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Original Research Article

Elective vaginal delivery at ≥37 weeks and 39 weeks gestation completed in patients of previous one cesarean

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Abstract

The rate of cesarean have increased internationally and this leads to increase in the number of previous one cesareans, which will reduce the chance of normal vaginal delivery and may lead to second cesarean section with all the maternal and fetal complications of cesarean including anesthesia and financial burden both to the patient and to government. While vaginal delivery is safer, easier, less complicated, less or no anesthesia complication, less financial burden, wider family size, better breast feeding. The aim of this study is to make the hospitals "mother friendly hospitals" in addition to "baby friendly hospitals" by supporting vaginal delivery weather in primigravida or in previous one cesarean as in our study. Women of previous one cesarean section gathered from antenatal care unit from June 2015 till December 2015 with certain inclusion criteria including transverse section, uncomplicated >37 weeks gestation, cephalic, normally located placenta, interpregnancy interval of 1year. No cephalopelvic disproportion have been booked early in pregnancy and followed properly according to ANC guideline fully evaluated and educated and counseled with her husband and she signed advised to attend in labor and to be covered by second on call (consultant). Patient with classical or T-shaped uterus incision, patient with prior uterine rupture or myomectomy scar with one cesarean or less than 1year, (Cesareanis excluded from the study). The rate of vaginal delivery vary from 50% at June to 60% July to 80% August to 75% in September to 100% then 100% in October, November, December. Vaginal delivery rate can reach optimal level after one cesarean section if the patient is involved in inclusion criteria.

Keywords: Vaginal delivery rate, one cesarean section

INTRODUCTION

Inspite of the simple idea of this study but unfortunately it is the core of obstetric unit work which we should follow and support. Because of increasing rate of cesarean section from 5% in 1970 to 32.8% in 2008 to 40% in 2014, 32% in Australia 2011, in Egypt the incidence of cesarean is 52% (Cuningham et al., 2010). In our hospital, the incidence of cesarean in 2014 was 18% (Al-Dhaid teaching hospital) and the rate of vaginal delivery at the previous one cesarean was 65%. So our aim is to increase the rate of vaginal delivery after one scar to 100% in selected, supervised by consultant, counseled patient WHO recommendation by Dr. Marlin Temerman that in "*developing countries cesarean rate had spread and increased dramatically like and epidemic disease without restriction* (Boylle and Reddy, 2012; Rossi and D'Addario, 2008). As a consequence, there are

increasing numbers of women who need advice regarding options for birth in subsequent pregnancies with all its benefit and risk.

So this controversy remains a major public health issue because the two options for delivery (planned elective, repeated caesarean or planned vaginal delivery) in a subsequent pregnancy for this Cohort of women with previous cesarean birth are associated with both significant maternal and perinatal benefits and risks (Royal College of obstetrics and Gynecology, 2011; Gurol-Uranci et al., 2011). So vaginal delivery after one cesarean is a good measure of obstetric care unit safety. It supposed to reach 60 – 80% success rate in carefully selected patient (Schoorel et al., 2012).

In 1985, the WHO quantified that there is no justification for any region of the world to exceed cesarean birth rate of 15 % (Boylle and Reddy, 2012; ACOG practice birth Bulletin, 2004). Unless in emergency conditions which had been excluded from the study because there are no reliable factors to count on to decide safety vaginal delivery. These criteria are:

- Transverse, uncomplicated cesarean of more than one year.
- No indications of repeated cesarean section like cephalopelvic disproportion.
- No maternal complications like diabetes, hypertension.
- No fetal complication like precious pregnancy, big baby >3.8 kg, malpresentation and malposition, IUGR, multiple baby.
- No abnormal placenta (praevia, ccrete n, ccrete).
- Perfect facilities and human resources for decision (consultant) and follow up specialist doctor and perfect midwives with availability of O.T for urgent cesarean.
- History of normal vaginal delivery after cesarean section because that increase success rate by 80%

The aim of this study is to increase vaginal delivery rate versus cesarean section rate in women of previous one scar (House of commons health select committee, 1992; Thomas and Parenj, 2001).

PATIENTS AND METHODS

This is prospective according to retrospective study conducted in Al Dhaid hospital antenatal care according to ethical approval criteria in Sharjah/UAE involving women with previous cesarean birth who delivered between June 2015 to December 2015.

