Afbeelding met tekening

Automatisch gegenereerde beschrijving

RE-EXPLORATION AFTER CAESAREAN SECTION

IN BELGIUM

Data Collection Form

Hash code

# BACKGROUND

The prevalence of Caesarean Section (CS) is increasing worldwide1-3 with around 21% of births in Belgium today being carried out by CS4-6. Despite being a life-saving intervention in medically-indicated situations, research shows that a large proportion of these CSs are not medically advised7.

Although safety of the procedure is increasing, women undergoing CS are exposed to short and long-term risks7, 8. Surgical risks such as bleeding, wound infection or injury to surrounding organs might require a re-exploration. Re-laparotomy after CS comes with its own anesthetic and procedural risks, besides the increased risk of infection, blood transfusion, intensive care admission and increased length of hospital stay. The incidence of re-laparotomy is estimated to be between 0,1 and 1,0%, based on data obtained by retrospective single-center studies of small scope9-16. Some of these studies have tried to determine risk factors for re-laparotomy after CS. Previous CS, emergency CS, placenta praevia, pre-eclampsia and longer operating time seemed to be the most common risk factors9-17, *but due to small numbers results were not conclusive*. Therefore, larger, prospective investigations are necessary, as a better understanding of this severe complication is crucial to improve patient care.

The UKOSS (United Kingdom Obstetric Surveillance System) took the initiative to start up a survey on this complication within the International Network of Obstetric Survey Systems18. The current study takes part to this INOSS initiative, gathering information on re-laparotomy after CS in Belgium. The primary aim of this study is to get knowledge about the incidence of re-laparotomy after CS in Belgium. Secondary aims are to determine risk factors and outcomes associated with re-exploration after CS in order to give better obstetric care and find preventive measures to reduce morbidity and mortality.

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CASE DEFINITION

Any woman who has a Caesarean Section (CS) **AND** who returns to theatre **AND**

**EITHER**

An exploration of the CS wound with the rectus sheath (RS) re-opened (i.e. deep exploration of the wound because of a wound problem, requiring the rectus sheath to be opened)

**OR**

a formal laparotomy (opening of the peritoneum) (e.g. to control bleeding, deal with an abdominal/ pelvic infection, undertake a hysterectomy or for any other reason)

**WITHIN 28 DAYS OF CS**

# DATA COLLECTION FORM

1. **Woman’s details**
   1. Year of birth
   2. Etnicity

1.2.1. Current nationality

☐ 01. Belgian with Belgian background

☐ 02. Belgian with a foreign background

☐ 03. Non Belgian

1.2.2. Country of birth (see list to check the code)

☐ 01. Belgium

☐ 02. Neighbouring country (France, Germany, Luxembourg, the Netherlands, United Kingdom)

☐ 03. Europe, not neighbouring country

☐ 04. North-Africa

☐ 05. Eastern Mediterranean Region

☐ 06. Sub-Saharan Africa (South / East / West Africa)

☐ 07. South-East Asia

☐ 08. South America

☐ 09. Western Pacific

☐ 10. Other: please specify

☐ 11. Not known

* + 1. What are the roots of the parents of the patient? (see list to check the code)

Mixed: yes >> parent 1 parent 2

Mixed: no >> 1 set

☐ 01. Belgium

☐ 02. Neighbouring country (France, Germany, Luxembourg, the Netherlands, United Kingdom)

☐ 03. Europe, not neighbouring country

☐ 04. North-Africa

☐ 05. Eastern Mediterranean Region

☐ 06. Sub-Saharan Africa (South / East / West Africa)

☐ 07. South-East Asia

☐ 08. South America

☐ 09. Western Pacific

☐ 10. Other: please specify

☐ 11. Not known

Parent 2

☐ 01. Belgium

☐ 02. Neighbouring country (France, Germany, Luxembourg, the Netherlands, United Kingdom)

☐ 03. Europe, not neighbouring country

☐ 04. North-Africa

☐ 05. Eastern Mediterranean Region

☐ 06. Sub-Saharan Africa (South / East / West Africa)

☐ 07. South-East Asia

☐ 08. South America

☐ 09. Western Pacific

☐ 10. Other: please specify

☐ 11. Not known

* 1. Education: What is the highest degree of education of the patient?

