Clinical experience, evidence based medicine and changing trends in obstetric care

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Allopathic medical practice is based on the scientific principles of evaluation of evidence (history, clinical features and investigations) logical reasoning based on sound theoretical knowledge (diagnosis) and applying the most effective and appropriate therapy. Although rapid advances in science and technology have facilitated accurate diagnoses, experience as well as pattern recognition in patients are very important to be a good diagnostician. Similarly, application of the most effective and appropriate therapy to a patient requires not only updated knowledge but also skills and experience in its application. In any sphere of life, the more experienced person will in most instances perform better and have better results than a novice. However if a clinician limits his practice to his own experience and that of a relatively few teachers and colleagues with whom he has interacted, he is prone to have a very narrow perspective and his practice will soon be out of date, sub-optimal and even dangerous.

In the early and mid nineteenth century, the philosophy of Evidence Based Medicine (EBM) was introduced by three physicians in Paris. From the latter part of the twentieth century there has been a renewed interest in EBM. EBM requires the integration of best external evidence with individual clinical expertise and patient choice. New converts to the philosophy of EBM are often very keen to apply the best external evidence to their clinical practice but they fail to realize that clinical expertise and patient choice are equally important. EBM has three facets to it and it is essential to integrate all three [1,2].

Clinicians constantly deal with the infinite variables of patient presentation and their responses to treatment when they manage their patients. On the contrary, some of the strong advocates of EBM do not engage in clinical practice or management of patients at all. They are totally engrossed in appraisal of medical practice and are mainly involved in systematic reviews and meta-analyses of publications of research studies carried out by others! EBM can build on and reinforce clinical expertise. However it can never replace clinical skills, judgment and experience. Clinical expertise is essential to decide whether the external best evidence is appropriate to the individual patient at all, and if applicable how it should be applied [1,2].

Several clinical procedures which have been used in the management of pregnancy and child birth for several years in the past have been subsequently condemned as being ineffective or inappropriate and therefore discarded. As a result of the natural cycle of change and / or EBM some of these procedures are regaining popularity and are being reintroduced now. Examples of such procedures include artificial separation of membranes, the use of Foley catheter for pre-induction cervical ripening, external cephalic version, vaginal breech delivery and vaginal birth after Caesarean section. Certain principles of obstetric practice too have undergone dramatic changes and undergone a full circle of change. eg: the timing of the delivery of a baby at a Caesarean section (CS) after the induction of general anesthesia, and the type of anesthesia recommended for CS.

Artificial separation or stripping of the membranes (ASM) from the lower uterine segment digitally, has been practised as a method of induction of labour from the early 19th century. In the mid twentieth century repeated ASM were recommended [3]. ASM fell into disrepute in the 1970s because of the risk of chorioamnionitis and neonatal infection. More recently randomized controlled trials have shown it to be a safe and useful technique [4,5]. Today ASM is recommended as a routine for all post dated pregnancies [6].

The use of a Foley catheter for pre induction ripening of the cervix was described in the early 1980s [7]. Due to concerns regarding the risk of chorioamnionitis and neonatal infection it did not gain popularity except in relatively poor non industrialized countries where the cost of prostaglandin pessaries for ripening of the cervix is prohibitive. Today it has regained its popularity even in the industrialised countries [8,9,10].

It is reported that even Aristotle (384 to 322 BC) has stated that during his time midwives who found a breech presentation in a mother were advised to "Change the figure and place the head so that it may present at birth"[11]. External Cephalic version (ECV) was extensively practiced up to the mid 1940s and then it lost its popularity. The major criticisms against it were; it had a high rate of spontaneous reversion if carried out before 36 weeks of gestation, it probably succeeded only in those cases when the fetus would have turned by itself if it were left alone longer and possible complications.

In Sri Lanka, although ECV continued to be practised by several obstetricians, by mid 1970s, the procedure was gradually losing favour and relatively few obstetricians were skilled and experienced in carrying out the procedure. In the USA by the early 1980s there was a renewed interest in ECV. Today, the value of ECV is well established and it is strongly recommended for all breech presentation at term [12].

There is an increased risk of neonatal morbidity and mortality associated with a vaginal breech delivery in comparison with a normal cephalic delivery of a baby. The fact that ECV was probably practiced in antiquity emphasizes that the risks and the challenges associated with a vaginal breech delivery were appreciated even then. The technique of carrying out a vaginal breech delivery is an art by itself, and requires a great deal of skill. In fact it has been suggested that an obstetrician's competence should be assessed by assessing his ability to carry out a vaginal breech delivery. In the hands of a less skilled person, a baby can have serious neonatal morbidity or even die following a vaginal breech delivery.

