



Complications following termination of pregnancy

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Abstract

Serious complications during or after termination of pregnancy (TOP) are rare. However, they can be associated with significant morbidity and mortality, and occasionally can complicate future pregnancies. The risk of pelvic infection is around 10% and this is usually due to exacerbation of a pre-existing infection. Suggestive symptoms include increasing, heavy or prolonged bleeding, foul smelling discharge, lower abdominal pain, malaise or rigors. Signs may include tachycardia, pyrexia, hypotension (if severe), lower abdominal tenderness on examination, and offensive discharge, pus or cervical excitation on pelvic assessment. The most common causes of bleeding include: retained products of conception; infection and trauma to the cervix or uterus, especially at > 10 weeks' gestation. Patients may present to primary care with acute bleeding that usually warrants onward referral to secondary care or may present after the acute episode, symptomatic or asymptomatic of anaemia, that may require investigations and treatment with iron. Patients undergoing medical TOP may not have had an ultrasound scan confirming an intrauterine pregnancy prior to taking the medication, especially since the COVID-19 pandemic. Ectopic pregnancy therefore always needs to be considered in any patient presenting with abdominal or pelvic pain, bleeding, dizziness, collapse or shoulder tip pain. An urgent ultrasound should be carried out to rule out complications including an ectopic pregnancy.

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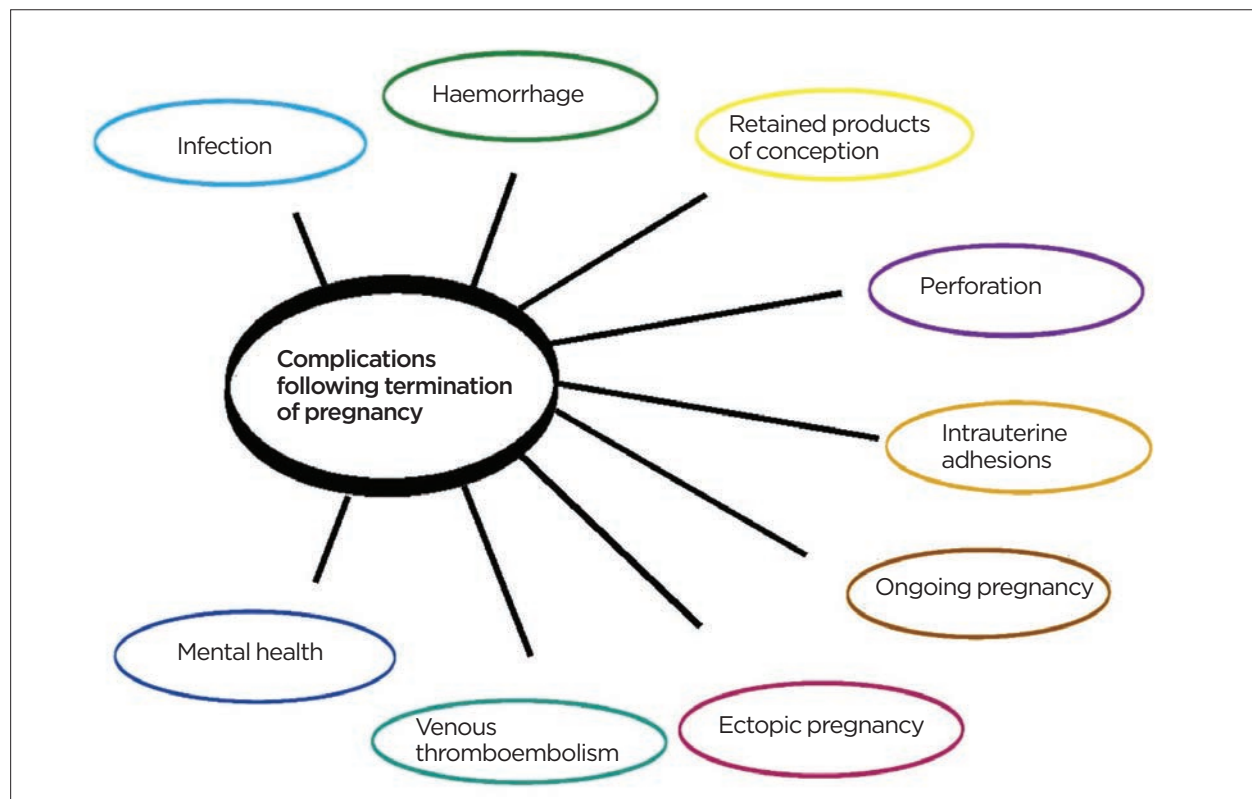
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What are the common complications?

