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Case Report

Caesarean Scar Pregnancy Managed by Scar Resection – A Case Report and Algorithm for Management

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Abstract

A 28 year old woman was administered Mifepristone and Misoprostol combination for 5 weeks pregnancy. She kept having repeated episodes of bleeding per vaginum. She presented to us at 7 weeks of amenorhoea and was diagnosed as a case of caesarean scar pregnancy on ultrasound. Conservative Systemic Methotrexate therapy was started as the preferred modality of treatment. However after two doses of methotrexate the gestation sac increased in size and the serum human chorionic gonadotrophin level was also found to have risen. Fearing that a major episode of haemorrhage may occur an urgent laparotomy and open scar resection was performed. A highly vascular lower segment was visualized and a biconvex lens shaped area of tissue was excised. The patient recovered uneventfully. A simple algorithm for management of Caesarean Scar Pregnancy has been presented after a thorough review of literature.

ABBREVIATIONS

Serum HCG: Serum Human Chorionic Gonadotrophin

INTRODUCTION

Caesarean scar pregnancy is a rare entity, incidence being reported 1:2216 and a rate of only 6.1% in women with ectopic pregnancy and at least one previous caesarean section [1,2]. The incidence however of this entity is now increasing because of the rising caesarean section rate. The possible etiology could be a trophoblastic invasion of the myometrium through a microscopic tract. This tract is believed to develop from trauma from previous uterine surgery like caesarean section, myomectomy, metroplasty etc. It is the rarest form of ectopic pregnancy.

CASE PRESENTATION

A 28 year old woman presented with a history of previous two lower segment caesarean sections and complaints of 7 weeks amenorrhoea with bleeding per vaginum. Her last caesarean section was done 6 years back. About 4 years back, she had got a suction and evacuation done for missed abortion. This time she presented to an unskilled practioner, when 5 weeks amennorhoea and was administered a course of Mifepristone and Misoprostol combination. She had bleeding per vaginum for two days and the bleeding subsided spontaneously. She had a fresh episode of bleeding and got a sonography done.

The ultrasound report stated that the uterus was of normal size and a single intrauterine gestation sac was seen in the region of previous lower segment caesarean section. The mean sac diameter was 9.4 mm, corresponding to 5 weeks gestation. However she did not get treated anywhere for 3-4 days and approached us. A fresh sonogram was performed. The report revealed a single gestation sac with yolk sac and fetal node in the region of previous lower segment caesarean section. The crown rump length was 2.1 mm corresponding to 6 weeks 0 days gestation. Cardiac activity was visualized and fetal heart rate was 112 beats per minute (Figure 1-4).

An urgent Serum β Human Chorionic Gonadotrophin assay was done. Since there are still no stipulated guidelines for management of Caesarean Scar pregnancy, it being an uncommon type of ectopic pregnancy, conservative therapy with alternate day Methotrexate was planned initially. A complete blood count was done, her hemoglobin being 10.8 gm%. On day 1 Methotrexate was given in a dose of 1 mg/kg body weight i. e. 38 mg as she weighed 38 kg.

On Day 2 folinic acid 3.8 mg was given. The value of Serum Human Chorionic Gonadotrophin assay of sample drawn on Day 1 was; 50871.40 iu/ ml.

On Day 3 another dose of 38 mg Methotrexate was administered, followed by 3.8 mg folinic acid on Day 4.

On June 7, 2013 i. e. day 5, a repeat ultrasonogram revealed that the gestation sac had grown in size. The mean sac diameter was now 20 mm and crown lump length was 5.8 mm equivalent to 6 weeks 3 days gestation age I. e. the embryo had increased in size.

In the meanwhile the report of Serum Human Chorionic Gonadotrophin assay done on June 5, 2013 was obtained. It too had risen and was 60675.3 iu/ml.

We realized our serious mistake in administering conservative therapy to this patient. Since in our centre we lacked the expertise in performance of sophisticated hysteroscopy and laparoscopic procedures; and it being a grave emergency, urgent laparotomy was decided. By a pfannenstiel incision the lower segment of uterus was visualized. Uterovesical pouch was opened and bladder pushed down (Figure 5).

A bi-elliptical incision was given on a small bluish bulge in the lower segment. A lens shaped area was excised with a width of 2 mm in the middle part. Chorionic villi were seen attached to its inner surface. Some fluid and villi too, were sucked out. The lower segment was stitched and peritonisation done. The lower segment was very vascular and there was great difficulty in obtaining haemostasis.

Postoperatively the woman recovered very quickly without any complications. A sonogram done on June 12, 2013, stated that the uterus was normal sized and a small cavity measuring 25 ×11 mm was seen in anterior myometrium with fluid contents , reported as a healing scar.