Al Dhaid hospital is a secondary teaching hospital with total delivery of 1000per a year it serves within a catchment area of about 100 km and population of >350000. In Al Dhaid hospital antenatal clinics are conducted for pregnant women on two times/week basis and women with previous cesarean section are considered high risk obstetric population, these cohort of women are usually assessed thoroughly in antenatal period to determine whether they would benefit from planned or elective repeat c/s or planned trait of labour after prior c/s (TOLAC) based on her past and present obstetric history as mentioned in the introduction.

All the women with history of previous cesarean delivery were selected and their hospital, identification numbers were recorded, those with the criteria mentioned in the introduction were included in the study, and the specific exclusion criteria were women with no planned delivery before in antenatal care (emergency), also those with recent scar <1year, or complicated like ruptured or infected.

The data extracted for this review included the maternal age, gravidity, parity, number of antenatal visits, previous mode of child birth, birth weight as well as indications of previous cesarean section.

In this study we make direct contact with these patient full evaluation of the patient and her baby, informed consent was obtained, the patient and her partner were counseled by the consultant all the direction about labour had be informed to the patient that there will be no induction or acceleration and that if any poor progress or evidence of dehiscent scar or fetal distress we will take to emergency cesarean.

All the possible risk and the benefit had been totally instructed. The data obtained analyzed using SPSS version 24.0. Descriptive analysis was done and the result presented in percentage. Poor prognosis is regarded as no dilatation inspite of good uterine contraction. Dehiscent scar (opened layers of uterus but not peritoneum). Ruptured scar open all layers with peritoneum. The test for statistical significant was set at an alpha level of 0.05. (Figure 1)

RESULTS

Over the study period 7 months (from June 2015 till December 2015) there were total of 600 vaginal and cesarean deliveries average monthly delivery was 84.

In our study we include patient whom booked in the hospital with proper criteria for normal vaginal delivery as mentioned in the introduction. They booked at 16-20 week of gestation. (Figure 2,3)

The less number of booking in November and December were because of financial or transportation or long waiting time or work. From those groups of booked patient all were involved in the inclusion criteria mentioned in the introduction. All were assessed by history and physical examination by specialist. (Figure 4,5)

Not all seen by consultant because of on leave, in the O.T room, not on the queue but all (100%) were discussed with her by phone.

