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Clinical Risk in Surrogacy: A Review of the Limitations, Awareness, and Assessment of Prenatal / Neonatal Complications

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Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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ABSTRACT

Infertility due to clinical complications or conditions arising due to congenital or acquired absence of a healthy functioning uterus in women leads the couple to opt for surrogacy that involves high risk both for mother and future child. In some societies as in India and in Eastern European countries, Surrogacy has turned as wealthy practice, badly influencing the young minds of couples whom are healthy to reproduce a child but do not want the pain and to waste the time. Many reports do not highlight the associated obstetric risks or warn about the extreme cautions that must be exercised while adopting surrogate pregnancies. In spite of international guidelines clinical practice that advice surrogacy, prepregnancy counseling helps the couple to realize the clinical implications and even in decision over surrogacy. Majority of the literature available are focused on treatment or addressing the use of surrogacy, a special focus on the drawbacks in surrogacy and how antenatal, intrapartum and postpartum care in surrogacy is vital are outlined. Also, there are no or limited data reported on the risk, complications and obstetric outcomes that are of greater significance in explaining the health issues, psychological and surrogacy effects on society. Therefore, in this review we focus on the assessing and outlining the possible risk, clinical complications that are

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reported due to surrogacy. We also expect this essay provides valuable insights and reasons for the individuals clearly indicating potential harm araised due to surrogacy and to limit or discourage the practice.

Keywords: Surrogacy; infertility; pre natal complications; post natal complications; gestational surrogacy.

1. INTRODUCTION

First, Surrogacy arrangements Act was passed in 1985 [1], among the other United Kingdom became the first country in the world to have specific legislation on surrogacy. The Act describes a 'surrogate mother' as a woman who carries a child in pursuance of an arrangement made before pregnancy, to hand the child over to another person/persons, and relinquishing parental responsibility for the child [2]. Surrogacy is of two type's one, Traditional surrogacy that involves in artificially inseminating the sperm from the intended father or from the donor. Here surrogate ovum is used in order to have the genetic linkage to the child. Type two is Gestational surrogacy that involves in-vitro fertilization (IVF) of gametes from the donors or the commissioning couple and further embryo transfer to attain the pregnancy [3]. The gestational surrogacy fails to provide a genetic linkage with the child. Both type of surrogacy involves to be commercial (a financial benefit will be received from the planned parents) or can be altruistic (without financial support or gain). Surrogacy itself has certain limitation or linked with complex agreements that might involve eventualities such as the chances of fetal abnormality, miscarriage, child with neurological disorders, neonatal death, death of the surrogate during pregnancy (and cases of unplanned surgery (hysterectomy) [4].

2. WHY AND REASONS FOR SURROGACY

Forces that drive the couple to enroute to have baby through surrogacy are

- **Age:** Medical doctors involved in surrogacy choose and select surrogates or gestational carriers having an age ranging between 21-39 years, depending upon their conceive abilities.
- **Personal Decision:** As modern family advocates, everyone has the right to build families as per their personal choices. Therefore for some women, surrogacy is not a medical choice, but purely a social choice.
- **Lack of a Uterus:** The woman in a couple wishing to start a family may not have a uterus due to surgical removal (a necessary step in treating such medical conditions as certain forms of cancer) or the result of a rare genetic malformation. The lack of a uterus precludes any possibility of the woman bearing a child herself.
- **Uterine Structural Problem:** A woman might have an inherent condition or uterine defect that makes in conception or which makes it unlikely that a child will be carried to term. In few cases, a malformation of the uterus can have little impact on conception, this will actually make inability to carry the child or have pregnancy.
- **Other Medical Conditions:** Certain medical conditions, does not directly affect a woman's physical ability to bear children, but can have an impact upon her ability to carry a healthy child to term, this becomes more challenged when she has to manage her own health at the same time. Pregnancy is a risk when the mother suffers from life-threatening disease related to heart, kidney or liver or even in certain type of cancer. Continuing medications for certain disease duration can even cause unwanted health problems or make the mother unsuitable to have kids keeping the new child's health at risk [5].

There are many reasons for couple opting for surrogacy among which these top listed are but it is real time challenge that this practice is followed ethically but not for commercial gain. The surrogacy creates and fulfills one dream of having a child together irrespective of medical complications [6]. The social status or fame of the families relating to surrogacy practice should be respected regardless of any conflicts. Also, it is purely a parent's choice so as to announce the surrogate mother publicly or not [7].

3. LIMITATIONS INVOLVED

1. Surrogacy is complicated and professional team is required who can guide through the surrogacy journey.
2. The cost of surrogacy is very high, a financial aid is required we must look for options from established organizations such as American Health Care Lending.
3. Explaining surrogacy to family and friends is very difficult; one must develop inner confidence and believe in the dream in having a family.
4. Laws relating to surrogacy vary from country to country. Therefore we must have a lawyer who understands this and is well networked with lawyers throughout the country [8].

