

MANAGEMENT OF LIVE CERVICAL ECTOPIC PREGNANCY.

Journal: *BMJ Case Reports*

Manuscript ID Draft

Manuscript Type: Reminder of important clinical lesson

Date Submitted by the

Author: n/a

Complete List of Authors: IGBOKWE, NNADOZIE; Watford General Hospital, OBSTETRICS AND GYNECOLOGY MEHTA, ANKU; Watford General Hospital, Obstetrics and Gynaecology Department Jeyanesan, Dushyanthy ; Watford General Hospital, Obstetrics and Gynaecology

Keywords: Obstetrics and gynaecology, Obstetrics, gynaecology and fertility <

Drugs and medicines

Page 1 of 9

Standard Case Report checklist and template for authors

TITLE OF CASE

MANAGEMENT OF LIVE CERVICAL ECTOPIC PREGNANCY.

SUMMARY

We report a case of live cervical ectopic pregnancy (CEP) at 6 weeks gestation. A 36-year-old nulliparous who presented with mild bleeding per vaginam. She was haemodynamically stable with a serum β -human chorionic gonadotrophin (β -hCG) of 10,713. A transvaginal ultrasound scan done showed an empty uterus and live cervical ectopic pregnancy with a fetal pole measuring 7.1mm and yolk sac with negative sliding sign. She was counselled on options of management and had hysteroscopic surgical evacuation under ultrasound guidance with no complications and post-operative methotrexate injection. She had a significant drop in her serial β -hCG and urine pregnancy test 3 weeks after surgery was negative.

BACKGROUND

Successful management of CEP is dependent on early and accurate diagnosis.[1] In view of

the

massive bleeding that is associated with surgical management, there is need for pre-operative

multidisciplinary team (MDT) approach involving experienced gynaecologists, interventional radiologists, haematologists, blood transfusion services etc.[2]

CEP is rare and it accounts for less than 1% of all ectopic pregnancies. It an ultrasound diagnosis

and the following criteria may be used for accurate diagnosis:

- Uterine cavity visualised to be empty
- Barrel-shaped cervix
- No 'sliding-sign'
- Gestational sac seen below the level of the internal ostium of the cervix
- Vascularity around the gestational sac seen with colour Doppler.[3]

We report a case of live CEP with high serum β -hCG of over 10,000U/L , in a 36 years old stable

patient who underwent a successful hysteroscopic suction curettage with no massive haemorrhage, and later had post-operative methotrexate injection. The sonographic findings in

our patient were consistent with the above criteria, and her management was MDT based.

CASE PRESENTATION

A 36-year-old G1P0+0, with 6 weeks pregnancy presented with one day history of mild bleeding

per vaginam with no abdominal pain. No history of nausea, vomiting, constipation or diarrhoea.

Her period was regular running 5 days in 28-30 days cycle, and no significant past gynaecological

history. She had no previous history of pelvic inflammatory disease and her cervical screening was

up to date and normal. There was no history of use of contraception she had no significant past

medical or surgical history. She was married with no history of smoking and had drug allergy.

On examination, she was stable with blood pressure of 131/73mmHg and pulse rate 80 beats per

minute. Abdominal examination was soft, non-tender with no pelvic masses felt. Speculum

examination showed no active bleeding. Cervix was healthy looking and closed with no significant

adnexal tenderness or masses felt on bimanual examination.

An assessment of Threatened miscarriage was made to rule out ectopic pregnancy. Patient was

given information leaflets and booked for urgent pelvic ultrasound.

INVESTIGATIONS *If relevant*

Blood tests showed serum β -hCG of 10713 U/L, with progesterone level of 44ng/ml.

Urinalysis

only showed 3+ of erythrocytes and Haemoglobin (HB) level was 149 g/L. Group and save was also

done as per Trust guideline.

