

Recurrent Miscarriage

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Author: Consultant
Department: Gynaecology Services
Document Number: STHK1005
Version: 5
Review date: 01 / 08 / 2021

Recurrent miscarriage

One in one hundred couples trying for a baby experience recurrent miscarriage, usually defined as three or more miscarriages in a row. This leaflet aims to outline **some** of the investigations which may be carried out at that time.

Why investigate only after three miscarriages?

Many couples who have been through a miscarriage are anxious to find out why it happened, especially if that information can improve their chances of success in their next pregnancy. Most, however, will not be offered investigations after a single miscarriage, or even two. Although this can be distressing, this is because most women who have one or two miscarriages will go on to have a healthy pregnancy next time. This suggests that their miscarriages were due to chance rather than to an underlying cause.

If a couple has had three or more consecutive miscarriages, statistics show that there is more likely to be an underlying cause or causes and so tests are usually offered at this point. This does not necessarily mean that a cause or causes will be found. Although we are learning more about the causes of miscarriage, there is much that is still unknown.

If you do undergo investigations for recurrent miscarriage, it is possible that many of the tests performed will be reported as normal and a clear cause for the miscarriages will not be found. This can be frustrating both for you and for the staff involved, although it does mean that there is a very high chance of the next pregnancy being successful. If a problem **is** identified, there is still a good chance of having a successful pregnancy.

What investigations will be offered?

This list includes tests which may be offered.

- Chromosomal analysis: (a) blood sample obtained from both parents (karyotype) (b) Of the baby (fetal karyotype)
- Lupus anticoagulant and anticardiolipin antibodies (antiphospholipid antibodies) tests on your immune system
- Other immunological investigations
- Hormonal blood tests
- Investigations of the anatomy of the uterus (womb) and cervix (neck of the womb)
- Tests for infection

What are chromosomes?

Chromosomes carry the genetic information for each individual. Everyone has 23 pairs of chromosomes, making 46 in all. All but one pair is identical in men and women. The 23rd pair – the sex chromosomes – decides the individual's gender and are therefore different. Men normally have one X and one Y chromosome and women have two X chromosomes. A baby inherits half of its chromosomes from its mother and half from its father.

How can chromosomes cause a problem?

About half of all miscarriages occur as a result of a chromosomal abnormality in the baby or fetus. In most cases where this abnormality causes miscarriage, the problem is not passed on from a parent, but happens when the egg and sperm meet, or early in the development of the fertilised egg. Between three and five percent of couples with recurrent miscarriage have a problem with a chromosomal abnormality called a **balanced translocation**. In this situation, part of the information from one chromosome is replaced by that of another chromosome. Although this does not cause a problem to the affected parent, it can be passed on to the baby and cause an **unbalanced** translocation, where some genetic information is present twice and some is missing. This can lead to miscarriage.

Testing

Chromosomal analysis involves taking a blood test from both the man and the woman and sending the samples to a genetics laboratory. The results can take between four and six weeks to obtain, as the cells have to be specially processed before they can be examined under the microscope.

Treatment

There is no treatment which can alter the chromosomes in an individual if they are already abnormal. If the analysis shows that you or your partner carries an abnormality, then you will be offered specialist genetic counselling which will enable you to look over the information discussed and decide about future pregnancies. We may offer to carry out chromosomal analysis of fetal tissue. It involves sending tissue from the miscarriage to the genetics laboratory where it undergoes the same process as for blood. Unfortunately a result is obtained only in approximately half of cases. It takes about six to eight weeks or more to obtain the results. If the result is abnormal, but both parents have a normal chromosome pattern, then the abnormality in the baby is unlikely to recur in a subsequent pregnancy.

Antibodies – What are these?

An antibody is part of the body's defence mechanism. Lupus Anticoagulant (LA) and anticardiolipin antibodies (aCL) are part of a larger group of antibodies called Antiphospholipid Antibodies. An abnormally high level of these antibodies is found in about 15% of women who experience recurrent miscarriage, and is called Antiphospholipid Syndrome (APS).

How can these antibodies cause a problem?

It may be that they affect the blood supply in the placenta or that they cause abnormal implantation of the placenta in the wall of the uterus (womb). More research is needed in order to identify exactly how these antibodies cause pregnancy problems.