Which women are at increased risk?

How should women be assessed?



SERIOUS COMPLICATIONS DURING OR AFTER TERMINATION OF PREGNANCY (TOP) ARE

rare. However, they can be associated with significant morbidity and mortality, and occasionally can complicate future pregnancies.^{1,2}

In the UK, 98% of TOPs³ are performed under clause C of the Abortion Act 1967 where the pregnancy has not exceeded its 24th week and where the continuance of the pregnancy would involve risk, greater than if the pregnancy were terminated, of injury to the physical or mental health of the pregnant woman.

Most procedures are carried out in early pregnancy, with 88% performed at a gestation less than 10 weeks.³ Medical termination of pregnancy (MTOP) accounts for the majority (85%) of total procedures.³

COMMON COMPLICATIONS

The following factors increase the risk of complications: gestation >10 weeks;^{1,2} unsafe TOP;^{1,2,4} previous uterine surgery (e.g. Caesarean section);² use of anticoagulants; significant medical comorbidities.

Complications during or after TOP are very similar to those of a miscarriage⁵ and include: infection; haemorrhage; retained products of conception; uterine perforation and intrauterine adhesions (see box 1, opposite).

TOP SPECIFIC ISSUES

The following considerations are specific to TOP and are important to bear in mind as they can make diagnosis of a complication more challenging.

Confidentiality and privacy

Confidentiality and privacy are

important considerations. Women may not be forthcoming with information regarding their procedure which may prevent a comprehensive assessment, leading to delays in diagnosis or to misdiagnosis. It is therefore important to use an empathetic and non-judgmental approach as well as provide assurance that the information they share will remain confidential, as this may encourage women to disclose information about a recent termination and seek support when needed.

No previous scan confirming an intrauterine pregnancy

Patients undergoing MTOP may not have had an ultrasound scan confirming an intrauterine pregnancy prior to taking the medication, especially since the COVID-19 pandemic. Ectopic pregnancy therefore always needs to be considered

in any patient presenting with abdominal or pelvic pain, bleeding, dizziness, collapse or shoulder tip pain. An urgent ultrasound should be carried out to rule out complications including an ectopic pregnancy. Young women tend to compensate well and may not show a rise in the pulse rate or a fall in blood pressure

despite a significant intra-abdominal bleed secondary to a ruptured ectopic pregnancy, (see figures 1A and 1B, below).

Possibility of ongoing pregnancy

Ongoing pregnancy occurs in less than 1% of patients² and presentation varies considerably. This diagnosis should be

considered in any woman who has prolonged amenorrhoea, persistent pregnancy symptoms, a pelvic mass, and/or a positive pregnancy test following a termination. A new pregnancy must also be considered in women with this presentation who have had unprotected sexual intercourse since the termination.

Box 1

Complications of termination of pregnancy similar to those of miscarriage

Infection

The risk of pelvic infection is approximately 10% and this is usually due to exacerbation of a pre-existing infection. This risk is reduced by screening for sexually transmitted infections (STI) prior to the termination and standard use of prophylactic antibiotics for all patients having a surgical termination of pregnancy (STOP) and those at high risk of STIs having an MTOP²

Symptoms suggestive of this include increasing, heavy or prolonged bleeding, foul smelling discharge, lower abdominal pain, malaise or rigors. Signs may include tachycardia, pyrexia, hypotension (if severe), lower abdominal tenderness on examination, and offensive discharge, pus or cervical excitation on pelvic assessment.

Haemorrhage

The most common causes of bleeding include: retained products of conception; infection and trauma to the cervix or uterus, especially at > 10 weeks' gestation. The risk of significant haemorrhage requiring blood transfusion is very low, occurring in 0.1% of women having a termination at an early gestation and 0.4% if performed after 20 weeks.²

Patients may present to primary care with acute bleeding that usually necessitates onward referral to secondary care or may present after the acute episode, symptomatic or asymptomatic of anaemia, that may require investigations and treatment with iron.

Retained products of conception

Around 1-2% of patients undergoing STOP and 6% of patients having MTOP have retained products of conception.²

Patients will usually present with increasing, heavy or prolonged bleeding and can have a persistently positive urinary pregnancy test.