Transvaginal pelvic ultrasound showed anteverted uterus, normal size and appearance with heterogenous endometrial thickness of 12mm. There was a gestational sac with mean diameter

of 9.7mm located within the cervical canal with good decidual reaction and demonstrated large

amount of vascularity with negative sliding sign. Within the gestational sac, a yolk sac was visible,

with foetal pole measuring 7.1mm equivalent to 6 weeks and 4days pregnancy with cardiac pulsation. Ovaries were normal with no adnexal masses and no fluid in the pelvis. Left ovary measured 25x11x25mm (volume 5.3ml) and right ovary 27x15x22mm (4.5ml). An impression of

live cervical ectopic was made (Fig 1 and 2). A second senior sonographer was called to scan, and

she also agreed with the findings

Page 2 of 9

Page 3 of 9

TREATMENT *If relevant*

Options of management were discussed with the patient including expectant, medical and surgical

treatments. She consented for surgical management due to high serum β -hCG of over 10,000U/L

and presence of cardiac activity which both indicated reduced success rate for medical treatment

only. Three consultant gynaecologists were present in theatre, the interventional radiologist was

on standby, and the on-call haematologist and the blood transfusion laboratory were also notified

in case of massive bleeding. She has hysteroscopy and suction evacuation under ultrasound

guidance.

Saline hysteroscopy showed cervical ectopic embedded in the left lateral wall of the cervical canal

(Fig 3). Slight dilatation and hysteroscopy showed empty uterine cavity with both ostia seen.

Successful evacuation was done with size 7 cannula and products removed. Repeat hysteroscopy

showed empty cervical canal and uterine cavity. Haemostatic cervical balloon (CRB) was inserted

in the cervical canal and inflated with 10mls of fluid and vaginal balloon with 40mls fluid.

Estimated blood loss was 80mls with saline fluid deficit of 400mls.

The balloon was removed the next day with no bleeding. Patient was stable and serum β -hCG 48

hours from the first one (10713U/L) was 4082U/L, HB level of 128 g/L and white cell count of 10.70

cells.

She subsequently has 100mg of intramuscular Methotrexate (weight 90Kg, height 156cm, surface

area 1.97m²) post-operatively with her consent. Levels of serum β -hCG on days 4 and 7 post

methotrexate injection were 476U/L and 145U/L respectively. Histology showed decidua and non-

molar chorionic villi, confirming products of conception. Patient was discharged home in stable

condition with contact details and information leaflets.

OUTCOME AND FOLLOW-UP

Urine pregnancy test done three weeks after the surgery was negative, and patient had no complaints. She was informed to come for early trans-vaginal ultrasound scan between 6-8 weeks

once she is pregnant to confirm pregnancy location and viability.

DISCUSSION *Include a very brief review of similar published cases*

CEP is a rare form of gestation with an incidence of 1 in 9000 deliveries.[1] It associated with high

morbidity and potential mortality if not well managed. Historically, CEP was associated with

catastrophic haemorrhage and was presumptively managed with hysterectomy.[2,4] In recent times, improved resolution of ultrasound and more specialised training have led to utilisation of

more conservative approach with the aim of reducing bleeding and preserving reproductive

potential.[5]

The pathogenesis of CEP is due faulty implantation of embryo in the cervix, the gestational sac is below

the internal cervical os. Possible risk factors include

caesarean section, in vitro fertilisation, chronic endometritis and uterine fibroid.[5,6] An

important

close differential diagnosis of CEP is a miscarriage residing in the cervix, which can be easily

detected

methotrexate.[7] Use of balloon catheter, uterine artery embolization was considered by because of the high β -hCG activity, (UAE) are important adjunctive measure used to reduce bleeding in the management of this was not used as the primary treatment modality. The balloon injection and curettage (D & C) with some other measures to help to stem massive bleeding, and the adjunctive use of injection helped to control bleeding. This is however associated with increased rate of massive bleeding needing hysterectomy.[1,3] Therefore, surgical management should be reserved for cases in which alternative options (medical treatment especially) are not suitable. Situations associated with high