No formal schooling  
 Primary school *(lagere school, école primaire)*  
 Lower secondary school *(1e-3e middelbaar, secondaire inférieur 1ere-3eme annee)*   
 Higher secondary school *(4e-6e middelbaar, secondaire supérieur 3eme-6eme annee)*  
 College *(hogeschool, haute école)*   
 University school *(Universiteit, University),* PhD  
 Not known

* 1. Is the mother single?

Yes   
No  
Not known

* 1. Did the mother and/or partner have a steady income during pregnancy (excl. social security)?

0 income

1 income

2 incomes

Not known

* 1. What was the gestational age at first prenatal visit?      w
  2. Height at booking?      cm
  3. Weight at booking?      kg
  4. Smoking status

Never

Current

Gave up prior to pregnancy

Gave up during pregnancy

Not known

1. **Previous obstetric history** 
   1. Gravidity

Number of current pregnancy             
Number of completed pregnancies ≥ 22 weeks

Number of previous Caesarean Sections (CS)

*If no previous pregnancy, please go to section 3*

* 1. Did the woman have any previous pregnancy problems?

Yes, if yes please specify

3 or more miscarriages

Ovarian hyperstimulation syndrome

Hyperemesis requiring admission  
 Dehydration requiring admission

Gestational diabetes  
 late miscarriage/ extremely premature delivery (16-24 weeks)

Premature delivery(24-37 weeks)

Premature rupture of the membranes

Pre-eclampsia

Eclampsia

Severe infection e.g. pyelonephritis

Surgical procedure in pregnancy

Antepartum haemorrhage

Placenta praevia  
 Significant placental abruption  
 Post-partum haemorrhage   
 Puerperal psychosis  
 Thrombotic event  
 Amniotic fluid embolism  
 Stillbirth  
 Baby with a major congenital abnormality  
 Small for gestational age (SGA) infant  
 Large for gestational age (LGA) infant  
 Infant requiring intensive care

Neonatal death  
 Other:

No

Not known

1. Previous medical history
   1. Has the woman had any other previous uterine surgery?

Yes, please specify

Myomectomy  
 Endometriosis surgery  
 Endometrial resection/ablation   
 Septal resection  
 Polypectomy

Other:

No

Not known

* 1. Has the woman had any other previous abdominal surgery (other than CS)?

Yes, please specify

No

Not known

* 1. Has the woman had other pre-existing medical problems? (≥ 1 possible)

Yes

Essential hypertension

Cardiac disease

Please specify:

Diabetes mellitus

Please specify:

Other endocrine disorders e.g. thyroid disorders

Please specify:

Respiratory disease

Please specify:

Renal disease

Please specify:

Inflammatory disorders *(e.g. Crohn, ulcerative colitis)*:

Please specify

Hematological disorders

Please specify:

Myeloproliferative disorders

Please specify:

Auto-immune diseases

Please specify:

I.V. drug use

HIV

Cancer

Please specify:

Psychiatric disorder

Please specify:

Other

Please specify:

No  
 Not known

1. This pregnancy
   1. Final Estimated Date of Delivery (EDD) (Date Prévue d’Accouchement/ due date / Verwachte VerlosDatum) dd/mm/yy
   2. Was this pregnancy a multiple pregnancy?

Yes

No

If yes, specify number of fetuses

* 1. Was placenta praevia diagnosed prior to delivery?

Yes , if yes please specify the grade

Grade I Minor: lower edge of placenta inside the lower uterine segment  Grade II Marginal: lower edge of placenta reaching the internal os

Grade III Partial: placenta partially covers the cervix

Grade IV Complete: placenta completely covers the cervix

No

* 1. Was abnormal placental insertion diagnosed prior to delivery?

Yes

Placenta accreta

Placenta increta

Placenta percreta

No

* 1. Were there any other problems in this pregnancy?

