

# Cesarean Scar Pregnancy Profile and Therapeutic Outcome: Case Series Design

Isaac B, Hussain H\*, Paulose L, Amro B, Lotfi G and Al Faisal W

Latifa Hospital, Dubai Health Authority, UAE

## Article Information

Received date: Oct 10, 2017

Accepted date: Nov 13, 2017

Published date: Nov 17, 2017

### \*Corresponding author

Hussain H, Affairs Department, Primary Health Care Services Sector, Dubai Health Authority, Dubai, UAE,  
Tel: 00971552282576;  
Fax: +39 02-5503-2642;  
Email: hyHussain@dha.gov.ae

**Distributed under** Creative Commons CC-BY 4.0

**Keywords** Cesarean scar pregnancy; Methotroxate; Outcome

## Abstract

**Background:** It is recognized that a Caesarean section presents one of the risk factors for ectopic pregnancies and placental pathologies (i.e., placenta prevue, placental abruption and placenta percreta) in the subsequent pregnancies.

**Objectives:** To study the incidence rate of scar pregnancy among admitted patient to ob/Gyn ward at latifa public hospital in Dubai. To study some associated factors Number of previous cesarean, parity, age of patients. To study therapeutic outcome using Methotroxate injection. Women admitted to the Hospital were of different parity status at the time of admission.

**Methodology:** A Retrospective records review of the caesarean scar pregnancy admitted to Latifa Hospital (Gynecology and pediatric governmental Hospital in Dubai) along the last 3 years has been recruited in the study, about 25 women age rang (20-49), cases been diagnosed as scar pregnancy at obstetrics /gynecology ward - Latifa public hospital, with positive history of previous single or multiple cesarean section. 19 cases have been went under Methotroxate injection therapy and follow up by BHCG and close clinical monitoring, about 8 cases refuse therapeutic intervention, most of the cases diagnosed on clinical base and upon admitting signs and symptoms which were mainly, bleeding in the first trimester, abdominal pain, spotting PV or asymptomatic diagnosed on routine pregnancy assessments, there is no loss of follow up of the cases yet 8 of the cases refused to receive Methotroxate injection, but no surgical treatment protocol applied to these cases . Surgery image and ultrasound were of no major role in diagnosis.

**Results:** The study revealed that about (16) 68% of the cases had positive history of three times and above cesarean section delivery, about (19) 76% of the cases were having multiparty of three and above, it was shown that about 60% of patients were in age group between ( 30-39). The study showed that about 64% of the case presented as bleeding in the first trimester while 20% presented either asymptomatic or simple abdominal pain and discovered on routine examination. The study revealed that about (16) 68% of the total cases have 3 more parity while only (2) 4% have 1 parity; the result showed that about (19) 76% of the total scar pregnancy cases were of the age group 30-39. As for the distribution of scar pregnancy cases according to number of cesarean section, it has been shown that (12) 66% of the total cases were of those who have history of 3 or more cesarean section while history of one CS where shown to be about (4) 16%. While the most common presenting features of scar pregnancy were shown to be bleeding in the first trimester equal to (14) 56% of the total cases and about (5) 20% were presented asymptotically and discovered by routine investigation. Current study showed that about (8) 28% of the total cases refuse medication intervention and prefer to continue with follow up while (17) 72% received Methotroxate alone or with other medication of different doses regimen). For the outcome of management the study showed that about (9) 36% of scar pregnancy cases were responded by BHCG dropping but about (16) 60% of the cases have got bleeding, readmission and surgical evacuation and some of the got sever complications.

**Conclusion:** Though scar pregnancy is rare diagnoses, it has serious consequences in terms of morbidity and mortality (uterine rupture and life-threatening intraperitoneal hemorrhage during the first trimester of pregnancy) which can be avoided by early identification, accurate diagnostic and effective intervention procedures. Recommendation: Prevention and control of scar pregnancy can be achieved different level, like minimizing the frequency cesareans section program, raising index of suspension at high risk groups, earlier identification and intervention.

## Introduction

The true incidence of pregnancy in scar has not been determined because so few cases have been reported in the literature. This may reflect both the increasing number of Caesarean sections being performed and the more widespread use of the transvaginal scan that allows earlier detection of such pregnancies [1]. Notwithstanding this recent trend, current knowledge continues to be based mainly upon individual case reports. We present our medical centre's experience of eight ectopic pregnancies implanted in Caesarean scars. It is recognized that a Caesarean section presents one of the risk factors for ectopic pregnancies and placental pathologies (i.e., placenta praevia, placental abruption and placenta percreta) in the subsequent pregnancies [2]. This was also the case in two of our eight patients. A similar association has also been described in other case reports [3,4]. Placenta accreta is a catastrophic complication of pregnancy in which trophoblastic tissues invade the myometrial layer and implant on a Caesarean scar [5]. A Caesarean scar pregnancy is, however,

