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Case Report

Caesarean scar pregnancy: a 10 case series

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ABSTRACT

A Caesarean scar pregnancy is challenging and difficult diagnosis that can cause such complications as uterine rupture, profuse haemorrhage and maternal death. There are many single reports in literature but only few case series. Nowadays, caesarean scar pregnancy is becoming more frequent, it is caused by an increasing number of operative deliveries. In this paper, 10 cases of caesarean scar pregnancy treated in the Gynecology Clinic of the Riga Eastern Clinical University Hospital over 6 years are analysed. One of 10 patients had no symptoms on the day of presentation, 4 patients had pain in their lower abdomen, 3 had spotting, 6 had vaginal bleeding, and 2 of them had bleeding after legal abortion. All patients had 1 or 2 caesarean section in their history. Gestational age of the pregnancy was estimated from 3 to 12 weeks by the last menstrual period. All 10 patients were treated surgically. One patient was treated with 75 mg Methotrexate p.o., 2 days course, but the therapy was unsuccessful. Nine of 10 patients had total or subtotal hysterectomy. In one case, excision of scar pregnancy was performed and uterus was preserved. The most common symptoms of caesarean scar pregnancy are pain in the lower abdomen, spotting and vaginal bleeding. The treatment depends on severity of symptoms, gestational age and surgical experience.

Keywords: Caesarean scar pregnancy, Ectopic pregnancy, Maternal morbidity

INTRODUCTION

Ectopic pregnancy is a life-threatening condition that can cause such complications as uterine rupture, massive haemorrhage, hypovolemic shock and maternal death.¹ Caesarean scar pregnancy is one of the rarest sites of ectopic pregnancy. The first case of caesarean scar ectopic pregnancy was reported in English medical literature in 1978.² The incidence of caesarean scar pregnancy has been estimated to range from 1/1800 - 1/2500 of all caesarean deliveries performed.³ There is number of scientific papers with case reports. The increasing number of cases and interest can be explained by increasing count of caesarean sections performed nowadays and improved capability to diagnose the condition.⁴

This study presents 10 cases of caesarean scar pregnancy treated over 6 years in the Gynaecology Clinic of the Riga East Clinical University Hospital.

CASE REPORT

This is a retrospective case series of 10 patients in between 3 and 12 postmenstrual weeks with diagnosed caesarean scar pregnancy who were referred to the Gynaecology Clinic of the Riga East Clinical University Hospital for diagnosis and treatment between 2010 and 2015. The diagnosis was confirmed by transvaginal ultrasound examination. All patients underwent surgical treatment. Clinical data and findings are presented in the Table 1.

Table 1: Characteristics of the ten patients with pregnancy located in a uterine scar.

Maternal age (years)	Presenting symptoms	Diagnosis at the day of admission	Gestational age in weeks (by LMP)	Gestational age in weeks (by USG)	No. of section caesarea	No. of abortions	Gynecological history	Treatment	b-hCG IU/l pretreatment	Days in hospital
38	Spastic pain in lower abdomen	<i>Graviditas extrauterina</i>	5	4+4	1 (<i>foetus magnus</i>)	3	<i>Polypus endometrii</i> , Syphilis.	Diagnostic laparoscopy at the day of admission. <i>Laparatomia modo Pfannenstiel, hysterectomia subtotalis sine adnexibus</i> on 3 rd day.	6974	8
30	Spotting and pain in lower abdomen	<i>Graviditas in sept. 6+3 progressiva. Abortus incipiens. Haematoma terchoriale</i>	7	6+3, fetal heart activity +	2	1	<i>Cystis ovarii dextra</i>	<i>Laparatomia modo Pfannenstiel. Evacuatio ovii ex regio cicatricis uteris. Suturae uteri</i> on 6 th day.	614,16	12
22	Vaginal bleeding, spotting 1 month	<i>Metrorrhagia. Graviditas in loci cicatricis uteri susp.</i>	-	-	1 (breech presentatio)	1	-	<i>Laparatomia modo Pfannenstiel, extirpatio uteri</i> on 2 nd day.	48,08	5
31	Vaginal bleeding	<i>Graviditas extrauterina</i>	5	7+1, fetal heart activity +	1 (intra uterine hypoxia)	1	-	<i>Laparatomia modo Pfannenstiel, hysterectomia totalis cum adnexibus dextra</i> on 2 nd day.	-	8
28	Profuse vaginal bleeding during legal abortion, TA 90/30 mmHg	<i>Graviditas in loci cicatricis uteri. HIV. HCV.</i>	-	-	1	1	-	<i>Laparatomia modo Pfannenstiel, hysterectomia totalis cum salpinx bilateralis</i> on 1 st day.	-	8
23	none	<i>Graviditas cervicalis susp. Graviditas in loci cicatricis uteri susp.</i>	3	-	2	1	-	Methotrexate 75 mg 2 days p.o., <i>Laparatomia modo Pfannenstiel, amputatio uteri</i> on	8800,35	28