4. CLINICAL GUIDELINES LAID AT INTERNATIONAL LEVELS ON SURROGACY

Even though specific guidelines are not laid down on surrogacy or instructed in obstetrics textbooks, clinicians at different levels are handling more cases. Currently available regulations are opted out from organizations such as ACOG (American College of Obstetricians and Gynecologists); American Society of Reproductive Medicine and even European Society of Human Reproduction and Embryology. Very recent global conference held at Las Vegas, 2011, American Bar Association committee stated, discussed and optimized many policies those were very helpful on surrogacy practice. These guidelines or policies should be followed by clinicians and should be awarded of the current legislation in the country they practice [9].

5. ROLE OF GYNECOLOGIST AND OBSTETRICIAN IN SURROGACY

The extent of medical supervision depends on individual needs. If Intre-viterous fluid (IVF) is used, medical involvement is considerable. Even the treatment is carried out in a clinic licensed by the country medical authority. In conventional surrogacy, insemination is only performed by a healthcare professional provided on the insemination timing and to have a close observation of ovulation [10]. However, couples may choose for self-insemination, that does not require any medical knowledge and be of disadvantage too. The surrogate mother should seek full information and advices from her medical practitioner before taking up the practice. The Royal College of Midwives (RCM) had issued guidelines 23 for midwives whom are responsible to take care the surrogate during her pregnancy. Although has not issued any guidance, Strict confidentiality is expected to be maintained with information that needs to be disclosed just on need by cases based only on the consent of the mother [11]. The midwives or obstetricians have the same responsibility to take care of the surrogate mother irrespective of any conflict arising between the commissioning parents or mother. The extension of services for midwives exists throughout pregnancy, labour, pre or post natal period in event of emergency or complications [12].

6. PRENATAL AND NEONATAL SURROGACY COMPLICATIONS

Limited data is available on prenatal outcomes in case of gestational surrogacy in comparison to immediate outcomes of in-vitro fertilization (IVF) treatment. In a case study, comparison between normal and standard IVF surrogate pregnancy, general reassurance regarding the perinatal outcome was observed [13]. The malformation incidence was similar as per the normal persons. Irrespective of multiple pregnancies, the occurrence of bleeding in third trimester and hypertension was 3 times lower in IVF surrogate mothers. The typical case observed was uterine rupture complicating the labour of surrogate mother carrying twins resulting caesarean hysterectomy [14]. A study in USA, reported two obstetric hysterectomy and blood transfusion among ten gestational surrogacies. In case of triplet gestation, a late hysterectomy (puerperal) was performed for the placenta. The surrogate had even faced multiple blindness and cerebral infracts. A triplet infant dies due to prematurity complications raised due to surrogacy pregnancy. In a study of sixteen surrogacy in Finland, three faced postnatal depression. The surrogate mother is at high risk in psychological perspective [15]. In this nature, a surrogate mother show strong maternal fetal attachment and responses in grief while they hand over the baby to the commissioning parents.

7. SURROGACY CLINICAL COMPLICA-TIONS

The risk in surrogacy is minimized when the mother agrees for surrogacy criteria. This

becomes more important for that surrogacy whom have inseminated at home without medical advice. The surrogate mother should be in overall mental and physical fit without habits of drinking and smoking [16]. Since the risk of complications is much higher in second surrogacy than the first normal pregnancy, there should be an informed consent given in advanced. The HFEA Code of practice 14 recommends that a surrogate woman can be of maximum 35 years age in order to minimize the chromosomal abnormalities and to have a genetically link up. It is important to be determined whether the risks are same for the pregnancy derived from IVF or from the self-insemination, most case series report no increase in adverse events related to surrogate pregnancy [17]. Reports reveal, 4 out of 8 surrogate mothers underwent postpartum hysterectomy. The accreta of placenta for first the triplets delivery and the second uterine rupture for the infant delivery. Limited evidence is available because the clinicians should have low threshold for higher care and high suspicion for complications. Better evidence base should be build up by the clinicians for the reported cases and their complications. Literature on ethical or psychology and expert opinions on surrogate mothers after their first delivery should be raised such that every detail is examined. Many substantial psychological issues have been reported in the surrogate mothers and commissioning parents. Among which many have faced postpartum depression frequency higher than the normal mothers. One negative aspect is that no through counseling is briefed to the mother before conception that reduces the risk of mental health. Another key parameter is knowing that the child is not intended to be raised by them and do not establish the same bond as infant [18].