Yes, please specify

Ovarian hyperstimulation syndrome

Hyperemesis requiring admission  
 Dehydration requiring admission

Gestational diabetes  
 Late miscarriage/ extremely premature delivery (16-24 weeks)

Premature delivery (24-37 weeks)

Premature rupture of membranes

Pre-eclampsia

Eclampsia

Severe infection e.g. pyelonephritis

Surgical procedure in pregnancy

Antepartum haemorrhage

Placenta praevia  
 Significant placental abruption  
 Post-partum haemorrhage   
 Puerperal psychosis  
 Thrombotic event  
 Amniotic fluid embolism  
 Stillbirth  
 Baby with a major congenital abnormality  
 Small for gestational age (SGA) infant  
 Large for gestational age (LGA) infant

Other:

No

Not known

* 1. Were any fibroids noted on ultrasound scans in this pregnancy?

Yes,

If yes, number

If yes, what was the maximum diameter recorded?      mm

No

Not known

* 1. Was the woman prescribed any anti-coagulants/ antiplatelet agents during pregnancy?

Yes

No

Not known

If yes, specify the anti-coagulant regime and anti-platelet agent *(tick all that apply)*

LMWH prophylactic dose

LMWH therapeutic dose

Warfarin

Aspirin

Clopidogrel

Other

If other, please specify

If yes, when was the last dose given prior to birth?

Anti-coagulant:  <24 hours  1-7 days  >7 days

Anti-platelet agent: <24 hours  1-7 days  >7 days

1. Delivery
   1. Duration of pregnancy in number of completed weeks and days: …w … d
   2. What was the planned mode of delivery?

Vaginal

Caesarean section

* Indication:
* Go to section 5.3
  1. Was delivery induced?

Yes, If yes: Please specify the reason for induction:

No

* 1. Did the woman labour? *(defined as having had continuous, progressive contractions that caused cervical changes (effacement, dilatation)*

Yes

No

If yes, what was the date/time of onset of labour? dd/mm/yy hh:mm

* 1. Did the membranes rupture prior to the CS?

Yes

No

If yes, what was the date and time of rupture of membranes?

dd/mm/yy hh:mm

* 1. What was the cervical dilation before the decision to perform CS?      cm
  2. Was an instrumental delivery attempted prior to CS?

Yes

No

* 1. What was the indication for CS?
  2. What was the grade of urgency?

Category I   
 Category II  
 Category III   
 Category IV

Afbeelding met schermafbeelding

Automatisch gegenereerde beschrijving

* 1. What was the grade of the most senior obstetrician scrubbed up & operating for the CS?

Registrar (year 1-3) (assistant en formation 1ère-3ème année… assistant in opleiding, ASO)

Registrar (year 4-5) (assistant en formation 4-5ème année… assistant in opleiding, ASO)

Junior resident/ fellow / junior consultant (1st-2nd year post-graduation)

Consultant (résident senior, médecin cadre, staflid)

Senior / Specialist (médecin non membre de l’équipe hospitalière)

If not a consultant, was the consultant present in the operating room at any time during the CS?

Yes

No

Not recorded

Not applicable

* 1. What was the type of anaesthesia utilised?

Regional

General

Not known

* 1. What type of uterine incision was used?

Lower segment

Classical

Other

Not known

* 1. Were there adhesions between the uterus and the abdominal wall noted?

Yes

No

Not known

* 1. Were any of the following damaged during CS? (*tick all that apply)*

Bladder

Bowel

Other, specify:

* 1. Was any of the following conditions diagnosed intra-operatively

(i.e. not suspected pre-surgery) (*tick all that apply)*

Uterine atony

Uterine dehiscence

Uterine rupture

Abruption

Placenta praevia

Placenta accreta

Placenta increta

Placenta percreta

* 1. Did the woman have a primary post-partum haemorrhage?

Yes

No

Not known

If yes, what was the estimated blood loss?      ml

What was the underlying cause *(tick all that apply)*?

Uterine atony

Uterine trauma

Rupture

Uterine infection

Bleeding from uterine incision

Coagulopathy, if yes please specify

Other:

Not known

* 1. Did the woman decline blood products?