									19th day.		
33	Vaginal bleeding and pain in lower abdomen	<i>Graviditas in loci cicatricis uteri</i>	5	-	2	1	-		<i>Laparatomia modo Pfannenstiel, extirpatio uteri cum salpingis bilateralis on 1st day</i>	22741	5
41	Vaginal bleeding after legal abortion 2 weeks ago.	<i>Haematoma loca cicatricis</i>	-	-	2	0	-		<i>Laparatomia modo Pfannenstiel, amputatio uteri sine adnexibus on 4th day.</i>	3885	11
38	Spotting	<i>Graviditas in sept. 7/8 progressiva. Abortus incipiens. Insertio graviditas cicatricis S.Caesarea</i>	8	7+6, fetal heart activity +	2	2	2x foetus mortus		<i>Laparatomia mediana inferior, amputatio uteri sine adnexibus on 1st day.</i>	-	4
37	Vaginal bleeding and pain in lower abdomen	<i>Graviditas in sept. 12/13. Abortus incompletus</i>	12	-	1	3	-		<i>Abrasio cavi uteri on 1st day. on 2nd day.</i>	526	7

Over 6 years, there were 10 patients with confirmed caesarean scar pregnancy in our gynaecological department. The maternal age was from 22 to 41 years. One of 10 patients had no symptoms at the day of presentation, 4 patients had pain in their lower abdomen, 3 had spotting, 6 had vaginal bleeding, and 2 of them had bleeding after legal abortion. One Patient was urgently hospitalized after attempt to curettage caesarean scar area pregnancy ambulatory. She had profuse vaginal bleeding and hypotension 90/30 mmHg.

In five cases the diagnosis - caesarean scar pregnancy was mentioned at the first examination in the emergency room. In two cases ectopic pregnancies were suspected. In two cases progressing miscarriage and in one case incomplete miscarriage were suspected.

Gestational age of pregnancy was estimated to be from 3 to 12 weeks by the last menstrual period. It was 4 patients' ultrasonography report in medical records. Estimated gestational age by USG was from 4 to 7 weeks; 3 of 4 embryos had cardiac activity. Five patients had 1 section caesarean and five patients - 2 in their history. Almost all patients, except one, had abortions in their history. One patient had two *foetus mortus* in her history.

All 10 patients were treated surgically. One patient underwent diagnostic laparoscopy on the day of admission because ectopic pregnancy was suspected and one patient had curettage on the first day of admission because incomplete miscarriage was suspected. One patient was treated with 75 mg Methotrexate (MTX) p.o., 2 days course. At the beginning, beta HCG started to decrease but then continued to stay high and surgery was performed on 19th day of stay in hospital. Nine of 10 patients had total or subtotal hysterectomy. In one case excision of scar pregnancy was performed and uterus was preserved. On the day of admission, levels of beta-human chorionic gonadotropin (b-hCG) ranged from 48.08 to 22 741 IU/L. Average stay in hospital was 9 days, ranged from 4 to 28 days.

DISCUSSION

The most common symptoms of caesarean scar pregnancy are pain in the lower abdomen, spotting and vaginal bleeding. In this case series one patient was asymptomatic. The condition often is misdiagnosed as cervical pregnancies, spontaneous abortions in progress, ectopic pregnancy, or low intrauterine pregnancies.^{3,4} Five patients were diagnosed correctly on the day of admission. Ultrasonography is helpful for diagnosing pregnancy implantation into the Caesarean section scar. The following criteria should be met: (1) empty uterine cavity; (2) gestational sac located anteriorly at the level of the internal os covering the visible or presumed site of the previous caesarean section scar of the lower uterine segment; (3) evidence of functional trophoblastic/placental circulation on Doppler

examination; (4) negative 'sliding organs sign' which is negative when the gestational sac cannot be displaced from its position at the level of the internal os using gentle pressure applied by the transvaginal probe.⁵ The diagnosis can be confirmed by magnetic resonance imaging (MRI) or during laparoscopy and/or laparotomy.⁶

The diagnosis should be established as soon as possible to reduce the risk of major complications, such as uterine rupture, massive haemorrhage and maternal death.⁷

It is mentioned in the literature that up to 72% of caesarean scar pregnancies occur in women who have had 2 or more caesarean deliveries.⁸ In this study, half women had 2 caesarean deliveries in history, and half had only one.

There are two possible tactics to manage caesarean scar pregnancy: conservative and operative. Conservative treatment can include: dilatation and curettage, excision of trophoblastic tissues (laparotomy or laparoscopy), local and/or systemic administration of methotrexate, bilateral hypogastric artery ligation associated with trophoblastic evacuation, and selective uterine artery embolization combined with curettage and/or MTX administration.⁹ In this case series, two patients was treated conservatively. One patient received systematic MTX. The unsuccessful outcome of treatment can be explained by scar histological structure. Such pregnancy is surrounded by fibrous scar rather than by normally vascularized myometrium. Therefore, systemic absorption of local MTX is minute. This also may potentially limit the systemic absorption of the drug and delay complete resorption of the pregnancy.¹⁰ One patient was treated successfully by laparotomy and excision of trophoblastic tissues. There are no guidelines how to manage that kind of ectopic pregnancy. Each particular case is unique. Information about treatment and possible outcomes should be provided to patient.

CONCLUSIONS

Early diagnostics, early treatment and experience are essential to prevent maternal morbidity and mortality. The most common symptoms of caesarean scar pregnancy are pain in the lower abdomen, spotting and vaginal bleeding. Early diagnostics is possible in case of early recognition of ultrasound findings. The incidence of caesarean scar pregnancy is increasing due to increase in caesarean section rates.

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