**Table 1:** Frequency distribution of scar pregnancy cases according to parity.

Serial	Parity among scar pregnancy cased	No. of cases	%
1.	2 parity	7	28%
2.	1 parity	2	4%
3.	3 and more	16	68%
Total		25	100%

considered to be even more aggressive than placenta previa or accreta because of its invasion of the myometrium in the first trimester [6]. The high rate of Caesarean section because of breech presentation and the subsequent occurrence of pregnancy in the resultant scar is an intriguing association. Since their concomitant appearance was also described in another four reported cases [7-9]. This association might not be coincidental. Many of these operations are currently elective procedures performed in a non-developed lower uterine segment, so that the healing processes following the operations might facilitate implantation of the blastocyst within the scar [1]. Have found that 72% of their patients underwent multiple ( $\geq 2$ ) Caesarean sections; and we found this rate in 50% of our patients. This seems to be another risk factor for in-scar implantation of the subsequent pregnancy because of increased scar surface area [1]. In addition, the increasing number of Caesarean sections currently performed, together with the changing of the surgical technique, might also have same impact. In the past, the uterus was closed using a double layer of multiple sutures inverting the first layer with the second row. However, a single non-inverting running suture technique is currently more frequently used. Larger series would be needed to further elucidate these issues. Historically, the treatment of ectopic pregnancy was limited to surgery. With evolving experience with methotrexate, the treatment of selected ectopic pregnancies has been revolutionized. Medical therapy of ectopic pregnancy is appealing over surgical options for a number of reasons, including eliminating morbidity from surgery and general anesthesia, potentially less tubal damage, and less cost and need for hospitalization.

## Objectives

- To study the incidence rate of scar pregnancy among admitted patient to ob/Gyn ward at Latifa public hospital in Dubai.
- To study some associated factors Number of previous cesarean, parity, age of patients.
- To study therapeutic outcome using Methotroxate injection.

## Methodology

A Retrospective records review of the caesarean scar pregnancy admitted to Latifa Hospital (Gynecology and Pediatric Governmental

**Table 2:** Frequency distribution of scar pregnancy cases according to age.

Serial	Age of Scar pregnancy cases	No of cases	%
1.	Age group 20-29	2	8%
2.	Age group 30-39	19	76%
3.	Age group 40-49	4	16%
Total	All age groups	25	100%

**Table 3:** Frequency distribution of scar pregnancy according to number of previous cesarean section.

Serial	Number of CS	No of cases	%
1.	History of 2 CS	7	28%
2.	History of 1 CS	4	16%
3.	History of 3 and more CS	12	66%
Total		25	100%

Hospital in Dubai) along the last 3 years has been recruited in the study, about 25 women age range (20-49), cases been diagnosed as scar pregnancy at obstetrics /gynecology ward - Latifa public hospital, with positive history of previous single or multiple cesarean section. 19 cases have been went under Methotroxate injection therapy and follow up by BHCG and close clinical monitoring, about 8 cases refuse therapeutic intervention, most of the cases diagnosed on clinical base and upon admitting signs and symptoms which were mainly, bleeding in the first trimester, abdominal pain, spotting PV or asymptomatic diagnosed on routine pregnancy assessments, there is no loss of follow up of the cases yet 8 of the cases refused to receive Methotroxate injection, but no surgical treatment protocol applied to these cases . Surgery image and ultrasound were of no major role in diagnosis.

## Results

The study revealed that about 68% of the total cases have 3 more parity while only 4% have 1 parity as shown by table 1, the result reflected by table 2 showed that about 76% of the total scar pregnancy cases were of the age group 30-39.

As for the distribution of scar pregnancy cases according to number of cesarean section, it has been shown that 66% of the total cases were of those who have history of 3 or more cesarean section while history of one CS where shown to be about 16% as reflected by table 3. While the most common presenting features of scar pregnancy were shown to be bleeding in the first trimester equal to 56% of the total cases as clarify by table 4 and about 20% were presented asymptotically and discovered by routine investigation.

**Table 4:** Frequency distribution of scar pregnancy cases according to presenting sign and symptoms.

Serial	Presenting Sign and symptoms	no	%
1.	Bleeding first trimester	14	56%
2.	Abdominal pain	3	12%
3.	Spotting PV	3	12%
4.	Asymptomatic routine pregnancy	5	20%
Total		25	100%

**Table 5:** Frequency distribution of scar pregnancy cases according to the type of management received.

Serial	Type of management	No	%
1.	Methotroxiate + BHCG Follow up	17	72%
2.	Refuse intervention follow up	8	28%
Total			

**Table 6:** Frequency distribution of scar pregnancy cases according to management outcome.

Serial	Outcome of management	no	%
1.	BHCG dropped and no surgical intervention	9	36%
2.	Presented with bleeding , admitted and evacuated	15	60%
3.	Ongoing pregnancy placenta accrete	1	4%
Total		25	100%

Current study showed that about 28% of the total cases refuse medication intervention and prefer to continue with follow up while 72% received Methotroxate alone or with other medication of different doses regimen as shown by Table 5. For the outcome of management the study showed that about 36% of scar pregnancy cases were responded by BHCG dropping but about 60% of the cases have got bleeding, readmission and surgical evacuation and some of them got sever complications as in Table 6.