They may also present with symptoms and signs of infection as discussed above, plus the diagnostic findings on speculum examination of an open cervix with active vaginal bleeding. However, a closed cervical os or a negative pregnancy test does not exclude retained products of conception.

Uterine perforation

Uterine perforation occurs in 0.1-0.4% of women having a STOP and the risk increases with advancing gestation.² If it is not recognised at the time of the procedure, the patient may present several days later with heavy vaginal bleeding, abdominal pain or symptoms suggestive of visceral injury such as bladder or bowel dysfunction and an acute abdomen.

Signs may include tachycardia, hypotension, pyrexia, focal or generalised peritonitis on abdominal examination, heavy vaginal bleeding, pelvic tenderness or cervical excitation on vaginal assessment.

Intrauterine adhesions

Intrauterine adhesions are a serious complication of any uterine surgery or infection, including TOP. It is likely that these patients will present to primary care because of a delay in the onset of menstruation following the termination.

Typical symptoms include oligomenorrhoea or amenorrhoea and cyclical pelvic pain. Intrauterine adhesions can result in secondary infertility and miscarriage, and also increase the risk of intrauterine growth restriction and abnormal placentation in subsequent pregnancies.⁶

Spotting and irregular bleeding after starting contraception

Contraception is a critical step after TOP and many providers start contraception immediately following the procedure. Symptoms of spotting and irregular bleeding in relation to retained pregnancy tissue can be mistaken for side effects of contraception and presentation or diagnosis could be delayed.

Range of emotions after TOP

Women may present to primary care (with or without conveying the recent or past history of a TOP) with feelings of sadness, guilt, regret, anxiety, or depression.

Those women with a pre-existing »

FIGURE 1A

Ruptured ectopic pregnancy

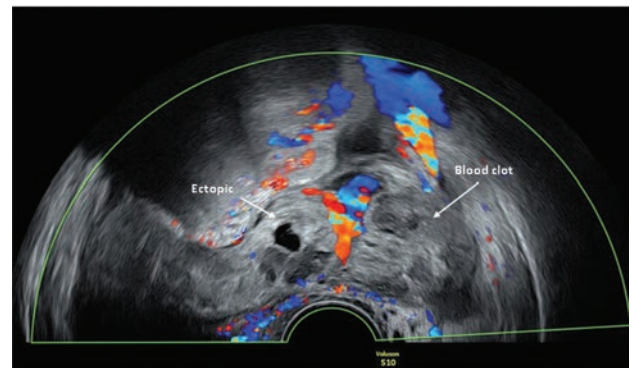
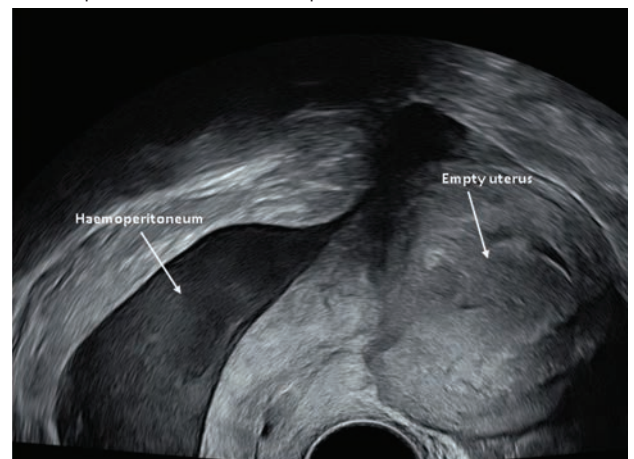


FIGURE 1B

Haemoperitoneum in the same patient



SYMPOSIUM WOMEN'S HEALTH

COMPLICATIONS FOLLOWING TERMINATION OF PREGNANCY

mental health condition are at higher risk and consideration of escalation and urgent management are crucial.

Mental health and wellbeing should be a priority, and all healthcare providers should provide emotional support after TOP and refer women for counselling if required.⁶

Venous thromboembolism after TOP

Thromboembolic disease is a significant cause of mortality and morbidity in pregnancy and postpartum and accounts for approximately 4% of maternal deaths in the UK.⁷

A maternity specific venous thromboembolism (VTE) risk assessment should be performed at the time of STOP and prophylaxis should be provided by the care

provider.⁸ If a woman presents following TOP with symptoms suggestive of VTE, she must be referred urgently that day to secondary care for diagnostic imaging and treatment.