Figure 1 Scan showing empty uterine cavity and gestation sac in lower segment.

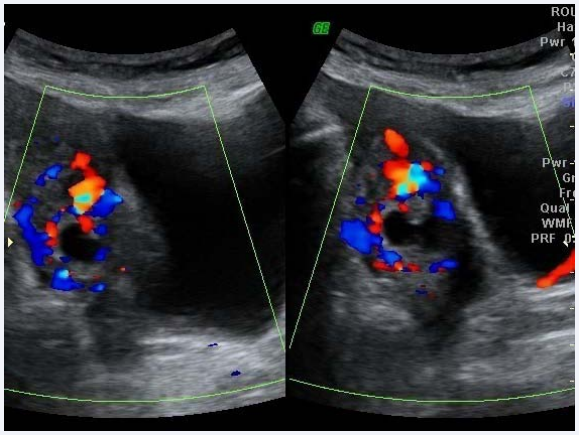

Figure 2 Doppler scan showing increased blood flow in the lower uterine segment.

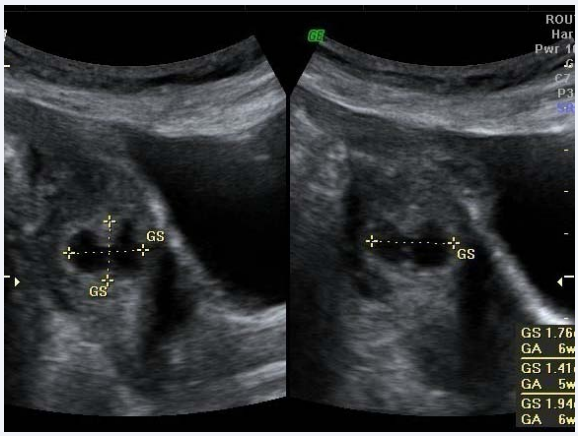

Figure 3 Scan showing gestation sac in lower uterine segment.

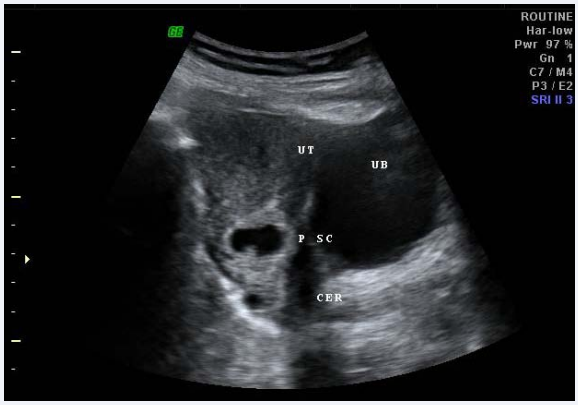

Figure 4 Caesarean scar pregnancy in relation to urinary bladder.

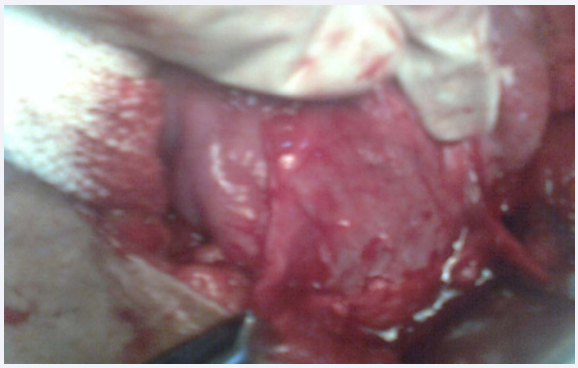

Figure 5 Uterus held with fingers showing swollen bluish lower segment.

Hence a patient with Caesarean Scar Pregnancy was treated successfully by a simple technique of Scar resection.

DISCUSSION

Godin et al. reported the first case of caesarean scar pregnancy [3]. Caesarean scar pregnancy is a life threatening emergency