In a large randomized controlled study carried out in 1980 it was found that there was no difference in the perinatal outcome of a breech presentation whether the delivery was vaginal or abdominal [13]. A recent study strongly recommended Caesarean section (CS) for all breech presentations at term, as vaginal delivery caused a high risk of adverse outcomes for the baby [14]. This gave greater support to the obstetricians who recommended CS for each and every breech presentation. A more recent systematic review has confirmed that in countries with low perinatal mortality rates, a planned CS significantly reduces the risk of adverse outcomes in babies. However it has also suggested that especially in developing countries, vaginal breech delivery may sometimes be more appropriate because of its many advantages of over planned CS [12].

Due to concerns regarding the possibility of the scar rupturing during labour, many obstetricians in the past followed Craigin's dictum of "once a Caesarean, always a Caesarean" [15]. Subsequently however, in the 1970s there was as interest in allowing a vaginal birth after Caesarean section (VBACS) in properly selected patients. This gradually gained in popularity, and there are more recent reports of up to 85% of patients with one previous CS and 65% of patients with two previous CS being allowed a trial of VBACS [16,17]. Some obstetricians unfortunately still follow Craigin's dictum. This is in spite of evidence that in properly selected patients, safe vaginal delivery is possible in up to 89% of cases who have had even two previous CS [16,17].

Up to the early 1970s, obstetricians carrying out a CS, attempted to deliver the baby as soon as possible after the induction of general anesthesia with Sodium Thiopentone. The drug was administered intravenously only after the patient was cleaned and draped, and the obstetrician was ready to make the skin incision. The induction – delivery interval was usually less than two minutes and certainly less than five minutes in most instances even in the hands of a junior / trainee obstetrician.

The rationale for the practice was to try and deliver the baby before significant amounts of Sodium Thiopentone could reach the baby and result in asphyxia at birth. In the mid 1970s it was recommended that the delivery of the baby should

be delayed and that the induction – delivery interval should be ten minutes or more and certainly not less than five minutes [18]. This recommendation was based on the observation that Sodium Thiopentone reached the fetus in seconds, achieved high concentrations soon, and that the levels gradually decreased due to redistribution combined with maternal and fetal metabolism and excretion [19].

Subsequently it was shown that not only an induction – delivery interval of < 5 minutes but also an induction delivery interval of > 15 minutes as well as an intrauterine incision-delivery interval of > 90 seconds had adverse effects on the Apgar scores of the newborn [20]. More recently it has been shown that a intrauterine incision to delivery interval of > 3 minutes had adverse effects on the Apgar score of the baby and that this was the more important factor to be considered during a CS [21]. During the last decade there has been a dramatic shift in the choice of anesthesia for CS. This was possibly precipitated by the concern over the risk of gastric acid aspiration after general anesthesia. Regional anesthesia has been found to be safer not only for the mother but also for the baby and is the preferred method of anesthesia for CS today [22,23].

The management of pregnancy and child birth has undergone dramatic changes over the years. Procedures which were extensively used in the past, and which have been subsequently abandoned as being ineffective or inappropriate, have been reintroduced now with justification. New concepts, technology and techniques have bought about vast improvements in obstetric practice today. The concept of external best evidence and the practise of evidence based medicine, has enriched the specialty. However the art of obstetric practice depends heavily on clinical skills, judgment and experience. It is this clinical acumen and expertise of the obstetrician which will enable him to integrate the best external evidence into his practice so that individualized management of patients is possible and the most appropriate therapy could be given, taking into consideration the available facilities and the patient's choice. These principles are applicable to the other specialties of medicine as well.

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"Disease is what is diagnosed by the health professional. It is the abnormality of the body or mind. Illness is what is perceived by the person with or without a disease. It is subjective.

In many diseases like high blood pressure, diabetes and early cancer, a patient may not feel at all. On the other hand, in conditions like tension headache, irritable bowel syndrome and prostatodynia the patients may perceive a severe illness but their doctors may say "you don not have any disease; all the tests are normal."

It is important that health care seekers and providers understand the concept of illness and disease and the possible paradoxical relationship between them. A rational approach to disease – illness mismatch is the only way to reduce non-compliance among those with a "chronic disease without illness" It is also the only way to reduce doctor shopping by those with a "chronic illness without disease."

K.R. Sethuraman, Trick or Treat, 2000