its possible complications and the training for the next generation of specialists which will remember the forceps only as an historic item.

CONCLUSIONS

The decrease of birth rate, the development of family planning, the couple's wish for less children at later time, the mass-media pressure, the better monitoring of pregnancy and fetus, the uprising private obstetric clinics, the specter of lawsuits led to a significant increase of cesarean section rate, this being over 6.5 times higher in three decades time.

Liberalization of the indications for cesarean section raise the problem of the previous cesarean section- an extremely complex and challenging pathology. It is necessary to have a national and regional consensus for defining an appropriate adapted cesarean section rate to present time.

Today's problem shouldn't be reducing cesarean section at any cost, but promoting natural delivery through a better psycho prophylaxis.

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