



ORIGINAL ARTICLE

Evaluation of management of Cesarean Scar Pregnancy (CSP).

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ABSTRACT... Objective: To evaluate our experience in treatment of Cesarean Scar Pregnancy (CSP). **Study Design:** Cross Sectional Descriptive study. **Setting:** Department of Gynecology and Obstetrics, Independent Medical College Faisalabad. **Period:** Jan 2016 to Jan 2021. **Material & Methods:** The data for this study retrospectively obtained from outpatient department, emergency ward and labor ward registers. Data was analyzed by simple descriptive statics. Diagnosis of CSP was made by using transvaginal ultrasound and color flow Doppler ultrasound. Treatment offered was either medical management as systemic methotrexate or surgical as D&C or laparotomy. The aim was to do conservative treatment for fertility sparing. Patient age, gestational age at time of presentation, number of previous Cesarean Section and success of overall management strategy was analyzed. **Results:** In this study we had 12 patients diagnosed to have CSP with at least one scar on uterus of previous caesarean section. The mean age of patients was 32.5 ± 2 years and the gestational age range was from 5 weeks and 3 days to 10 weeks and 2 day. The diagnosis was done by using transvaginal ultrasound and color flow Doppler ultrasound. Which showed high velocity and low impedance flow in sub trophoblastic area. Out of 12 patient's 58.33 percent were treated with systemic methotrexate and had successful outcome. These were followed by B-hCG levels till non pregnant serum level of B-hCG of <5.1 IU was achieved. 16.66 percent patients underwent D&C, but due to hemorrhage they were treated with laparotomy as supplementary procedure. 41.55 percent Patients were treated by laparotomy as their primary management with aim of fertility sparing surgery. The laparotomy was found to be successful treatment in all the patients who underwent surgical management as their primary treatment. **Conclusion:** Prompt diagnosis has pivotal role in reducing morbidity and mortality associated with CSP. Medical management is found to be successful at early gestational age. Fertility sparing surgery is better option as gestation advances more than 8 weeks to avoid undesirable outcome like hemorrhage and hysterectomy.

Key words: B-hCG, CSP, Cesarean Scar, Methotrexate, D&C.

INTRODUCTION

Cesarean scar pregnancy is a rare form of ectopic pregnancy. Its diagnosis is a challenge for emerging obstetrician and management a conundrum. In CSP implantation occur within myometrial defect occurring at site the scar of previous cesarean section. Its incidence is 1:1800 to 2216 pregnancy and 6.1 percent of all ectopic pregnancies occur in patient with at least 1 scar of cesarean section on their uterus.^{1,2}

Cesarean scar pregnancy is an early pregnancy complications but it can be life threatening. It is associated with a potential of severe maternal complications. Ultrasound is gold standard tool

for diagnosis of CSP with a backup of color flow Doppler ultrasound. In our study the diagnosis is made by using RCOG guideline for diagnosis of cesarean scar ectopic pregnancy. The criteria are given in Table-I.³

RCOG criteria for diagnosis CSP using TVUS (Transvaginal ultrasonography).

- Empty uterine cavity
- Gestations sac or solid mass of trophoblast embedded at site of cesarean scar.
- Empty endocervical canal.
- Thin absent layer of myometrium between gestational scar and bladder / anterior uterine wall.

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- e. Evidence of prominent circulation on Doppler examination.

This form of pregnancy is usually diagnosed at gestational age of 5 to 12 weeks. CSP is found to be associated with maternal complications like uterine scar rupture, hemorrhage and even hysterectomies to save patient life, if not diagnosed and managed promptly can cause morbidity and mortality. Early diagnosis and prompt management can save patient in undesirable outcomes and morbidity and mortality. In current Literature studies on different options to treat CSP are available, including conservative, Medical, Surgical and combination of medical and surgical therapies.⁴

Timor-Tritschand Monteagudo observed different treatment modalities for CSP like systemic methotrexate, dilation and curettage hysteroscopy and laparotomy etc.⁵ Methotrexate is an antimetabolite, their maximal cytotoxic effects are in S-phase and is therefore, Cell cycle specific.⁶

Surgical treatment may be done by hysteroscopy, laparoscopy and laparotomy depending on size of gestational sac, presence of fetal cardiac activity and hemodynamic stability of the patient.⁷

In our study we evaluated our experience of diagnosis of CSP in 12 patients using by transvaginal ultrasound and color flow Doppler studies. The aim of their management was conservation of fertility. Patient were offered medical treatment in form of systemic methotrexate and follow up by serum B-hCG weekly till the level gets in range of nonpregnant condition, i.e $<5.1U$.

The surgical treatment was D&C done in two patients followed by laparotomy due to heavy bleeding. Three patients got primary surgical management as their primary treatment which was the laparotomy involving the excision of the trophoblastic tissue along with defective myometrium. During laparotomy successful repair of uterus done and thus conserved fertility.

MATERIAL & METHODS

This cross-sectional descriptive study was conducted at department of OB & Gynae at Independent Medical College, Faisalabad from Jan 2016 to Jan 2021 after approval from institutional ethical committee. Data is Obtained from outpatient department, emergency ward and labor ward registers. Data was analyzed by simple descriptive statics. Diagnosis of CSP was made by using transvaginal ultrasound and color flow Doppler ultrasound.

In our study the diagnosis is made by using RCOG guideline for diagnosis of cesarean scar ectopic pregnancy. The data for this study retrospectively obtained record of patient from outpatient department, emergency ward and labor ward registers. Treatment offered was either medical management as systemic methotrexate or surgical as D&C or laparotomy. The aim was to do conservative treatment for fertility sparing. Patient age, gestational age at time of presentation, number of previous Cesarean Section and success of overall management strategy was analyzed

Inclusion Criteria

All patients with diagnosed cesarean scar ectopic pregnancy as per RCOG criteria with at least one scar of cesarean on uterus.