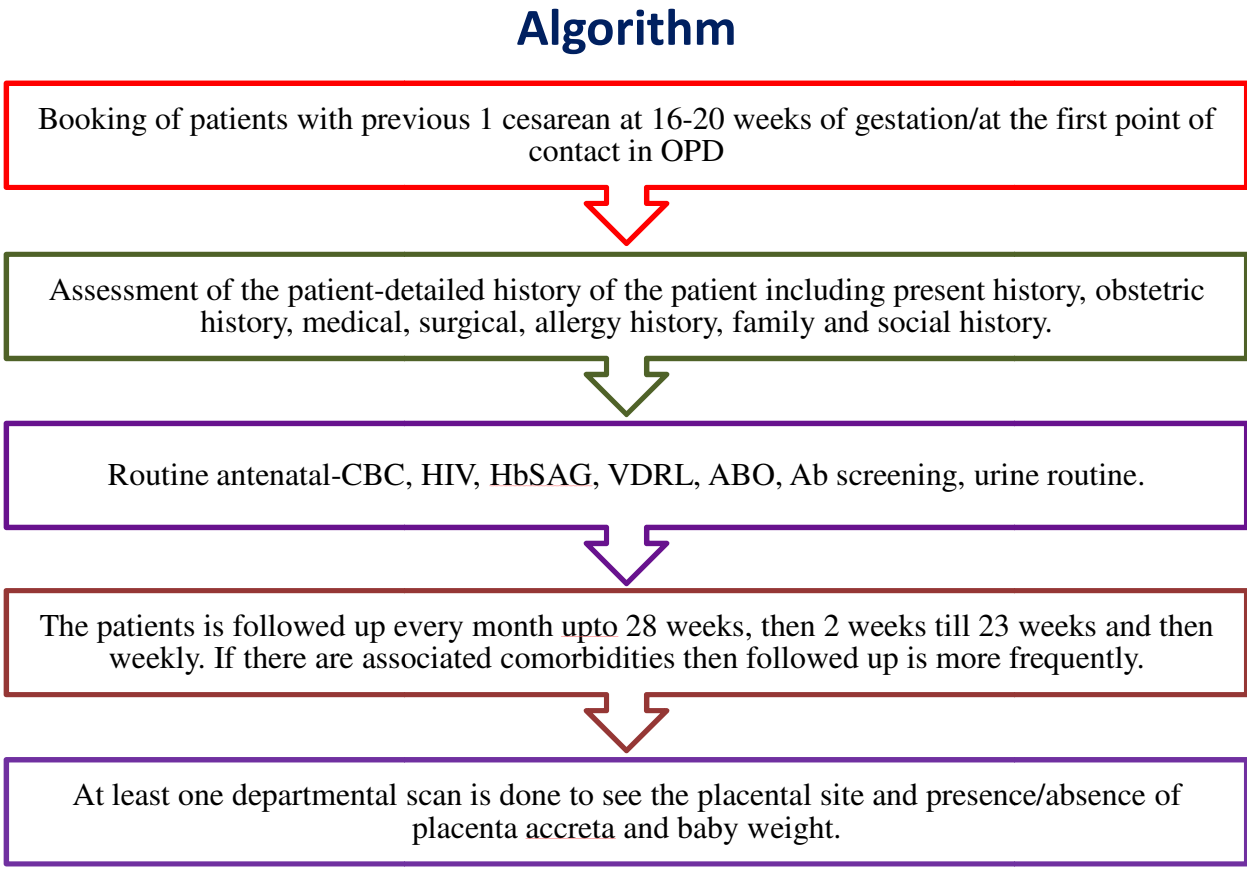


Figure 1.

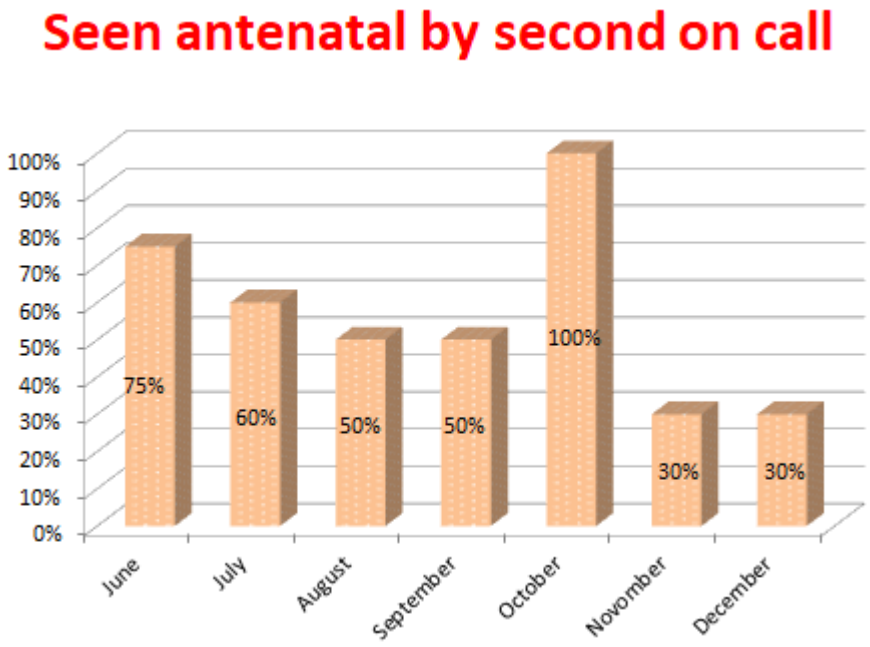


Figure 2.