LEARNING POINTS/TAKE HOME MESSAGES 3-5 bullet points

failure rate of medical management with systemic methotrexate include serum β -hCG above 10,000 U/L, gestational age above 9⁺⁰ weeks, crown-rump length more than 10mm and presence of foetal cardiac activity.[9,10] • CEP is a rare, accounting for less than 1% of all ectopic pregnancies. • Accurate diagnosis of cervical ectopic requires good preparation upon

Our case demonstrated important use of MDT approach in management, and adequate preparation when possible by more than one clinician. was made should massive intra-operative haemorrhage develop. Local and or systemic injection of

- Pre-operative plan requires multidisciplinary team approach in anticipation for major bleeding including interventional radiologists, haematologists, blood transfusion services, experienced gynaecologists etc.
- It is a traumatic event for every pregnant woman and adequate support, information leaflets and good follow up plan must be put in place.

REFERENCE

S

REFERENCES 1. Samal S, Ghose S, Pallavee P, *et al.* Successful Management of Live Ectopic Pregnancy: A Case

Report. ***J Clin Diag Res*** 2015;9(12). doi:
10.7860/JCDR/2015/12230.6871.

2. Persadie RJ, Costescu-Green D, Gerster KM. Cervical Ectopic Pregnancy Complicated by

Escherichia Coli Septicemia: A Case Report. ***JOGC***
2016;**38**(3).

3. Jurkovic D, Hacket E, Campbell S. Diagnosis and treatment of early cervical pregnancy: a review and a report of two cases treated conservatively. ***Ultrasound Obstet Gynecol*** 1996;8:373–80.

4. Timor-Tritsch IE, Monteagudo A, Mandeville EO, *et al.* Successful management of viable

cervical pregnancy by local injection of methotrexate guided by
transvaginal ultrasonography. ***Am J Obstet Gynecol*** 1994;170:737–9.

5. Jessian L. Munoz, Amanda Kalan, and Katherine Singh, “Second Trimester Cervical Ectopic

Pregnancy and Haemorrhage: A Case Report and Review of the Literature,” ***Case Reports in Obstetrics and Gynecology*** 2018;2018:1–3.

6. Singh S. Diagnosis and management of cervical ectopic pregnancy. ***J Hum Reprod Sci***

2013;6(4):273-6.

7. Benson CB, Doubilet PM. Strategies for conservative treatment of cervical ectopic

pregnancy. ***Ultrasound Obstet Gynecol***
1996;8:371–2.

8. Trambert JJ, Einstein MH, Banks E, Frost A *et al.* Uterine artery embolization in

the

management of vaginal bleeding from cervical pregnancy: a case series. *J Reprod Med* 2005;50:844–50.

9. Kung FT, Chang SY. Efficacy of methotrexate treatment in viable and nonviable cervical

pregnancies. *Am J Obstet Gynecol* 1999;181:1438–44.

10. Elson CJ, Salim R, Potdar N *et al*. On behalf of the Royal College of Obstetricians and

Gynaecologists. Diagnosis and management of ectopic pregnancy. *BJOG* 2016;.123:e15–e55.

PATIENT'S PERSPECTIVE

Patient was approached about this, but she declined to participate in view of the traumatic nature of the event and being her first pregnancy also. Her wish was kindly respected.

INTELLECTUAL PROPERTY RIGHTS ASSIGNMENT OR LICENCE STATEMENT

I, **[NNADOZIE IGBOKWE]**, the Author has the right to grant and does grant on behalf of all authors, an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the relevant stated licence terms for US Federal Government Employees acting in the course of their employment, on a worldwide basis to the BMJ Publishing Group Ltd (“BMJ”) and its licensees, to permit this Work (as defined in the below licence), if accepted, to be published in BMJ Case Reports and any other BMJ products and to exploit all rights, as set out in our [author licence](#).

Date: 5th March, 2019.

