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RESEARCH ARTICLE

Elective Cesarean Section for the Prevention of Pain during Labor and Delivery: Is it based on Evidence?

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Abstract:

Background:

Avoiding pain during labor and childbirth is one of the principal reasons given by women for requesting a Cesarean section; however, surgical delivery is, in itself, a cause of pain.

Objective:

To compare the pain suffered during labor and vaginal delivery with the pain suffered after a cesarean section with respected to time.

Methods:

Review of the literature for articles evaluating pain after vaginal delivery and after cesarean section.

Results:

Pain after cesarean section may be less severe than during vaginal delivery but last far longer, sometimes for up to a year, interfering with daily life.

Conclusion:

To select elective cesarean section instead of spontaneous vaginal birth to prevent pain is not justified because the pain suffered after cesarean section is long-lasting than pain after vaginal birth for women who had both experiences.

Keywords: Labor pain, Natural childbirth, Cesarean section, Episiotomy, Vaginal birth, Pregnancy.

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1. INTRODUCTION

The overall increase in cesarean section (C-section) rates worldwide is concerning [1]. There are major differences in C-section rates in the different regions of the world, with the highest rates in 2014 being reported in Latin America and the Caribbean (40.5%), followed by North America (32.3%), Oceania (31.1%), Europe (25%), Asia (19.2%), and Africa (7.3%) [1]. By the year 2015, the C-section rates in Latin America and the Caribbean had increased to 44.3% of all births (95% confidence interval [95%CI]: 41.3 - 47.4%), which is 10-fold the rate for West and Central Africa with 4.1% of births (95%CI: 3.6 to 4.6%) [2].

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Brazil is one of the countries in which the proportion of C-section deliveries is completely unjustifiable. The rate of 55.6% in the year 2016 has not decreased in recent years despite efforts made by the Ministry of Health to reduce it. In private hospitals, the C-section rate is estimated at 84% [3].

2. METHODS

Researchers around the world have put forward various reasons to explain this rise in C-section rates. In most countries, women's age at the time of their first pregnancy has increased and there has also been a rise in the incidence of multiple pregnancies. In addition, the advent of electronic fetal heart rate monitoring has resulted in an increase in the diagnosis of fetal distress. Finally, it is claimed that obstetricians would be increasingly concerned about the possibility of being

sued for malpractice if they did not perform a C-section, but never the other way around [2 - 6].

In general, the proportion of elective C-section deliveries has increased worldwide. In Norway, elective C-section rates range from 30% to 47% [5, 7], with 14-22% of all elective C-sections in Norway being performed at the pregnant woman's request [6, 8]. Likewise, in Germany, the C-section rate increased from 15.3%, in 1991, to 31.7%, in 2012; however, the procedure was only medically indicated in 10% of cases [7, 9].

There are different reasons behind a woman's request for a C-section, with the most common being the pregnant woman's preference, social norms, as an alternative to prevent pain during labor and delivery, and fear of childbirth, mostly resulting from a negative experience during earlier childbirth [7]. Therefore, the overall increase in the C-section rate corresponds principally to an increase in the number of elective C-sections performed for non-medical reasons [8, 10]. Accordingly, C-sections are more common among wealthier and better-educated women [11].

Women requesting an elective C-section as a personal preference or because they fear delivering vaginally are often motivated by the fact that the procedure will prevent pain during labor and delivery. This is one of the principal reasons for many pregnant women with no complications and a fetus in a cephalic presentation to request an elective C-section one or two weeks before the expected due date. Lack of pain relief during labor is estimated to be responsible for over half of all cases of women requesting a C-section [12, 13].

The intensity and tolerability of pain during labor and delivery are modulated to a great extent by the mother's anxiety level and by how well she was prepared for going through the childbirth process [14, 15]. The presence of a trusted person by her side during labor also helps reduce the perception of pain, which is dependent on the anxiety level of the woman in labor [16]. In addition, the presence of a birth companion generally improves the care received by the patient and is associated with several beneficial practices and with a reduction in the incidence of some interventions, albeit with no impact on others [17].

One factor that should also be taken into consideration when evaluating pain during and after vaginal delivery is the practice of episiotomy. Current guidelines recommend that the routine or liberal use of episiotomy for women undergoing spontaneous vaginal delivery should be avoided; nevertheless, the procedure continues to be largely performed despite the fact that it is associated with more persistent perineal pain following delivery. A study conducted with 396 primiparas, in Turkey, found that at the evaluation conducted three weeks postpartum, the likelihood of encountering problems related to wound healing and complaints of pain was twice as high in the group of women who had been submitted to episiotomy compared to the group that was not [18].

The current trend, however, is to reduce the practice of episiotomy to a minimum. A randomized controlled clinical trial conducted to compare a non-episiotomy policy with selective episiotomy for normal vaginal delivery included 115 women assigned to the non-episiotomy protocol and 122 to a selective episiotomy. The episiotomy rate was similarly low in both groups (n=2 in each group, 1.7%), as was the duration of the second stage of labor, the frequency of perineal tears, severe perineal trauma, need for perineal suturing and blood loss at delivery [19].