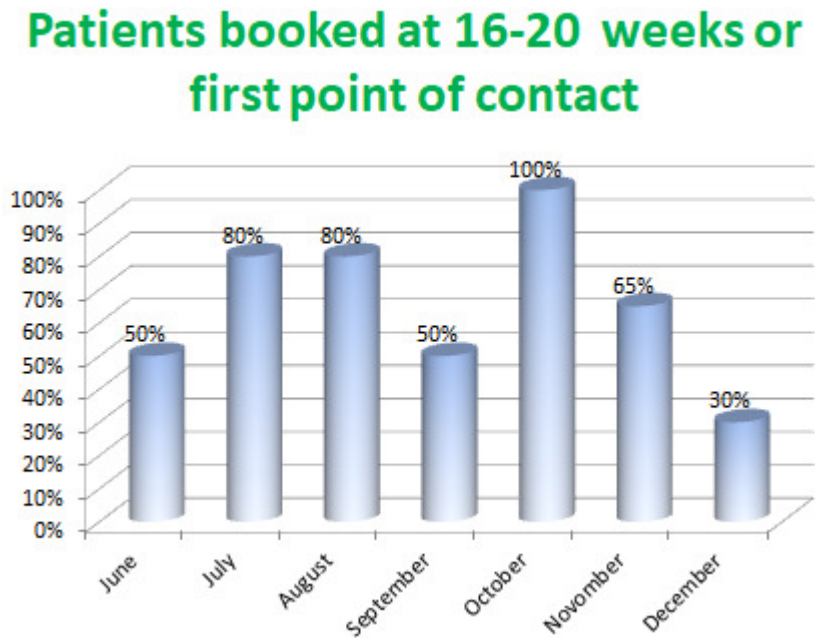
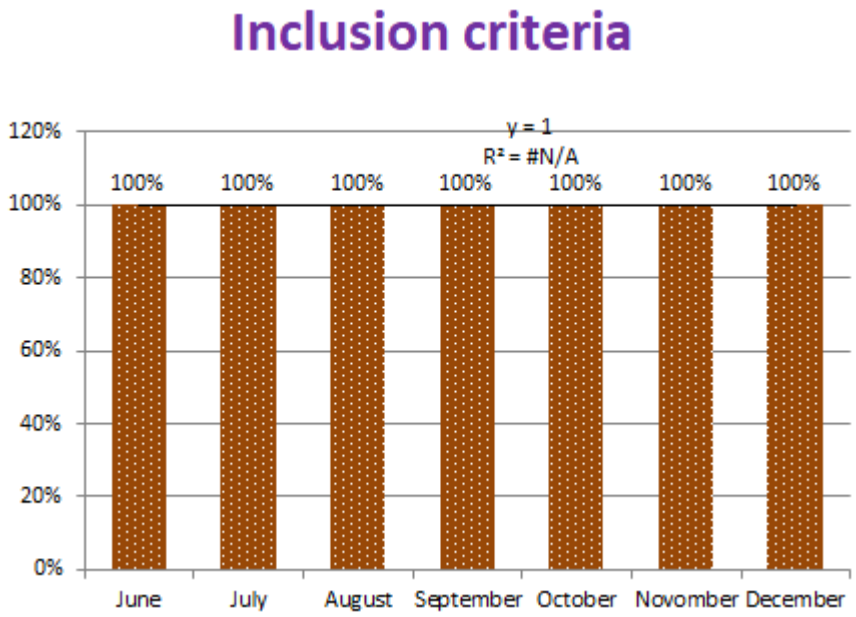


Figure 3. Number of booked previous scar patient in antenatal care.



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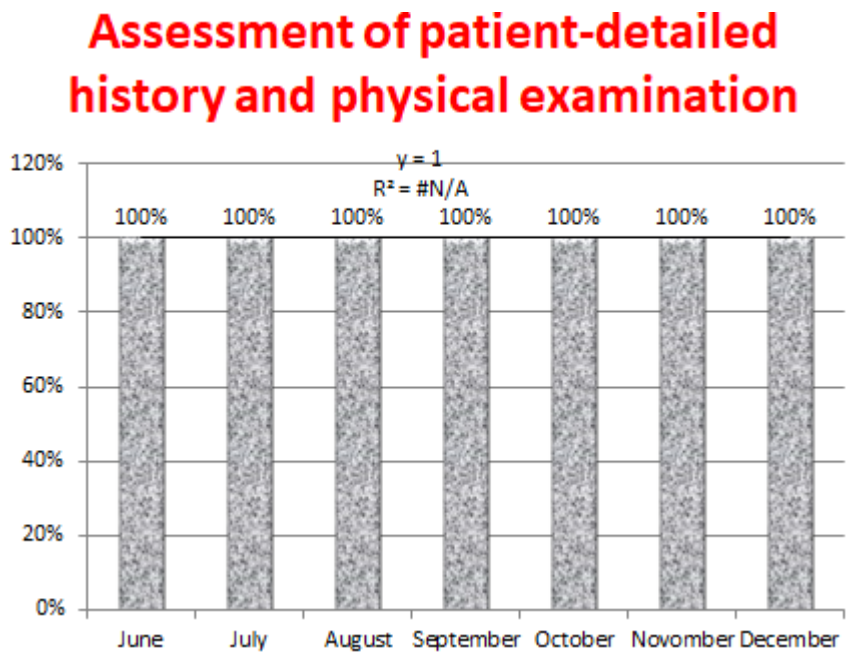

