Editorial

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Intrapartum care

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One of the first areas to be researched in an empiric way was human parturition. The anatomy of the vagina makes assistance for delivery a must according to an interesting anthropological paper [1]. Even if it is not a must – the vast majority of births were facilitated by attendants for thousands of years. Therefore, in ancient times birth attendants were compelled to improve the outcomes of birth. Very little is known about how these birth attendants improved their skills, techniques and outcomes. However, the final product was a very strict protocol for delivery that was very unique for certain tribes or societies. The interested reader can review this in an 18th century book called "*Labour among primitive people*" by Engleman [2]. The old dogmas and the dogmatic approach started to be shattered with the "enlightment" of the 17th century. In that era the industrial revolution was followed by the scientific revolution and observation and research replaced the old dogmas. One of giants of the era was Francois Mauriceau (1637–1709). His textbook, like those of his predecessors, was descriptive and analytical. He is still known for the manoeuvre he described to deliver babies in a breech presentation (known now as: "Mauriceau-Smellie-Veit"). At his time he was probably better known for dispelling the truth passed down from the Greeks claiming that male babies originated from the sperm of right testicle while females originated from sperm from the left one. He wrote: "*I know an Italian at Rome who has only his left testicle, the right being upon a good occasion lost; after that accident he married and begat two children, who I saw alive and very well, a boy and a girl, besides all he may have begotten since that time; nor needed he suspect his wife had the assistance of any other in that business, as it very often happens in this country*" [3]. From that era on research in obstetrics resulted in better diagnosis, techniques and management. This issue of the journal outlines the depth and breadth of this research that has evolved in a variety of different ways.

The study by Macharey et al. [4] provides a large experience from a single centre in Finland. In comparison, the larger multicenter study by Hannah et al. [5] had slightly more than 2000 patients in comparison to about 750 in this study. Interestingly following the Hanna trial, that showed after 3% of major morbidity or mortality in breech delivery, vaginal breech deliveries were almost abolished in Canada. A trend that was somewhat reversed [6] by the more up-to-date guidelines of the Society of Obstetricians and Gynaecologists of Canada (SOGC) promoting vaginal delivery when appropriate [7]. The results of the Macharey study [4] are in an agreement for delivering vaginal breeches with appropriate selection. The paper by Burgos et al. [8] looks at a group of women with breech presentation whose labour was induced. As the authors explain there is limited data on this approach. In many centres delivering a viable breech has become an unusual event and more so when there may be another indication for a caesarean section (CS) [6]. However, the data presented suggests that the approach outlined by the authors from this Spanish group is reasonable and should be an acceptable option when there is a combination of a reason for induction and breech presentation that meets the criteria for vaginal delivery.

The short review of the optimal mode of delivery of the fetus with malformation was written by experienced authors from three continents [9]. This area of research is not amenable to research modes such as randomized controlled trials (RCTs). In the late 1980s there was an attempt to perform an RCT on the optimal mode of delivery where there was abdominal wall defects. Close to 100 centres were recruited, however, the number of subjects randomized after a long period was less than 10. The number of fetal malformations keeps increasing and there is a variability in morphology and presentation. Therefore, I strongly believe that the approach selected by these four senior obstetricians of outlining the principles of management are superior to an attempt to relate to the plethora of anomalies and their multiple presentations.

The paper by Bamberg et al. [10] is very exciting as it clearly outlines what is not appreciated by many care givers especially early in their careers. We are all aware of molding and the effect of prolonged labor on the development of a caput or "cone head". We all know that this is the result of pressure on the cranium during labor and the elasticity of the foetal head, along with some elasticity of the pelvis with the physiologic mild separation of the pelvic and especially the pubic ligaments. This study shows that cranial measurements prior to labor may be misleading. The perfect and by now historic example is X-ray pelvimetry. This technique was described by Thoms in 1956 and was used initially for all pregnancies. It was later used for breech deliveries where the head could not

be used as a "pelvimeter". In 1980 a group from Yale university found that 22% of women with absolute contraindication for a vaginal delivery (and when the records did not reach the labor ward) had a normal vaginal delivery [11] making the X-ray pelvimetry a historical fact.

The paper by Sturzenegger et al. [12] visits the interesting topic of uterine rupture and its relation to fundal pressure. I believe that the terminology often used is the "Kristeller manoever" this was commonly used with a US publication from 1990 describing that it was used in 85% of the hospitals surveyed. There were case reports on uterine rupture. In 1986 we described that uterine fundal pressure (UFP) is associated with more shoulder dystocia and worse outcome [13]. *Williams Obstetrics* recommended against fundal pressure in bold letters. The authors analyse their interesting retrospective data and conclude UFP should be avoided.

Pascual Mancho et al. [14] provide excellent data on the value of lactate testing in scalp sampling and comparing it to pH. This data and the approach of using lactate have become the gold standard for testing for acidosis in labor. The paper by Birgisdottir et al. [15] further tests lactate in fetal blood sampling in labor. They use the standard meter and the next generation one. This paper provides very useful data and the standards for the values of the next generation of meters.

Gonçalves et al. [16] from Portu evaluated the part of the fetal heart rate monitor that is often neglected. The research on the fetal heart pattern exceeds that of the uterine contractions by a large factor. In the last few years several authors tried to assess uterine contractions with magnetic or electric signals. These authors used the usual clinical method of tocodynamometers. Their preliminary results were interesting as women ending with operative delivery differed from those with normal delivery. There was an overlap between the two groups making the data less useful clinically. I would encourage the authors to enlarge their clinical sample and stratify it by parity, augmentation of labor and body mass index (BMI) so this interesting set of data could be expanded.

The paper by Zech et al. [17] looks at obstetrical and neonatal training and the development of tools for training and evaluation of this training. The unique feature of this paper is that it looked at the performance of both obstetricians and neonatologists. The data echo that of other programs used in the UK, USA and Canada to mention just a few such programmes. There is a need for further follow-up as some of the previous research suggests a need for ongoing training.

The paper by Heesen and Klimek [18] provides an excellent up-to-date review on obstetrical analgesia in 2016. I found the section on the obese patient to be an important part of this review as the frequency and degree of obesity are increasing exponentially in many countries and both general anesthesia and local analgesia carry risks. The other paper by Silva et al. [19] on the effect of supine position on middle cerebral artery (MCA) blood flow is interesting. They show a temporary effect that dissipated after 10 min. Although this data is interesting one needs to realise how the lay public interprets it. In this study there were no evident side effects on the mother and no long-term effect on the baby. However, such studies lead to a common belief (quoted in most Internet sites we have reviewed) that women should lie only on their left side (which is physiologically impossible). The reader is invited to look at our paper "When it comes to pregnant women sleeping, is left right?" [20] that suggests that women should not be unnecessarily restricted.

In summary, this issue is a good example on the diversity in labor research and all the authors should be commended for their work.

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