Yes

No

Not known

If no, were blood products given? Yes No

If yes,

number of packed red blood cells (culots erythrocytaires):      , number of other blood products: please specify: ………….

* 1. Does a major obstetric haemorrhage structured pathway exist in your hospital?

Yes

No

If yes, was it activated in this case?

Yes

No

* 1. Were any of the following required during the CS? *(tick all that apply)*

Intra-uterine balloon

Uterine packing

B-lynch or other brace suture

Hysterectomy

Drain insertion

Pelvic artery ligation

Uterine artery ligation

* 1. Was interventional radiology performed following CS? *(tick all that apply)*

Yes

No

If yes, please specify

Date and time dd/mm/yy hh:mm

Procedure

Procedure done by

vascular surgeon

interventional radiologist

interventional radiologist in other hospital

* 1. What was the suture material used to close the rectus sheath? (aponévrose des grands droits, fascia)

Vicryl (or similar absorbable)

PDS (longterm absorbable)

Nylon/prolene (non-absorbable)

Not known

* 1. What was the estimated blood loss during CS?      ml
  2. What was the operating time of the CS?      min

1. **Re-exploration details** 
   1. Was the woman transferred to another hospital before re-exploration?

Yes (if yes, please provide details of transfer: data, department and hospital in section 9)

No

* 1. Date and time of first re-exploration dd/mm/yy hh:mm
  2. What was the main clinical indication for the re-exploration?

Suspected intra-abdominal bleeding or haematoma

Suspected intra-abdominal sepsis or collection

Suspected bowel damage

Suspected bowel obstruction

Suspected bladder damage

Wound haematoma

Wound sepsis or collection

Other, specify:

* 1. What symptoms were reported by the woman before the re-exploration?

None

Abdominal pain

Vaginal bleeding

Fever

Vomiting

Signs of hypotension (e.g. dizziness)

Signs of wound infection

Other, specify:

Not known

* 1. Was the woman started on antibiotics before the re-exploration?

Yes

No

Not known

If yes, please specify the date the antibiotics commenced dd/mm/yy

If yes, please specify type of antibiotics

* 1. Was any radiological abdominopelvic imaging carried out before re-exploration?

Yes

No

Not known

If yes, please specify CT scan US abdomen MRI IVU/IVP *(intravenous urogram/pyelogram)*

If yes, please describe findings

* 1. What anaesthesia was used for re-exploration? *(tick all that apply)*

Local infiltration

Regional

General

* 1. Were any of the following problems reported during the anaesthetic? *(tick all that apply)*

Hypotension (BP<90mmHg)

Difficult intubation

Failed intubation

None

* 1. What was the grade of the most senior operation surgeon during the re-exploration?

Registrar (year 1-3) (assistant en formation 1ère-3ème année, assistant in opleiding, ASO)

Registrar (year 4-5) (assistant en formation 4-5ème année, assistant in opleiding, ASO)

Junior resident/ fellow / junior consultant (1st-2nd year post-graduation)

Consultant (résident senior, médecin cadre, staflid)

Senior / Specialist (médecin non membre de l’équipe hospitalière)

* 1. Were any other specialties involved during re-exploration

Yes

No

If yes, please tick all that apply:

General surgery

Urology

Vascular surgery

Other, specify

* 1. Was the rectus sheath opened during the re-exploration?

Yes

No

* 1. Was the peritoneum opened during the re-exploration?

Yes

No

* 1. What were the findings of the re-exploration? *(tick all that apply)*

Haematoma/bleeding:

Above rectus sheat

Below rectus sheath

Intra-abdominal

Focus of infection/abcess

Above rectus sheat

Below rectus sheath

Intra-abdominal

Other

Generalised or pelvic peritonitis

Damage to bladder or bowel

Retained foreign object

Retained products of conception

Negative laparotomy (no abnormality detected)

Other, specify

* 1. What procedures were carried out during the re-exploration?