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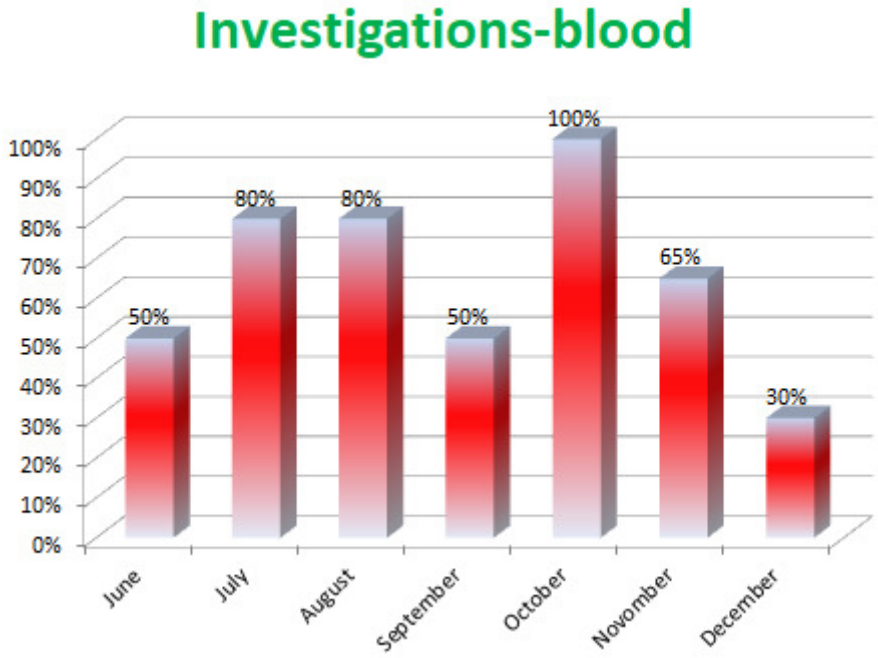


Figure 6.

Not all of the got the blood investigations and ultrasound because of waiting list, financial reason, unavailability of countable ultrasonagraphy. (Figure 6,7)

Those patients were supposed to be counseled antenatal. Some are not because of transportation, some missed and some because of not registered.

In labour all of them followed and observed closely by specialist and consultant, we took consent from all of them about possibly of failure of trial and cesarean and possibility of dehiscent scar or ruptured uterus. The consent is by her own language with her sex partner. The patient is monitored by CTG (2 hours). (Figure 8-11)