Exclusion Criteria

History of myomectomy, DIC, ERPC (evacuation of retained products of conception) and in vitro fertilization.

All patients were counselled about risk of hysterectomy due to heavy PUB, in management offered to them either medical treatment or surgical as D&C and laparotomy. But aim was to conserve fertility and every effort would be done to safe uterus and perform only wedge resection of trophoblastic tissue in case of laparotomy.

RESULTS

In this study we had 12 patients diagnosed to have CSP with at least one scar on uterus of previous caesarean section. The mean age of patients was 32.5 ± 2 years and the gestational

age range was from 5 weeks and 3 days to 10 weeks and 1 day. The diagnosis was done by using transvaginal ultrasound and color flow Doppler ultrasound, which showed high velocity and low impedance flow in sub trophoblastic area. Out of 12 patient's 58.33 percent were treated with systemic methotrexate and had successful outcome. These were followed by B-hCG levels till non pregnant serum level of B-hCG of <5.1IU was achieved. 16.66 percent patients underwent D&C, but due to hemorrhage they were treated with laparotomy as supplementary procedure. 41.55 percent Patients were treated by laparotomy as their primary management with aim of fertility

sparing surgery. The laparotomy was found to be successful treatment in all the patients who underwent surgical management as their primary treatment. All patients underwent surgery had successful conservation of uterus. Table-II.

All patients had at least one scar of previous cesarean section on uterus. Out of the 12-patient 41.66 percent had previous two cesarean scars on uterus. 33.33 percent had one scar on their uterus and 25 percent had 3 scars of previous sections on their uterus.

DISCUSSION

Cesarean scar pregnancy is rare form of ectopic

Case number	1	2	3	4	5	6	7	8	9	10	11	12
Patient age (years)	27	30	31	37	41	29	34	29	36	35	32	29
Gestational Age (weeks)	6 ⁺²	9 ⁺³	5 ⁺³	6 ⁺⁹	8 ⁺³	10 ⁺²	6 ⁺⁵	8 ⁺¹	5 ⁺⁵	6 ⁺³	7 ⁺¹	9 ⁺²
No of C section	1	2	1	3	3	1	1	2	3	2	2	2
Type of management	M	L	M	M	D/L	L	M	D/L	M	M	M	L
Beta hCG level of negative in weeks	4	-	3	4	-	-	3	-	3	4	4	-

Table-II. Patient demographic and clinical characteristics

M: MTX Systemic, D: D&C, L: Laparotomy

pregnancy. But due to rise in rate of caesarean section its frequency is on rise. If this condition is not diagnosed and managed promptly it can lead to undue emergency hysterectomies and undesirable outcomes like uterine rupture and infertility.

The cause of cesarean scar pregnancy is usually improper healing of the scar.⁸ Sonography is used as a primary diagnostic imaging modality. In recognizing cesarean scar pregnancy between 5 to 10 weeks of gestation.⁹

The commonly reported treatment option for early diagnosed cesarean scar ectopic pregnancy is methotrexate (systemic intramuscular injection).¹⁰ In our study we used this option in 7 patients out of 12 whose gestation was less than 8 weeks. The success rate was more than 90 percent.

In a study by Ash A and smith the success rate of medical treatment was found to be 70 to 80 percent.¹⁰

The main benefit of medical treatment as a primary option of management is preventing

patient from the side effects of surgery and hospital stay.YU Zhang et al reviewed 17 cases of CSP and recommended transvaginal color Doppler ultrasonography as a first line tool for early diagnosis.¹¹ In studies by D. Jurko UCK and H Illa they also used medical treatment consisting of methotrexate locally or systemically.¹² The medical treatment by systemic methotrexate is also supported by study of Anis Fadhlou and Mohammed Khrouf.¹³

Another study by bour et at. Concluded that primary systemic MTX administration was effective for cesarean scar ectopic pregnancy before 8 weeks of gestation.¹⁴

In our patients who were offered medical management had pregnancies with gestational age less than 8 weeks and all were hemodynamically stable. So, they were prevented from effects of surgery. Patients who had early diagnosis had better outcome with medical management. The clinician should be aware of about patient follow up with B-hCG levels. As a prognostic factor the B-hCG level sometime increases initially after MTX

systemic infection but falls thereafter and final outcome usually is promising if patient remains hemodynamically stable.

In our study most of the patients achieved non pregnant B-hCG level by the end of 4 weeks. The patient who had D&C were initially diagnosed as incomplete miscarriage but they bleed heavily for which laparotomy was done and scarred area carrying trophoblastic tissue was excised and uterine repair was done.

Surgical excision of the scar and uterus repair was the aim of laparotomy in all patient underwent for surgical intervention. The advantage of surgical treatment was less loss of blood and definitive management with a speedy recovery. It also had an advantage of hemorrhage control and repair of defective myometrium so in advanced gestation resection of pregnancy and repair of uterus is a more standard treatment which we should be offered to patients to avoid undesirable complications like irreversible hemorrhage and hysterectomy.

CONCLUSION

Prompt diagnosis has pivotal role in successful outcome and reduces morbidity and mortality by hemorrhage. Medical management is found to be successful at early gestational age with follow-up by using serum B-hCG levels. Surgical management is the main stay of treatment in patients at gestational age more than 8 weeks with aim of fertility sparing. Factors which individualize treatment includes gestational age at time of presentations, hemodynamic stability and fertility concerns of patient.






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2	Uzma Manzoor	Data collection.	
3	Saadia Bano	Data collection.	
4	Awais Shuja	Statistical analysis, Manuscript writing.	
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