Drainage of haematoma above rectus sheath   
 Drainage of haematoma below rectus sheath  
 Drainage of haematoma in abdomen/pelvis (state site):        
 Drainage of abscess/infected collection above rectus sheath  
 Drainage of abscess/infected collection below rectus sheath  
 Drainage of abscess/infected collection in abdomen/ pelvis (state site)        
 Bleeding vessel identified & tied off/repaired (state site)        
 Hysterectomy  
 Repair of organ damage (state organ – e.g. small bowel, large bowel, bladder, ureter)

* 1. Did the woman decline blood products during re-exploration?

Yes

No

If no, were blood products given?  Yes  No

If yes,

number of PC (packed red blood cells (culots erythrocytaires):      ,

number of other blood products: please specify: …

* 1. Does a major obstetric haemorrhage structured pathway exist in your hospital?

No

Yes

If yes, was it activated in this case?

Yes

No

* 1. What was the estimated blood loss during the re-exploration?       ml

1. Woman’s outcome
   1. Was the woman transferred to another hospital following re-exploration?

Yes (if yes, please provide details of transfer: data, department and hospital in section 9)

No

* 1. Did the woman have any more subsequent re-explorations?

Yes

No

If yes, please specify the date(s) of further re-exploration and procedure performed (see question 6.13)

* 1. Was the woman admitted to an Intensive Care Unit?

Yes

Type of ICU:

Postoperative recovery room/ PACU / …

Intensive are Unit

Was this planned pre-operatively? Yes No

Specify date of admission:   /  /   (DD/MM/YYYY)

Duration of stay:       days

*tick if the woman is still in ICU:*

Reason for admission:

No

Not known

* 1. Did the woman require any vasopressor or ionotropic drug infusion?

Yes

No

Not known

* 1. Did any other major maternal morbidity occur?

Yes

Thrombotic event, specify

Disseminated intravascular coagulopathy

Renal failure, or other renal problem, specify

Required ventilation

Adult respiratory distress syndrome

Pulmonary oedema

Cardiac arrest

Cerebrovascular accident  
HELLP   
Secondary infection e.g.pneumonia   
Septicaemia  
Persistent vegetative state  
Other? Please specify

No

Not known

* 1. Did the woman die?

Yes

No

If yes, please specify the date and time of death mm/dd/yy hh:mm

What was the primary cause of death as stated on the death certificate?

Findings of the autopsy if performed:

* 1. Has the woman been discharged from the hospital?

Yes

No

If yes, please specify the date of discharge

If no, please return back to this DCF once the woman is discharged.

* 1. Duration of stay in the hospital (counting the day of CS = day 1):       days

1. Infant outcome

**NB:** If more than one infant, for each additional infant, please photocopy the infant section of the form **(before filling it in)** and attach extra sheet(s) or download additional forms from the website

* 1. Date and time of delivery mm/dd/yy hh:mm
  2. Birthweight      g
  3. Was this infant stillborn?

Yes

* Date of diagnosis:   /  /   (DD/MM/YYYY)
* Primary cause of death as stated on the death certificate:
* Findings of the autopsy if performed:
* Move on to section 9

No

* 1. 5 min Apgar
  2. Complete the umbilical cord blood gas analysis if known:

|  |  |  |
| --- | --- | --- |
|  | **Umbilical Artery** | **Umbilical Vein** |
| *pH* |  |  |
| *Base deficit (mmol/L)* |  |  |

* 1. Was the infant admitted to a Neonatal intensive care unit?

Yes

* What was the main reason?
* Duration of stay:      days

No

Not known

* 1. Did any other major infant complications occur?

Yes

Respiratory distress syndrome   
Intraventricular haemorrhage   
Necrotising enterocolitis   
Neonatal encephalopathy   
Chronic lung disease   
Severe jaundice requiring phototherapy   
Major congenital anomaly  
Severe infection e.g. septicaemia, meningitis   
Exchange transfusion

Other?

No

Not known

* 1. Did the infant die?

Yes

Please specify the date and time of death mm/dd/yy hh:mm

Primary cause of death as stated on the death certificate:

Findings of the autopsy if performed:

No

Not known

1. Additional information?

Today’s date:   /  /

### Please use this space to enter any other information you feel may be important:

### \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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### \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_