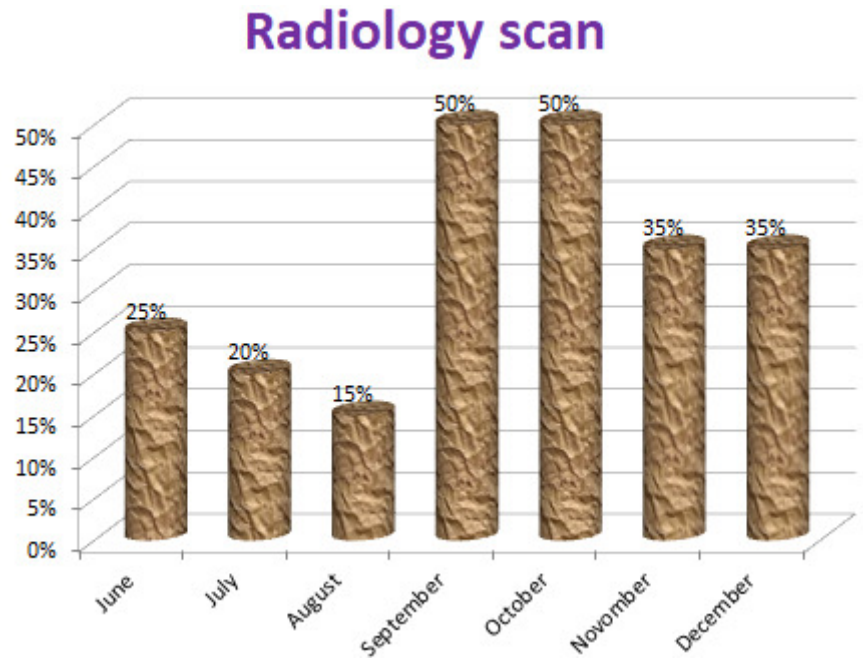
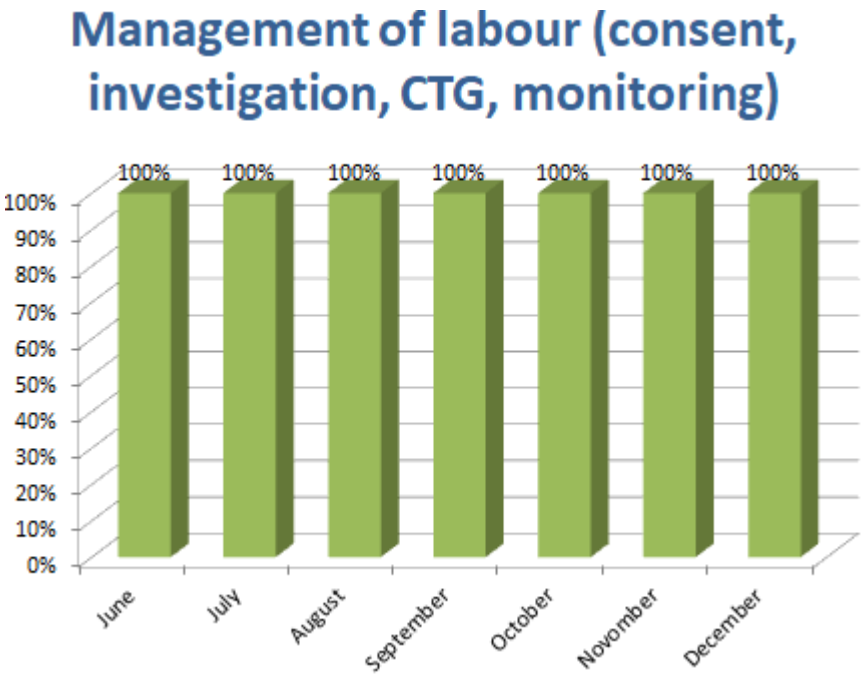


Figure 7.



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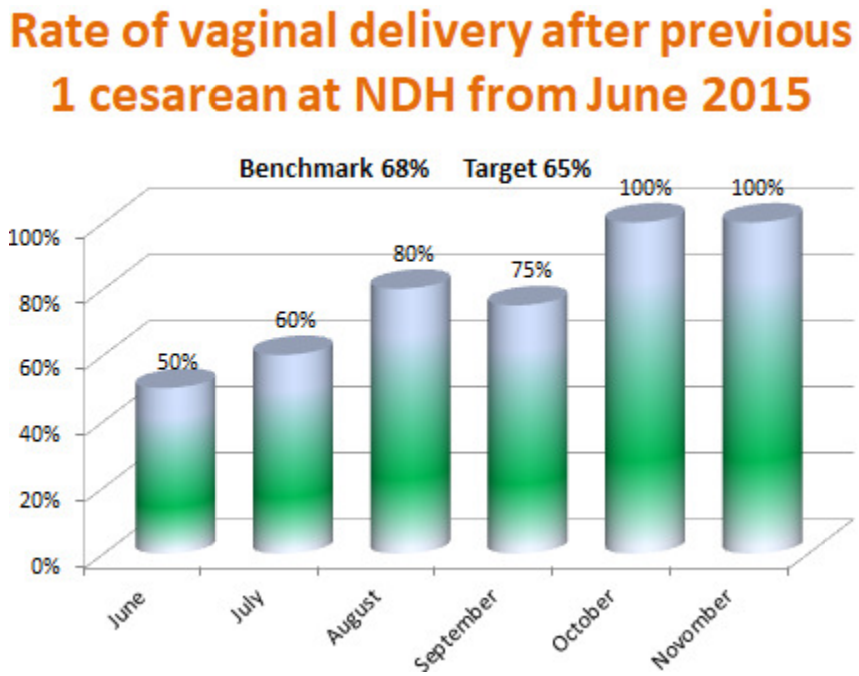

Figure 9. APGAR score of newborn (score above 7 or above 8 at 1 min. and 10 at 5 min.)