### Discussion

The current study showed that scar pregnancy is more common among women with high parity 3 and more as well as with strongly positive cesarean section of 3 times and above, this finding may be explained by the increase the probability linked to number of pregnancies and number of previous caesarean sections, as cesarean sections practice increasing, this will lead to more exposure to the risk of scare pregnancy, this finding is supported by other study findings which stated that the incidence of Cesarean scar pregnancy was 1:2216 and its rate was 6.1% in women with an ectopic pregnancy and at least one previous Cesarean section [10].

The study showed that the main presenting feature is the bleeding in the first trimester, yet there are considerable number of the cases can be presented asymptotically and can only be discovered by routine examination, that emphasize a fact that scare pregnancy needs to be diagnosed on solid base criteria with high sensitivity and specificity tool, such finding is in parallel with other studies [11] that concluded the diagnosis was confirmed with transvaginal ultrasound, and it is challenging one.

The study showed that improper intervention at scar pregnancy can lead to real complications and most of the patients who did not receive Methotroxate intervention ended with bleeding and re admitted again with surgical evacuation and some of them ended with hypovolemic shock or renal failure or severe anemia, this finding is supported by many studies like Rotas MA et al., Chazotte C, et al. and Lam PM, et al. [12-14].

### Conclusion

Though scar pregnancy is rare diagnoses, it has serious consequences in terms of morbidly and mortality (uterine rupture and life-threatening intraperitoneal hemorrhage during the first

trimester of pregnancy). Which can be avoided by early identification, accurate diagnostic and effective intervention procedures?

### Recommendation

Prevention and control of scare pregnancy can be achieved different level, like minimizing the frequency cesareans section program, raising index of suspension at high risk groups, earlier identification and intervention.

### References

- Jurkovic D, Hillaby K, Woelfer B, Lawrence A, Salim R, Elson CJ. First-trimester diagnosis and management of pregnancies implanted into the lower uterine segment Cesarean section scar. *Ultrasound Obstet Gynecol.* 2003; 21: 220-227.
- Hemminki E, Merilainen J. Long-term effects of cesarean sections: ectopic pregnancies and placental problems. *Am J Obstet Gynecol.* 1996; 174: 1569-1574.
- Haimov-Kochman R, Sciaky-Tamir Y, Yanai N, Yagel S. Conservative management of two ectopic pregnancies implanted in previous uterine scars. *Ultrasound Obstet Gynecol.* 2002; 19: 616-619.
- Salomon LJ, Fernandez H, Chauveaud H, Doumerc S, Frydman R. Successful management of a heterotopic Cesarean scar pregnancy: potassium chloride injection with preservation of the intrauterine gestation: case report. *Hum Reprod.* 2003; 18: 189-191.
- Chazotte C, Cohen WR. Catastrophic complications of previous cesarean section. *Am J Obstet Gynecol.* 1990; 163: 738-742.
- Seow KM, Hwang JL, Tsai YL. Ultrasound diagnosis of a pregnancy in a Cesarean section scar. *Ultrasound Obstet Gynecol.* 2001; 18: 547-549.
- Neiger R, Weldon K, Means N. Intramural pregnancy in Caesarian section scar. *J Reprod Med.* 1998; 43: 999-1001.
- Ghezzi F, Lagana D, Franchi M, Fugazzola C, Bolis P. Conservative treatment by chemotherapy and uterine arteries embolization of a cesarean scar pregnancy. *Eur J Obstet Gynecol Reprod Biol.* 2002; 103: 88-91.
- Hartung J, Meckies J. Management of a case of uterine scar pregnancy by transabdominal potassium chloride injection. *Ultrasound Obstet Gynecol.* 2003; 21: 94-95.
- Seow KM, Huang LW, Lin YH, Lin MY, Tsai YL, Hwang JL. Cesarean scar pregnancy: issues in management. *Ultrasound Obstet Gynecol.* 2004; 23: 247-253.
- Timor-Tritsch IE, Monteagudo A, Santos R, Tsymbal T, Pineda G, Arslan AA. The diagnosis, treatment, and follow-up of cesarean scar pregnancy. *Am J Obstet Gynecol.* 2012; 207: 44.
- Rotas MA, Haberman S, Levgr M. Cesarean scar ectopic pregnancies: etiology, diagnosis, and management. *Obstet Gynecol.* 2006; 107: 1373-1381.
- Chazotte C, Cohen WR. Catastrophic complications of previous Caesarian section. *Am J Obstet Gynecol.* 1990; 163: 738-742.
- Lam PM, Lo KW. Multiple-dose methotrexate for pregnancy in a cesarean section scar. A case report. *J Reprod Med.* 2002; 47: 332-334.