8. SURROGACY PRECAUTIONS

Complete avoidance of conflict of interest among the surrogate mother or midwive and obstetrician should be achieved. Proper preconception counseling should be provided to the surrogate mother prior to the pregnancy [19]. Prenatal diagnosis of defects due to genetical issues or other medical risks should be carefully briefed to the surrogate mother so as to face or understand the situations in detail. Major issues should ideally be covered in preconception counseling by the obstetrician Careful attention must be paid to the surrogate mother's previous obstetric record. In the case series reported, past obstetrical history was even more predictive for complication of obstetrical in comparison to the age-related factors. Confidentiality and consent and issues are at most paramount. The obstetrician should understand that her care and importance should be in terms for the surrogate mother but not the commissioning parents [20]. The surrogate mother decides the extent of involvement in consultation and what information must be shared with the intending parents. A proper consent indicative of all diagnostics should be furnished under medical supervision. In any case if the surrogate mother is intending she can make it a legal consent for the commissioning parents to make a decision on medical interventions. Throughout the pregnancy and puerperium, particular attention must be paid for the psychological wellbeing of the surrogate mother. Maternal health behavior during the pregnancy of surrogate mother can be a source of conflict between the commissioning mother and intending parents [21].

9. PSYCHOLOGICAL OUTCOME FOR SURROGATE MOTHERS

Seventeen studies, nine cohort studies, five case series and five quality studies including between 9 and 60 surrogate women, are reported with psychological outcome. Some serious psychopathology among the surrogate mothers was observed. The motives for choosing the surrogacy practice were commonly financial but even clear altruistic reasons were also reported [22]. The extent of immediate post-partum depression was between 1 and 21%. Seven studies were reported with relinquishing issues. In few studies from the UK including 33 surrogate mothers, 34% initially had moderate difficulties in handing over the child to the commissioning parents [22]. Further, 5% even reported major negative feelings relating to relinquishment problem. Out of which majority of the surrogates were of traditional category. In three other studies relinquishing the child was a problem in1/32 and 1/16, respectively [23]. In the studies that assessed the contact between surrogate mother and the intended family, in the most of the cases contact was harmonious, both after birth and during the pregnancy. The frequency of contacts reduced over the time while the relationship quality is seemed to continue, also after 8 years. A study assessed all the possibilities, family relationships, psychological well-being, and surrogate experiences of own children, born prior to the surrogacy arrangements. The infants of whose mother had

been a surrogate between 6 and 12 years earlier did not experience any negative consequences as a result of their mother's decision [24].

10. PSYCHOLOGICAL OUTCOME FOR INTENDED PARENTS

We identified 15 studies, 12 cohort studies, 3 case series and two qualitative studies were reported on outcomes for the intended mothers and their families. Most studies were from the UK, there were no major differences in the both parents' or mothers psychological states observed in groups made up of commissioning mothers, and women who had conceived naturally [25]. The parent's marital quality was compared at four time points between various family types when the children were between 2 and 9 years of age [26]. The parents of infants those born through surrogacy had same marital satisfaction as the parents in gamete donation families. When the children were about 3 years old the women in natural conception families exhibited higher levels of marital satisfaction than their counterparts. The difference had vanished when the children were 2, 6 and 9 years [27]. In the families with 3-year-old infant born through surrogacy, respective father reported very lower levels of stress in parenting than their natural conception counterparts [28]. Five studies are reported by another UK group, children after traditional surrogacy exhibited less genetic links than women whose infants were the result of gestational surrogacy. These differences were observed both after birth and during pregnancy [29]. A study based in Netherlands, reported more than 510 couples enquired about surrogacy via email or telephone, but only 36 couples had actually entered the IVF programme [30]. No negative or harmful consequences were reported after this extensive screening. No problems were reported in accepting even a disabled child. Disclosure of surrogacy to the infants was recorded in the two studies. In 28 out of 32 families, disclosure to the child had been made by the age of 6 years [31]. In four other studies, 96–100% of parents aimed to tell the child about the surrogacy [32].

11. IMPORTANCE INTRAPARTUM CARE IN SURROGACY

If the surrogate woman agrees the commissioning parents may be present at time of delivery. Medical practitioners and health care professionals should ensure that the wishes of the surrogate remain paramount [33].

12. IMPORTANCE OF ANTENATAL CARE IN SURROGACY

It is important to recognize that the Trusts duty of care is to the Surrogate Mother. The Trust owes no duty to the commissioning (intended) parents. All applicable antenatal care should be given to the surrogate mother in the expected way. The commissioning parents can be involved in the process provided that the surrogate mother consents to this. The Trust should also facilitate this practice so far as it is practical [34]. The surrogate mother has the equal opportunity to make all decisions that relates to her ante natal care. It is important to remember that the child is not recognized as a "person" until the baby birth and therefore the mother rights should take precedence over the interests of the unborn baby. No other person can make decisions on her behalf. The intended parents however often attend the antenatal appointments with the surrogate mother and practice will involve obtaining the GP and other health visitor details and for community assigned midwife to make contact with the health visitor. Due to the legal complexities, health professionals or doctors should advise the women taking up surrogacy arrangements that they must wish to seek the expert advice of a lawyer [32].