PRIMARY CARE ASSESSMENT OF COMPLICATIONS

In primary care, a full history should be taken and physical examination carried out to determine the likely diagnosis and establish if ongoing referral to secondary care is required.

Physical examination should usually include pulse, blood pressure, temperature, respiratory rate, abdominal and pelvic examination.

Important signs to identify during pelvic examination include: evidence of trauma to the vagina or cervix; the

quantity of active vaginal bleeding; the presence of offensive discharge or pus; an open cervical os and the presence of cervical excitation. A urinary pregnancy test should be performed.

Any patient who is haemodynamically unstable showing signs of sepsis, shock or active and heavy vaginal bleeding should be referred urgently to the on call gynaecology team and transferred urgently to hospital by ambulance.

Patients who are haemodynamically stable but have not had an ultrasound confirming an intrauterine pregnancy prior to MTOP and present with pain or bleeding, and a positive pregnancy test, should be referred urgently to an early pregnancy unit (EPU) or the emergency department on the same day for assessment, including a scan to rule out ectopic pregnancy.

Haemodynamically stable patients with a confirmed intrauterine pregnancy prior to TOP, presenting with symptoms suggesting retained products of conception, should be referred to the local EPU or TOP care provider for assessment possibly including an ultrasound, ideally within 24-48 hours. It is important to remember that a negative pregnancy test does not rule out a diagnosis of retained products of conception.

Patients with suspected infection, who are clinically well, should have a high vaginal swab taken and an STI screen, and be started immediately on broad spectrum antibiotics according to local microbiology guidance. There should be a low threshold to refer the patient to an EPU for an ultrasound to rule out retained products of conception as a cause, especially if there is a poor clinical response to antibiotics or there are other symptoms or signs to suggest retained products of conception. If the patient had an intrauterine contraceptive device fitted after TOP, the risks and benefits of removal should be evaluated and discussed with the patient. Differential diagnoses should also be considered and investigations tailored to rule out the following conditions:

- Urinary tract infection
- Appendicitis
- Ovarian cyst accident
- Pelvic inflammatory disease

Following an uncomplicated TOP, women should expect their next menstrual period in 4-6 weeks, which may be heavier or lighter than normal. If their periods do not resume, a pregnancy test should be carried out and if positive, the possibility of failed termination, ectopic pregnancy or a new pregnancy should be considered.

Table 1

Quick starting contraception after termination of pregnancy^{10,11}

Method of contraception	When inserted/commenced	If commenced > 5 days after termination, period additional contraception is required
Levonorgestrel-releasing intrauterine system (LNG-IUS)	At the same time as surgical termination OR As soon as possible after medical termination of pregnancy (MTOP)*	Use additional barrier contraception for 7 days
Copper intrauterine device (IUD)	At the same time as surgical termination OR As soon as possible after MTOP*	No additional contraception required
Contraceptive implant	At the same time as surgical termination OR The day mifepristone taken for MTOP	Use additional barrier contraception for 7 days
Depot injection	At the same time as surgical termination OR The day mifepristone taken for MTOP. There is a small increase in risk of failed TOP	Use additional barrier contraception for 7 days
Combined oral contraceptive pill	At the same time as surgical termination OR The day mifepristone taken for MTOP	Use additional barrier contraception for 7 days
Progestogen only oral contraceptive pill	At the same time as surgical termination OR The day mifepristone taken for MTOP	Use additional barrier contraception for 7 days

* If not initiated immediately by the provider, it is important the healthcare professional seeing the patient after a termination:

1 Rules out a complication (e.g. infection, retained products of conception, ongoing pregnancy)

2 Excludes the possibility of a new pregnancy (unprotected sexual intercourse since procedure). If this is the case, emergency contraception should be discussed¹¹

key points

SELECTED BY

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Serious complications during or after termination of pregnancy (TOP) are rare. However, they can be associated with significant morbidity and mortality, and occasionally can complicate future pregnancies.

