International Workshop for Junior Fellows:
1. Indication and technique of cesarean section

4) Cesarean section in Japan:
Epidemiology, trends, and surgical procedures

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Recently, the rate of cesarean section (C/S) is increasing in developed countries. In Japan, it has increased from 8.5% in 1987 to 19.7% in 2014. Many theories have been proposed to explain this trend, including a decrease in vaginal births after cesarean delivery (VBAC) or breech presentation, an increased prevalence of high-risk pregnancies owing to factors such as an increase in maternal age, advancements in artificial reproductive technology, and liability concerns. In Japan, there were 2,363 facilities handling deliveries in 2014. The mean number of obstetrics and gynecologist doctors per facility was 2.5. The mean number of deliveries per facility was approximately 400 per year. In Japan, it has been quite common for small-scale facilities such as local hospitals and general practitioner offices to handle deliveries. In recent years, there has been a shift toward the centralization of deliveries taking place at large-scale perinatal medical centers. Nevertheless, there are still a large number of child birth taking place at small facilities which lack both pediatricians and anesthesiologists.

Under such circumstances, emergency cesarean section is sometimes difficult, particularly for very urgent cases, such as grade 1 (urgent threat to the life or the health of a woman or fetus). A decision-to-delivery interval of less than 30 minutes is desirable; however, only 30% of facilities and 47% of perinatal centers were able to achieve this time interval.

An absolute indication of C/S is limited to placenta previa, umbilical cord prolapse, etc. Twin pregnancy, malpresentation, pregnancy after C/S, nonreassuring fetal status, and arrest of dilatation are relative indications of C/S.

It is important to reduce the rate of primary cesarean sections, and to manage relative indications of C/S that are listed in the Guidelines for Obstetrical Practice in Japan. These guidelines were first published in 2008 by the Japan Society of Obstetrics and Gynecology, and are renewed every 3 years. Providing medicine in accordance with these guidelines will contribute to the improvement in the quality of and safety of perinatal care in Japan. To avoid unnecessary C/S, it is important to expand the indications for vaginal birth and to improve obstetric management.

Pregnancy after C/S is increasing owing to the increase in C/S rate. C/S can lead to thinning of the myometrium and adhesion of the pelvic peritoneum, and thinning of the myometrium can cause uterine rupture in subsequent pregnancies. Thus, careful selection of the surgical procedure, such as the type of myometrium incision, methods of suture, and use of antiadhesive material are important. VBAC is considered to have a higher risk of uterine rupture than C/S in pregnancies after C/S. The American Congress of Obstetricians and Gynecologists proposed expanding the indication of VBAC to avoid unnecessary C/S. Accurate repairment of the myometrium and antiadhesive procedures for C/S require further discussion. Regarding surgical procedures, we mainly focused on methods of myometrium incision and suturing, as well as the use of antiadhesive material.