The pain associated with episiotomy may be one of the reasons behind pregnant women's requests for an elective C-section to prevent not only the pain of uterine contractions during labor and the pain experienced at the delivery of the infant but also the pain that may be present in the first few weeks following childbirth. Women who think along these lines, however, appear to be unaware of the pain they may suffer, not during the C-section itself but in the days, weeks, and months to come.

A large proportion of women are known to suffer significant post-operative pain following a C-section. A prospective longitudinal study, conducted in Midwestern Brazil with 1,062 women undergoing C-section, used an 11-point numerical pain rating scale to evaluate the intensity of pain and reported an incidence of moderate to severe post-operative pain of 78.4% (95%CI: 75.9% - 80.8%) [20].

A study conducted in Taiwan to evaluate pain following childbirth in women who had undergone either vaginal delivery or a C-section found that the women submitted to C-section had a significantly higher score for non-localized pain and for abdominal pain at 3-5 days, 4-6 weeks, and at 3-6 months postpartum compared to the women who delivered vaginally. Only the score for perineal pain at 3-5 days postpartum was significantly lower in the C-section group compared to the group of women who delivered vaginally [21].

Another study conducted in Finland obtained data from over a thousand women one year after delivery and found that the incidence of persistent pain at one year was significantly higher following delivery by C-section (85/379; 22%) compared to vaginal delivery (58/713; 8%;$p<0.001$), with a relative risk of 2.8 (95% CI: 2.0 - 3.8). This difference remained statistically significant even after controlling for possible confounding factors in multiple regression analysis [22].

A prospective study in which women were followed up for one year after a C-section found that the incidence of chronic postsurgical pain at 3, 6, and 12 months after childbirth was 18.3%, 11.3%, and 6.8%, respectively. Most of these women experienced mild pain at rest. The incidence of moderate and severe pain at movement was high at 3 months, decreasing significantly at 6 and 12 months [23].

In a more detailed study, 213 women were enrolled following the birth of their first child and monitored daily with respect to the presence of pain and opioid use. In addition, the women were asked to self-assess their functional recovery after childbirth. The primary endpoint was the time until reaching functional recovery, with the patient being free from pain and under no opioid medication. Results showed that the women who had delivered by C-section took longer to reach the combined endpoint of functional recovery with the cessation of pain and opioid use compared to those who delivered vaginally

(log-rank p=0.004). The time until becoming pain-free (log-rank p<0.045), ceasing opioid use (log-rank p<0.0001) and ceasing use of all analgesics (log-rank p<0.008) was also longer in the group submitted to C-section. The unadjusted Cox proportional-hazards ratio for the comparison between the group of women who delivered by C-section and the group that delivered vaginally was 0.58 (95%CI: 0.39 - 0.85; p=0.006) for pain and opioid-free functional recovery, 0.67 (0.45 - 0.99; p=0.04) for the cessation of pain, 0.32 (0.21 - 0.47; p<0.0001) for opioid cessation, and 0.60 (0.41 - 0.89; p=0.01) for the cessation of all analgesics. Following adjustment for baseline demographic and obstetric characteristics, hazard ratios for all the outcomes evaluated remained statistically significant [24].

3. RESULTS AND DISCUSSION

These data help explain the results of a study conducted in seven hospitals in the Brazilian states of São Paulo and Pernambuco in which women who had experienced both vaginal deliveries and C-sections were asked about their preferred mode of childbirth. The overwhelming majority (90.4%) declared their preference for vaginal delivery and out of these, 45% (41% of the total sample) stated that their main reason was that vaginal delivery involved less pain and suffering. In comparison, 64% of the women who stated a preference for C-section delivery (3.7% of the total sample) gave less pain during labor and delivery as their main reason for preferring a C-section. While less than one-third of women (31.4%) said that pain during labor was a disadvantage of vaginal delivery, 76.2%, a proportion that is twice as high, stated that pain following delivery was the main disadvantage of a C-section [25].

CONCLUSION

Therefore, while it is true that uterine contractions cause severe colic-like pain during labor and that the expulsion of the baby's head through the vagina at delivery also causes pain that can be severe, this pain is short-lived and comes with the reward of the mother being able to hold the baby in her arms and nurse it immediately following delivery. Conversely, the pain suffered following a C-section brings no reward and may persist for days or weeks, making it more difficult for the mother to care for her child. Some women experience pain even one year after surgery.

In summary, opting for an elective C-section to prevent the pain of labor and childbirth makes no sense, since the cure is far worse than the problem it is supposed to solve.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

HUMAN AND ANIMAL RIGHTS

No animal/humans were directly involved in this research.

CONSENT FOR PUBLICATION

Not applicable.

AVAILABILITY OF DATA AND MATERIALS

Not applicable.

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CONFLICT OF INTEREST

The author declares no conflict of interest, financial or otherwise.

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