Testing

Investigations involve taking a blood sample from the female partner to identify if the antibodies are present. In order to establish a clear diagnosis of Antiphospholipid Syndrome it is essential to have two positive tests, taken at least six weeks apart.

Treatment

Treatment is usually with low dose aspirin (150mg daily), starting before conception or early in pregnancy. Your doctor may also recommend injections of low molecular weight heparin once you are pregnant and the baby's heartbeat has been seen on scan.

The following tests are less routine, but your doctor may suggest that they are appropriate for you. **Antithrombin III, protein S, protein C, activated protein C resistance (APCR), and factor V Leiden.** It is still not clear whether these factors are linked to miscarriage. If you have an abnormal result, you may be advised to take low dose aspirin. More research is still needed to identify whether this treatment is helpful.

Hormonal blood tests

Luteinising Hormone (LH) – What is this?

LH is a hormone produced by the pituitary gland in the brain. It stimulates a follicle in the ovary containing the egg to burst and release the egg, which then travels from the ovary to the uterus.

How can LH cause a problem?

In the condition called **Polycystic Ovary Syndrome (PCOS)**, there are usually many small cysts in the ovaries. It is not known why some women have this condition. The incidence of polycystic ovaries is higher in women with recurrent miscarriage and approximately half of these women will produce abnormal amounts of luteinising hormone. Women with high LH levels may find it harder to conceive and are more likely to miscarry when they do conceive. They may also experience problems associated with polycystic ovaries, such as irregular periods, greasy skin and increased body weight.

Testing

LH levels can be measured in the blood, with the test usually taken between days 2 and 5 of the menstrual cycle. Polycystic ovaries can also be diagnosed by an ultrasound scan.

Treatment

Despite continuing research into high LH levels and PCOS, there is still no clear and tested treatment for either condition. However, some women may be offered treatment as part of a research trial.

Blood sugar level

Diabetes is not in itself a risk factor for miscarriage, but women whose diabetes is poorly controlled have an increased risk of miscarriage. A routine test for diabetes is not usually performed unless there are symptoms of the condition or a strong family history.

Investigation of the uterus (womb)

It is thought that some cases of miscarriage, especially in later pregnancy, may be due to an abnormal or irregularly-shaped uterus. Sometimes the uterus has an extra wall down its centre, which makes it look as if it is divided into two (**bicornuate or septate uterus**) or it may have only developed one half (**unicornuate uterus**). It is not clear if such problems cause recurrent miscarriage, but they can be identified in the following way:

Ultrasound

It is sometimes possible to see abnormalities inside the uterus at the time of a scan, especially a vaginal scan. A scan will also enable the ovaries to be examined at the same time. Occasionally **polycystic ovaries** are diagnosed by ultrasound scan.

How can infection cause a problem?

There is some evidence that a condition called **Bacterial Vaginosis (BV)** may cause **later** miscarriage. In BV, the normal vaginal bacteria are replaced by other bacteria and this causes a vaginal discharge with a 'fishy' smell.

Testing

Your doctor may take a vaginal swab to check for infection and a specific swab for BV.

Treatment

BV is treated with antibiotics.

Summary

There are many different causes of miscarriage and a number of investigations which can be carried out. In some cases, there may be a combination of causes leading to miscarriage, rather than a single underlying one.

Finally, it is important to remember that for most couples with a history of recurrent miscarriage, investigations do not identify any specific cause or causes. While this can be very frustrating, it is equally important to remember that for most of you reading this leaflet, you are more likely to have a successful pregnancy next time than to miscarry again.

Leaflets available from the Miscarriage Association are:

- Antiphospholipid Syndrome and Pregnancy Loss
- Investigations Following Recurrent Miscarriage
- Pregnancy Loss: How You Might Feel
- Men and Miscarriage
- Preparing for Another Pregnancy

www.miscarriageassociation.org.uk

Contact Numbers:

Buchanan Suite: 0151 290 4356 / 0151 430 1737

Gynaecology Ward: 0151 430 1522

Whiston Hospital
Warrington Road,
Prescot, Merseyside, L35 5DR
Telephone: 0151 426 1600

 /sthknhs  @sthk.nhs

www.sthk.nhs.uk