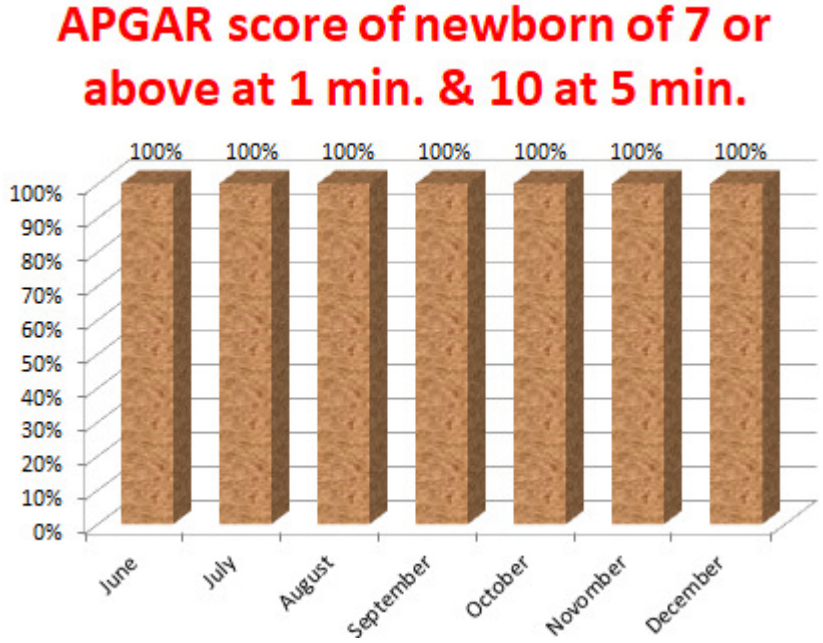

Figure 10. Maternal complication (dehiscent scar) was 16% only in August.

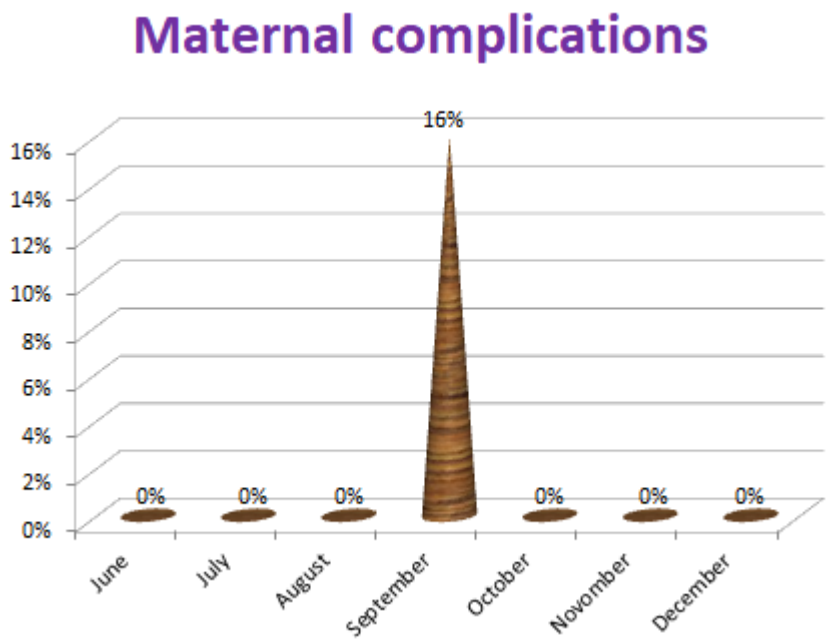

Figure 11.

DISCUSSION

In this kind of study we try to find a problem running in our department analyzing it, trying to collect cases and fully evaluating each case to catch the reasons behind this problem (find the key) and (the lock) and open the door (figure 1). "KPI is the key performance indicator" in our department we found that in 2014 the incidence of cesarean section was 30% and this is very high incidence compared to the international goal (i.e 15%) [(10)]. so we divide ourselves to two groups making 2 studies the first for incidence of cesarean in primgravida and the second is vaginal delivery after one cesarean section for giving chance of vaginal delivery and reducing the incidence of cesarean with all its maternal and neonatal mortality and morbidity.

