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# **Introductory Chapter: Is It Time to Reconsider the Importance of Cesarean Section?**

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Additional information is available at the end of the chapter

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## **1. Introduction**

Cesarean section is a surgical procedure and in many cases could be life-saving for fetus, mother, or both. During the last decades, there is a dramatical increase in cesarean section rates in developed and developing countries that causes many medical and socioeconomical problems [1].

## **2. History**

The procedure was initially performed in ancient Egypt, Persia, India, and China, probably because of religious beliefs. During Medieval period and Renaissance, cesarean section was considered as a mandatory procedure in cases of maternal death and physicians should be able to perform it with success.

The first reported successful cesarean section because of prolonged and dystocic labor was performed in 1500. However, the use of cesarean section in cases of dystocia had many unresolved issues related with patients support, hemorrhage, and infections, while the procedure-related mortality rate was significantly increased.

Over the next centuries, there were various improvements in surgical technique and patient perioperative support (anesthesia, blood transfusion, and antibiotics) that essentially reduced the perioperative mortality rate. Nevertheless, the most important advances regarding cesarean section were taken place in the twentieth century.

More historical data regarding procedure and technique evolution over the centuries are presented in different chapters of this book.

### 3. Epidemiology

Over the last 50 years, cesarean section rates were dramatically increased in low, middle, and high income countries [1, 2]. It is worth noting that worldwide cesarean section rates have nearly doubled over the last 30 years, and there are several reasons for this phenomenon [1, 2]. This dramatical increase represents a major problem for the National Healthcare System of each country with many socioeconomical consequences.

More data regarding epidemiology as well as worldwide trends in cesarean section rates are presented in another section of this book.

### 4. Indications

The most common indications for primary cesarean section are: labor dystocia, abnormal or indeterminate fetal heart rate tracing, fetal malpresentation, multiple gestation, and suspected fetal macrosomia [3]. Based on their obstetric characteristics, all women having cesarean section can be classified into 10 groups using Robson classification system. This is very helpful for assessing, monitoring, and comparing cesarean section rates in the same Department as well as in different healthcare facilities [1].

More details regarding indications for cesarean section, as well as Robson classification system, are best presented elsewhere in this book.

### 5. Surgical approaches

In the past, Porro technique and vaginal cesarean has been described in order to reduce the risk for postoperative infections and minimize maternal morbidity and mortality. However, the development of antibiotics reduced the need for such aggressive surgical approaches.

Currently, the most common surgical techniques are: Pfannenstiel-Kerr, Joel-Cohen, and Misgav Ladach. Although, there are many differences among them, they represent a more conservative approach and related with improved postoperative course, quicker recovery, and return to daily activities.

Apart from that in case of uterine myomas and despite of the surgical technique used cesarean myomectomy remains an available option that should be used in carefully selected cases.

More details regarding various surgical techniques as well as cesarean myomectomy are presented in another chapter of this book.

### 6. Perioperative complications

Based on recent studies, cesarean section is associated with increased risk of severe maternal complications such as: perioperative hemorrhage (requiring blood transfusion or obstetric

hysterectomy), uterine rupture, bladder injury, thromboembolic events, intra-abdominal hematomas, wound infection, anesthetic complications, and prolonged hospitalization [4]. Especially in repeated cesarean sections, there is increased risk for abnormal placental invasion as well as for severe perioperative complications [5–7].

More details regarding intraoperative as well as early and late postoperative complications are presented in a different chapter of this book.

## 7. Necessary measures

Over the last decades, there is a dramatical increase in cesarean section rates as well as in procedure-related morbidity [2, 4, 5]. Moreover, there are many socioeconomical issues relevant with this phenomenon. However, there is no clear evidence of improved perinatal outcome in all cases having this mode of delivery [1, 5, 8].

In this light, significant efforts should be made in order to reduce cesarean section rates without any compromise on maternal and perinatal outcome. Moreover, vaginal birth after cesarean section remains an acceptable approach in carefully selected cases with the appropriate monitoring and support from a multidisciplinary medical team in well-organized medical centers.

More data regarding future considerations regarding increased cesarean section rates as well as necessary measures are best presented in another section of this book.

## 8. Conclusion

In conclusion, cesarean section remains a life-saving surgical procedure in our century. However, its importance in daily clinical practice should be reconsidered and the procedure should be performed in carefully selected cases in order to achieve clear benefits on maternal health and improved perinatal outcome [1].

## Conflict of interest

I declare that I have no conflict of interest.

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