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BRIEF COMMUNICATION

The Successful Saga of a Cesarean Scar Ectopic with High βHCG Level

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Abstract Cesarean scar ectopic (CSE) is a rare life-threatening condition associated with hemorrhage, uterine rupture, disseminated intravascular coagulation or death during pregnancy. A rampant increase is worrisome. Early diagnosis is critical; awareness and high index of suspicion are essential. We report a 34-year-old woman with two previous cesarean sections, who was diagnosed to have an unruptured, viable CSE with high βHCG level (49,637. 08 mIU/mL). Local as well as systemic methotrexate failed initially. However, success was achieved when modified medical treatment was adopted.

Keywords Cesarean scar · Ectopic pregnancy · Methotrexate

Introduction

Cesarean scar ectopic (CSE), poses one of the biggest health risks to young women who have undergone a cesarean section (CS). It is more aggressive than placenta previa or accreta because of early invasion of the myometrium during pregnancy. In these cases, blastocyst implants within a cesarean fibrous tissue scar. Up to 72 % cases of CSE occur in women with two or more CS probably due to increase in scar surface area. Its incidence is 1:800–1:2216 in early pregnancy, 0.15 % in women with previous CS, and 6.1 % of all the ectopic pregnancies. Only 18 cases were reported in 24 years (1978–2002) [1] and a recent survey recorded 751 cases [2] reflecting on the rising trend. This increase is multifactorial, related to increasing cesarean deliveries, liberal use of transvaginal sonography (TVS) in early pregnancy and a heightened awareness of the diagnosis. They may present with bleeding and/or abdominal pain. However, up to 30 % may be asymptomatic. First line diagnostic tool is TVS and Doppler flow studies [1]. The ultrasonic diagnostic criteria adopted are of Ash et al. [3]. Magnetic resonance imaging is helpful when TVS is equivocal or inconclusive. There are no universal treatment guidelines. Standard of care is being debated and is still evolving.

Report of Case

A 34-year-old woman G3P2A0 with two previous CS deliveries presented to us (2012) with a diagnosis of CSE at five weeks and two days. TVS revealed a live embryo, peripherally located in the anterior aspect of the previous CS scar. She was asymptomatic, hemodynamically stable but appeared pale and anxious. βHCG was 49,637.08 mIU/mL, Hb 8.50 g/dL, PCV 28.2 %, TLC 8.7 thousand/mm, Platelet 188 thousand/mm, liver, thyroid functions, and coagulation profile were in the normal range. She was counseled and informed about the different treatment options, with their advantages/disadvantages and the seriousness of

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the condition. She opted for medical treatment (MT). On admission βHCG had increased to 74,000 mIU/mL and TVS revealed live embryo of seven weeks. She was recounseled but she persisted for MT. A written informed consent was taken. Under US guidance, gestation sac (GS) was aspirated, methotrexate (MTX) was given locally (I.S) and systemically, 50 mg at each site (Regime 1). Folinic acid was given the next day. Since pre-treatment βHCG level was high, fetus was viable; TVS and βHCG were repeated after MT. It increased to 1,00,745 mIU/mL (anticipated), since fetus was still alive, we were worried. Being asymptomatic, hemodynamically stable, we again aspirated the GS, gave intrasacular MTX but this time we also injected MTX into the placenta (I.P) 25 mg at each site, 50 mg I.M and in addition, saline was instilled into the embryo, till cardiac activity stopped [Regime 2 (Modified) Fig. 1]. She was discharged and her condition was satisfactory. Three more doses of MTX 50 mg I.M alternating with folinic acid were given because of high βHCG level. Close monitoring was done with weekly clinical review, serial βHCG until normalized and US every 3 weeks until no further residual tissue could be detected. Uterine artery embolization (UAE) was kept as a standby. Surprisingly βHCG started declining (Fig. 1). Spotting followed by bleeding P/V and passage of fleshy pieces occurred after 10 days of the last dose of MTX. As a safety measure, oral tranexmic acid (hemostatic) with antibiotics was given for 5 days to prevent heavy bleeding and infection. Pregnancy resolved, success achieved, and no complications were observed except minor side effect of MTX such as mild mucositis which resolved with local treatment. She was counseled for contraception to prevent pregnancy.