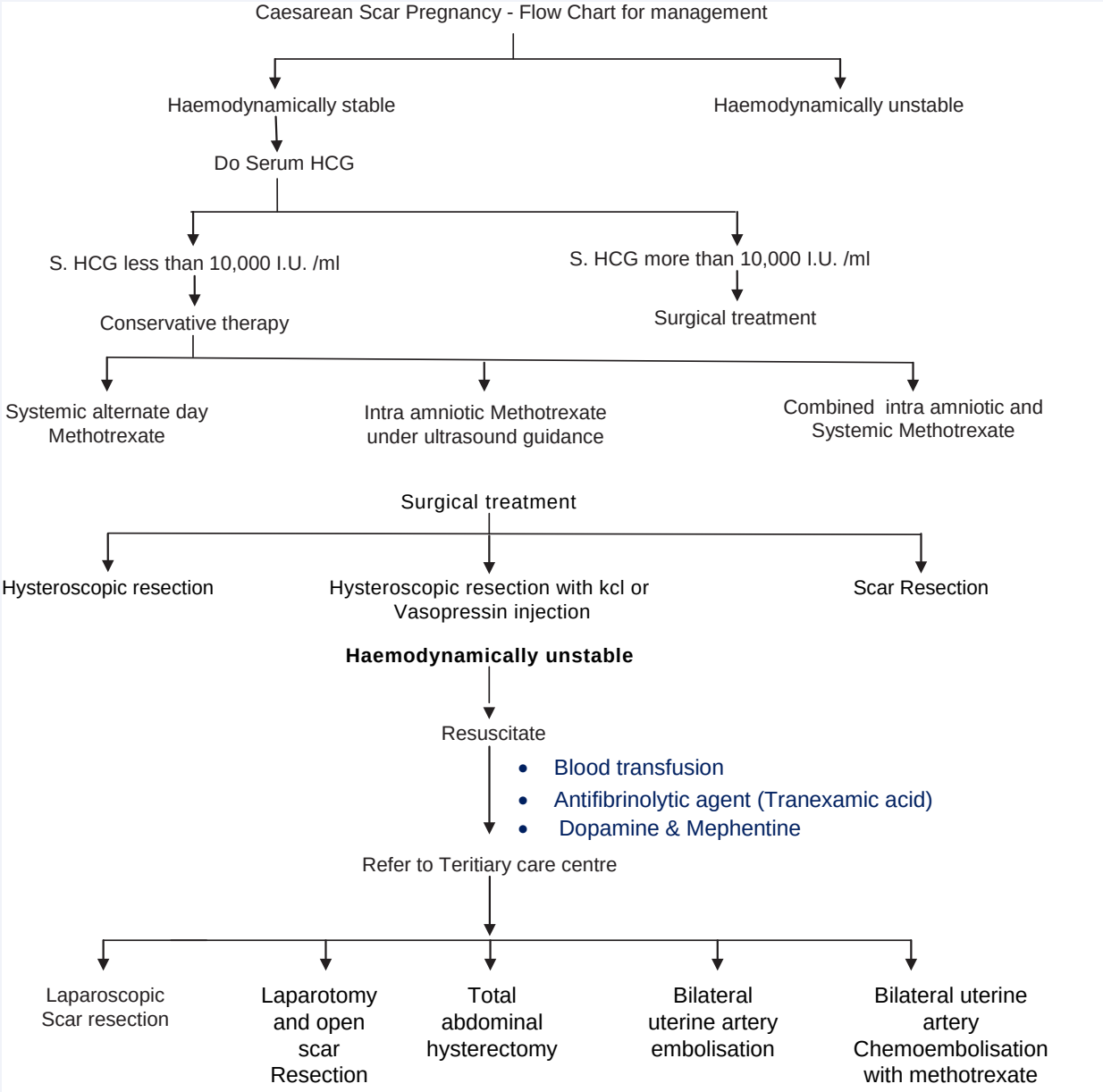

Chart 1 Caesarean Scar Pregnancy – Flow Chart for management.

often resulting in fatal haemorrhage. In a case managed by us earlier, a woman diagnosed as incomplete abortion on ultrasonography was taken up for suction and evacuation. At the start of the procedure, just as the dilator was put in, torrential haemorrhage began.

The woman bled so fast that in a few minutes she went into shock and became pulse less. She was rescuscitated with blood transfusion, uterotonics and haemostatic drugs.

This patient came to us with the repeated episodes of bleeding but since we were already sensitized by the earlier case, managed a year back in the same institution; a diagnosis of scar pregnancy was made fairly easily.

Various authors have described modalities like ultrasound, magnetic resonance imaging and even laparoscopy for diagnosis of Caesarean Scar Pregnancy. In our opinion a trans vaginal ultrasound combined with doppler study is perhaps the best method to diagnose Caesarean Scar Pregnancy.

Modified Sonographic criteria have now been proposed for the diagnosis of Caesarean Scar Pregnancy;

- Trophoblast located between cervical canal and anterior uterine wall.
- Fetal parts not present in the uterine cavity.
- On a saggital view that runs through the amniotic sac, no myometrium is seen between the gestational sac and urinary bladder [5].

With the present case, I would like to highlight the significance of an ultrasonic scan prior to administering Mifepristone and

Misoprostol combination for medical abortion. Strict adherence to the protocol of a preabortal and a postabortal scan can prevent haemorrhage from an undiagnosed ectopic Pregnancy.