13. IMPORTANCE OF POSTPARTUM CARE OF MOTHER AND BABY

Few important decisions on when the parents are consulted or even taken immediately after delivery are on premature birth or the unexpected birth of a baby in poor condition. Ideally, a collective decision should be attained after signing an agreement of parental responsibility immediately after the birth [30]. In cases were a parental responsibility agreement has not been signed, the surrogate mother (registered as the birthmother) has the every right to make any decisions about the child future, until it is not more than 5-6 weeks old and a parental order has been obtained. All the paediatricians who are taking care of the child needs to be aware of this. On the event that the court has granted a parental order, the role and responsibilities on the new baby pass solely to the commissioning parents [33]. The legal uncertainties surrounding surrogacy, a clinician who encounters any dispute between the both parties should attain help from various social services for both ethical and legal support. Further, the immediate postnatal period is a time of great emotional upheaval in a surrogacy

arrangement, therefore, great sensitivity is further required in handling the surrogate mother or the commissioning parents [34]. Even the Midwifery support will be necessary for the surrogate mother or the commissioning parents. If all the arrangements are made by both parties are stand by, this would make the situation easier for the midwife.

14. DISCUSSION

The overall sense of the law of any country, the fetus that is developing is an integral part of a woman's body. Therefore, a surrogate woman has all the right to accept or refuse any kind of medical procedures before or during the pregnancy period. While looking forward the informed consent from a surrogate woman, the obstetrician or particular clinician has to make a plan and special care that the commissioning parents are not really coercing the woman. An individual woman who decides to be a surrogate alone has the right to decide on what information can be given to the commissioning parents or to the clinician. The surrogate woman has a clear vision to reject or accept any wishes of the parents commissioning. Till date it is even not clear whether the woman can surrender voluntarily her autonomy over and above the medical decisions. The surrogate woman can visualise and select another individual to make clinical decisions on her behalf but that person should act at the woman's interest only. The bitter part and weakness lie to the surrogate woman because there is no guarantee that the commissioning parents would be in agreement with the regulations of the surrogate women over the developing fetus developing a great conflict of interest. For sure, both legal as well as ethical opinions must be considered if the surrogate woman decides to allow the commissioning parents to make any medical decisions. However, even after the agreements are made between two parties, the medical decisions can be made purely on the basis of serum screening or ultrasound scanning for trimester. Further examinations such as amniocentesis or chorionic villus sampling are done to predict the possible chromosomal abnormalities. Earlier counselling and discussion about critical issues arising helps to reduce the extent of problems being projected. These conversions should also include a brief about the kind of and place of delivery expected including the drugs administered during the pain.

Terms should also be laid clearly if the pregnancy fails or leads to any complications for the surrogate woman. She has even rights to take key decisions on complications such as fetal growth restriction or fetal malpresentation. Any complications arising in the developing baby or new born should be duly informed to the paediatric in advanced so that the upcoming legal issues are notified for both of parties. Repeated caesarean section of the surrogate mother can be challenging and danger therefore, decision on mode of delivery is always a choice for the woman. The labour should not be prolonged over the decision of the commissioning parents but should take place timely.

There should be a balance against implementing the ethical guidelines against the surrogate woman if she declines any kind of medical advice or treatment of potential harm. A surrogate woman who had a normal delivery and then opts for caesarean is considered to be of higher risk for the purpose of commercial surrogacy.

15. CONCLUSION

Major studies conducted on surrogacy have shown serious limitations in the methodology. As per the surveys almost every surrogacy arrangement are complex and very less successful in implementation and therefore over all surrogate woman are prone to experience difficulty when the new born is separated. All the pre and post-natal complications reflect the potential harm caused due to surrogacy act. It is never appropriate if all the end outcomes of the surrogacy are interpreted under clinical practitioners with great caution. Most of the publications on the outcome of surrogate women and families explained involvement of commercial economic benefits in comparison to the need of the practice. There is a quiet urgency needed to discourage the surrogacy in future perspective, therefore a required prolonged and careful follow-up data of the practice on surrogate woman, families and children should be monitored. Even the procedure for planning a surrogate woman or children is always challenging and is not the easier or effective way of having infants in spite of healthy conditions. Laws governing surrogacy are always complex and right from surrogate woman to the commissioning parents involving the clinicians, midwives therefore, should be aware of the regulations and their violations before the practice is implemented or adopted. It reminds everyone to be truthful towards the natural puberty in terms of having new born, we should

also remain responsible to educate or spread the awareness of complications, risks involved with the surrogacy practice. There should be legal penalties imposed on the clinicians or on the women whom encourage the surrogacy only for the monetary benefits, labeling the practice as adaptable, low risk and flexible.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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