1. Risk of anesthesia whether G.A or spinal
2. Risk of injury to bowel, ureter, bladder
3. Risk of bleeding
4. Risk of thrombosis
5. Risk of infection
6. Risk of adhesion with all its consequence including infertility and restricting family size
7. Risk of rupture in next pregnancy with maternal and neonatal mortality and morbidity
8. Risk of placental adhesion (accreta, increta, percreta) (Society of Obstetrics and Gynecology, 2005)
9. Increase incidence of emergency total and subtotal abdominal hysterectomy in cesarean patient
10. Financial burden on the patient and the government (anesthesia, threads, oxygen, pads …etc.)
11. More staying in hospital and occupying beds for the mother
12. Higher incidence of RDS, TTA
13. Less liability for breast feeding
14. More evidence of PID, chronic pelvic pain, incisional hernia, and ugly scars (Green-Top Guideline, 2015; Landon et al., 2006).

Because all what mentioned we started our study from June 2015 to December 2015 to reduce this incidence by gathering patient with previous scar and book them in the antenatal unit which held two times/week (figure 2 and 3). Those patients are booked under high risk patient with special inclusion criteria as mentioned in the introduction at 16-20 weeks seen by consultant (the head of department and the head of study team) (figure 3 and 4).

We tried first to concentrate on booking these patients as early as we can and not leaving these till the last time (figure 4). In June 50% of pervious scar booked, then increase to 80% in July to 80% in August down to 50% that is because of patient not willing to book because of payment which same times double because she had to pay about 150 dollar to the specialist and about 200 dollar to the consultant/visit.

Some because of transportation, and some because of being on waiting list, some they book but can't complete their investigations or radiology because of extra payment and extra waiting time, this is because 2 ANC rooms are run by specialist and consultant with about 30-40 patients/day. This is the first problem we face and we decide to put points for solving it by (figure 5, 6 and 7):

① Trying to increase booking by reducing the payment, educating the patient and increase the staff responsible for follow to shorten the waiting time.

② Update the guidelines for vaginal delivery and discuss it with all the team responsible for delivery (labour room, ANC team, breast feeding team).
③ Don't accept patients when are not booked and without ANC number to deliver in our hospital
④ Greatly supporting the patients when booked in the hospital by the attendance of the consultant, her labour and by reducing her delivery fees (Landon et al., 2006; Delivery after previous cesarean section, 2013).

All those patients when carry the inclusion criteria (according to the guidelines) are associated thoroughly by history, examination by consultant (directly or by phone) (figure 2, 4 and 5) all are educated about vaginal delivery by face to face or by phone and signed a consent by their own language. Also for the same reason mentioned before, not all patients sent for investigations (figure 6) can do it as seen by the bars 50% in June down to 33% in December. This variation we tried to solve by making the investigation fees less and asking the patient to give the sample and wait for the result in next visit (if there is critical result) then we will call her so we can shrink time and money (figure 7).

When the patient feel that the whole team is supporting the idea of vaginal delivery and all of them are with her she will be encouraged taking decision of vaginal delivery (Delivery after previous cesarean section, 2013). Then in the labour they come when they started uterine contraction (figure 8). In labour she advised to be kept fasting on I.V fluid. Team informed second on call (consultant) attends followed by CTG, P/V, ARM if necessary. If she progressed taken to second stage room with availability of pediatric, placenta delivered given oxytocin and the scar is not checked according to the protocol 100% of the patient received this kind of care.

We found that 50% delivery vaginally with 0% complication in June, up to 60% with 0% complication in July, and up to 80% with 16% complication in August (figure 9 and 11). This high incidence of complication because of dehiscent scar and rupture uterus was because we were highly motivated to deliver the patient vaginally to increase the incidence, we tried to push the abdomen and doing vacuum that lead to all these complications then down to 75% with 5% in September up to 100% with 5% both in October and November but there is dramatic reduction in December because in that time our hospital was trying to take GSI recommendation and that disturb our work and our attendance and patient follow. Fortunately, all the babies were with 100% APGAR score (even in the complicated methods) (figure 9, 10 and 11).

So the lesson learnt

- To be aware a specific level of risk of common complications associated with VBAC (including scar rupture) to facilitate appropriate counseling of women.
- To become familiar with evidence based tools that can help predict the outcome of planed VBAC.
- To know the signs and symptoms indicating impending or acute scar rupture in order to be able to manage women VBAC intrapartum (American College of obstetricians and Gynaecolist).

RECOMMENDATIONS

To make the hospital motherly friendly hospital by reducing C/S to 15% (Khalifeh et al., 2010).

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