In our earlier case of Caesarean Scar pregnancy [4], the initial Serum human chorionic gonadotrophin level was 6099.85 IU/ml. She was treated with systemic alternate day Methotrexate regimen in a dose of 1mg/kg body weight. She recovered uneventfully with serum HCG level coming down to the non pregnant value in about 3 weeks. Other authors too have reported success with conservative methotrexate regimen when serum HCG level was less than 10,000 IU/ml [5].

Till now no well defined guidelines are available in literature regarding management of Caesarean Scar Pregnancy. Ultrasound guided intra amniotic Methotrexate injection has been proposed as a method of choice after treatment of 12 cases in a 6 year period [6].

Combined intramuscular and intra gestational Methotrexate injection has been suggested after successful treatment of 19 cases of Caesarean Scar Pregnancy [7]. In these patients 25 mg methotrexate was injected into the area of embryo, 25 mg in the placental area under ultrasonic guidance and another 25 mg were administered intramuscularly. Uterine artery embolisation has been used as an adjunct to intramuscular Methotrexate when episodes of heavy bleeding continued despite conservative treatment in a patient [8]. Recently Vasopressin injection in the cervical stroma followed by cold resection with hysteroscope has been successfully performed for 2 cases [9].

A further advancement over uterine artery embolisation has recently been improvised [10]. They performed bilateral uterine artery chemo embolisation with Methotrexate for Caesarean Scar Pregnancy in 45 patients. Out of all only one patient had to undergo emergency hysterectomy for excessive haemorrhage. Open Scar resection and Laparoscopic Scar resection are other modalities employed for management of Caesarean Scar Pregnancy.

In our case open scar resection was done as a single step emergency procedure and blood transfusion was also not required. Open Scar resection resulted in quick recovery and can be done in centres where surgical expertise in laparoscopic and hysteroscopic techniques is not available. This humble surgical technique should always been kept in mind, when conservative treatment for scar pregnancy seems hazardous because of risk of haemorrhage, and thus obviating the need for a hysterectomy. In a recent publication , in a woman where the serum human chorionic gonadotrophin level was more than 100, 000 iu/l, intramniotic methotrexate 20 mg combined with uterine artery embolisation was provided , the serum human chorionic gonadotrophin levels took 4 months to come down to normal levels [11]. According to some authors scar dehiscence has been detected after successful medical treatment and a repeat scar pregnancy also has been observed. They believe that surgical excision and scar repair reduces the risk of dehiscence and recurrence [11]. Hence scar resection should be considered as the best choice when a future pregnancy is desired.

I have tried to draw up a simple algorithm for management of Caesarean Scar Pregnancy, after my own personal experience with two cases and a review of literature Chart 1. An absolute contraindication regarding management of caesarean scar pregnancy is Dilatation & Evacuation as it may lead to fatal hemorrhage.

CONCLUSION

The management of caesarean scar pregnancy depends upon the haemodynamic status of the patient, initial serum human chorionic gonadotrophin level, size of gestation sac, desire for preservation of fertility, the facility and expertise available in the nearest care center.

REFERENCES

1. Ash A, Smith A, Maxwell D. Caesarean scar pregnancy. BJOG. 2007; 114: 253-263.
2. Maymon R, Halperin R. Mendlovie S, Schneider D, Herman A. Ectopic Pregnancies in a Caesarean Scar review of the medical approach to an iatrogenic complication. Hum. Reprod. Update. 2004;10: 515-523.
3. Godin PA, Bassil S, Donnez J, An ectopic pregnancy developing in a previous Caesarean Section Scar. Fertil. Steril. 1997; 67: 398-400.
4. Jain D. Caeserean scar pregnancy-Life threatening emergency but still an enigma, Int J Gynaecol Obstet. 15: 153-156.
5. 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.
6. 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.
7. 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.
8. an CM. A report of four cases of caesarean scar pregnancy in a period of 12 months. Hong Kong Med J. 2007; 13: 141-143.
9. Chang Y, Kay N, Chen YH, Chen HS, Tsai EM. Resectoscopic treatment of ectopic pregnancy in previous cesarean delivery scar defect with vasopressin injection. Fertil Steril. 2011; 96: e80-82.
10. Shen L, Tan A, Zhu H, Guo C, Liu D, Huang W. Bilateral uterine artery chemoembolization with methotrexate for cesarean scar pregnancy. Am J Obstet Gynecol. 2012; 207: 386.
11. Hasegawa J, Ichizuka K, Matsuoka R, Otsuki K, Sekizawa A, Okai T. Limitations of conservative treatment for repeat Cesarean scar pregnancy. Ultrasound Obstet Gynecol. 2005; 25: 310-311.

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