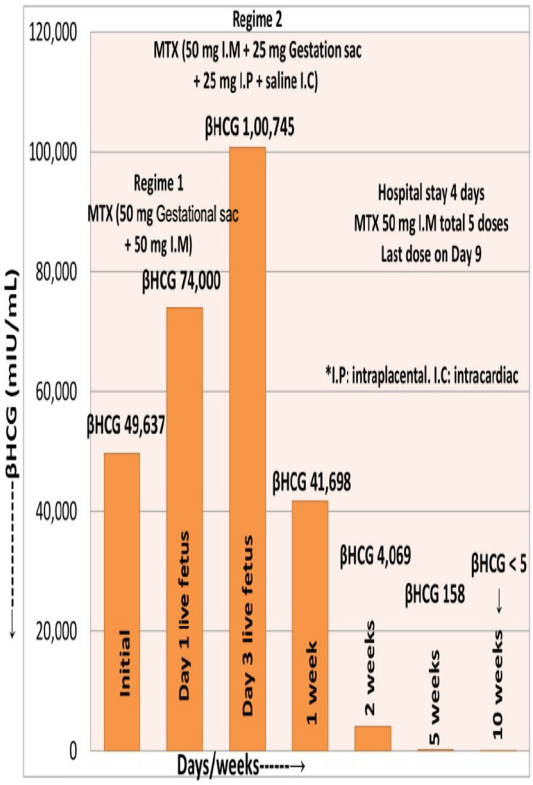

Fig. 1 Treatment summary

Discussion

The accepted etiopathogenesis is that the blastocyst enters through the microscopic dehiscent tract or defect extending from the endometrium into the myometrium caused by trauma following surgeries (CS), myomectomy, curettage, and manual removal of the placenta [1].

Many conservative medical and surgical approaches have been adopted. Treatment should be individualized depending upon the hemodynamic stability, gestational age, viability, βHCG levels, thickness of the anterior uterine wall, future fertility plans, endoscopic expertise, serial follow-up plus imaging and economic feasibility. Methotrexate is an effective treatment for early unruptured ectopic pregnancy. It is more effective when βHCG levels are low. However, there is no consensus on a threshold value that best predicts success or failure [4]. Our case illustrates that CSE with high pre-treatment βHCG level 70,000 mIU/mL with viable fetus failed initially but was successfully treated by Regime 2, laparotomy, and UAE were avoided. A thorough discussion was done with the patient on the risks involved and her wishes were taken into account. Systemic and local MTX were combined, since it has a short half life and fibrosis in CS delays its absorption into GS. But, treatment still failed. Success was achieved when MTX was given locally (I.S and I.P), systemically along with instillation of saline into the fetus. Studies focussing on this mode of treatment are few. Buckshee and Dhond [5] reported successful termination of early intrauterine pregnancy with a huge leiomyoma by intra-amniotic and intraplacental MTX [5]. Lui et al. compared efficacy and safety of local and systemic MTX in CSE. Their overall cure rate was 69.2 % versus 67.3 % for local injection versus systemic administration. The mean pre-treatment serum βHCG in the failed group was 37,047 ± 30,864 mIU/mL [6].

Timor et al. reviewed 26 cases of cesarean scar pregnancy (CSP) retrospectively, and stated that combination of systemic and intragestational sac administration of MTX was highly successful in the treatment of CSP (19/26) and no complications were observed. On follow up, the resolution time after local treatment ranged from 26 to 177 days. Treatment with MTX, D&C, and UAE had highest complication rate (62.1 %, 61.9 %, and 49.6 %, respectively) [7].

Surgical intervention by laparotomy/laparoscopy/hysteroscopy is done to resect ectopic pregnancy and/or excise the old cesarean scar and restoring the uterus or hysterectomy. Curettage is not the first line of treatment because of the inherent complications associated with it. In patients presenting with massive hemorrhage, intrauterine artery MTX perfusion (100–300 mgm) along with UAE is helpful. The other method that has been used in these cases is systemic MTX and uterine cavity compression by Foley's catheter [8].

Conclusion

Timely diagnosis and individualized treatment are key factors for successful management. Those desiring fertility need to be evaluated in the interval period for niche/defect. If detected, they should be corrected surgically before pregnancy is planned.

References

1. Little EA, Moussavian B, Horrow MM. Cesarean delivery scar ectopic pregnancy. Ultrasound Q. 2010;26(2):107–9.
2. Vireday P. Cesarean scar pregnancy: another complication on the rise from high cesarean rates. Wellroundedmama 2013 p. 1–11.
3. Ash A, Smith A, Maxweel D. Caesarean scar pregnancy. BJOG. 2007;114(3):253–63.
4. Pfeifer S, Goldberg J, Lobo R, et al. Medical treatment of ectopic pregnancy: a committee opinion. Fertil Steril. 2013;100(3):638–44.
5. Buckshee K, Dhond A. A new nonsurgical technique for termination of intrauterine pregnancy associated with large multiple uterine leiomyomas. Int J Gynaecol Obstet. 1992;37(4):297–9.
6. Peng P, Gui T, Liu X, et al. Comparative efficacy and safety of local and systemic methotrexate injection in cesarean scar pregnancy. Ther Clin Risk Manag. 2015;11:137–42.
7. Timor-Tritsch IE, Monteagudo A, Santos R, et al. The diagnosis, treatment, and follow-up of cesarean scar pregnancy. Am J Obstet Gynecol. 2012;207(1):44.e1.
8. Shao H, Ma J, Xu L, et al. Treatment of cesarean scar pregnancy complicated with massive hemorrhage. Afr J Pharm Pharmacol. 2012;6(8):520–4.