The risk of pelvic infection is around 10% and this is usually due to exacerbation of a pre-existing infection. This risk is reduced by STI screening prior to TOP and standard use of prophylactic antibiotics for all patients having a surgical termination and those at high risk of STIs having a medical termination (MTOP). Symptoms suggestive of this include increasing, heavy or prolonged bleeding, foul smelling discharge, lower abdominal pain, malaise or rigors. Signs may include tachycardia, pyrexia, hypotension (if severe), lower abdominal tenderness on examination, and offensive discharge, pus or cervical excitation on pelvic assessment.

The most common causes of bleeding include: retained products of conception; infection and trauma to the cervix or uterus, especially at > 10 weeks' gestation. The risk of significant haemorrhage requiring blood transfusion is very low. Patients may present to primary care with acute bleeding that usually necessitates onward referral to secondary care or may present after the acute episode, symptomatic or asymptomatic of anaemia, that may require investigations and treatment with iron.

Patients undergoing MTOP may not have had an ultrasound scan confirming an intrauterine pregnancy prior to taking the medication, especially since the COVID-19 pandemic.

Ectopic pregnancy therefore always needs to be considered in any patient presenting with abdominal or pelvic pain, bleeding, dizziness, collapse or shoulder tip pain. An urgent ultrasound should be carried out to rule out complications including an ectopic pregnancy. Young women tend to compensate well and may not show a rise in pulse rate or a fall in BP despite a significant intra-abdominal bleed secondary to a ruptured ectopic pregnancy.

Important signs to identify during pelvic examination include: evidence of trauma to the vagina or cervix; the quantity of active vaginal bleeding; the presence of offensive discharge or pus; an open cervical os and cervical excitation.

A urinary pregnancy test should be performed. Any patient who is haemodynamically unstable showing signs of sepsis, shock or active and heavy vaginal bleeding should be referred urgently to the on call gynaecology team and transferred urgently to hospital by ambulance.

NICE recommends that TOP care providers should discuss and offer all contraceptive options to patients on the day of their TOP.

However, some patients will present to their GP to discuss their options at a later date. Women may present to primary care (with or without conveying the history of a TOP) with feelings of sadness, guilt, regret, anxiety, or depression. Mental health and wellbeing should be a priority, and all clinicians should provide emotional support after TOP and refer women for counselling if required.

If the pregnancy test is negative, intrauterine adhesions should be considered unless the woman is using a form of contraception expected to cause amenorrhoea. The need for, and urgency of, referral will be determined by the factors listed above.

FOLLOW-UP

The majority of patients will have follow-up organised by the TOP care provider, and a routine primary care review is not usually required. However, the following factors should be considered in those patients presenting to primary care after TOP.

Maintaining confidentiality

It is important that patients know that they have a right to privacy and that healthcare practitioners are bound by strict confidentiality rules. Similarly, when women are seen in hospital, they may decline permission for discharge summaries or letters to be sent to their GP if they request this.

Contraception

NICE recommends that TOP care providers should discuss and offer all contraceptive options to patients on the day of their TOP.⁹ However, a proportion of patients will decline this at the time and present to their GP to discuss their options at a later date.

In 2020, 42% of women undergoing TOP had had one or more previous terminations.³ This is therefore a vital part of post-TOP care wherever patients are seen, in order to prevent another unplanned pregnancy.

Options for quick starting contraception after TOP are shown in table 1, p18.¹⁰ Women at risk of, or with a confirmed, STI should use a barrier method in addition to a more reliable option until treatment is complete.

Planning a future pregnancy

Before conceiving, women should start folic acid to reduce the risk of neural tube defects in the baby, complete rubella vaccination if not done previously, and optimise lifestyle factors such as maintaining a normal BMI and smoking cessation.

If a woman has a medical condition which may be affected by pregnancy, management of the condition should be optimised prior to conceiving again, with referral to a pre-pregnancy counselling clinic if required.¹⁰ Women who wish to conceive again following TOP, should be advised to wait until at least their next menstrual period.¹⁰

CONCLUSION

Although serious complications are uncommon following TOP, early recognition of complications is crucial. Taking a thorough history and carrying out a careful assessment when women present in primary care and referring them to specialist care when appropriate are pivotal in preventing morbidity and mortality, as well as complications in future pregnancies.

Competing interests: None

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Useful information

For healthcare professionals NICE

Evidence review of contraception after termination of pregnancy
www.nice.org.uk/guidance/ng140/evidence/p-contraception-after-abortion-pdf-248581907034

For patients

Patient information leaflet about complications of termination of pregnancy
www.nhs.uk/conditions/abortion/risks