UTERUS SUBSEPTUS

A form of a congenital malformation where the uterus is partially divided by a longitudinal septum. It is one of Müllerian duct anomalies.

Diagnosis

Female

Related Diagnoses:

- Asherman’s syndrome
- Uterine malformations
- Uterus duplex

About Uterus subseptus

A form of septate uterus, i.e. an incompletely septated uterus or uterine subseptus, is one of the most common form of congenital uterine malformations. The incidence of congenital uterine malformations has been reported to be as high as 3-4% in the general female population and to be significantly higher in patients with infertility and recurrent pregnancy loss.

Septate uterus results from incomplete resorption of the paramesonephric muellerian ducts during the first trimester of pregnancy. The absorption of the septum normally initiates at the level of the uterine cervix and continues upwards in the direction of the uterine fundus. Depending on the size of the septum, the uterine cavity may be affected only partially, as in case of an incomplete septate uterus, or it may be divided into two separate components including two cervices and eventually a vaginal septum, as in case of a complete septate uterus.

Diagnosis

In patients suffering from this type of malformation, the pelvic examination is usually normal. Usually it is diagnosed by ultrasound examination or CT or MRI, as an incidental finding mostly. MRI is considered the preferred modality due to its multiplanar capabilities as well as its ability to evaluate the uterine contour, junctional zone, and other pelvic anatomy. A hysterosalpingogram is not considered as useful due to the inability of the technique to evaluate the exterior contour of the uterus and distinguish between a bicornuate, septate and subseptate uterus.
**Associated diseases**

The condition is also associated with abnormalities of the renal system. Further, skeletal abnormalities have been linked to the condition.

**Complications**

Associated with a higher risk of miscarriage, premature birth, and malpresentation.

**Risk factors**

Uterine malformations are associated with genetic and teratogenic factors. Seen as problematic can be contact with any substance with teratogenic potential during pregnancy. Fetus is the most vulnerable in the period of 2 to 12 weeks.

**Impact on fertility**

A uterine septum affects female reproductive health in three ways: obstetric complications, recurrent miscarriages and infertility. On the other hand, cases where the condition was not known to the affected individual and did not result in any reproductive problems have been reported, thus normal pregnancies may occur.

Histological samples obtained during operative hysteroscopy demonstrating the following ultra-structural alterations in the septal endometrium compared to endometrium of the lateral uterine wall: a reduced number of glandular ostia, irregularly distributed ciliated cells with incomplete ciliogenesis, and a reduction of the ciliated to non-ciliated cell ratio. These factors are believed to cause the poor response to estrogens in the septal mucosa, since normal serum estrogens levels were found in all patients.

Others demonstrated inadequate uterine vascularisation leading to subsequent abnormal placentation in women with a septate uterus. Moreover, clinical studies in women with septate uterus reported an increased content of muscle tissue as well as an increased and uncoordinated contractility of the uterine septum.

**Prevention**

None possible, except for avoiding contact with teratogenic factors (e.g. diethylstilbestrol).
Symptoms

Clinically, symptoms may range from being asymptomatic thus remaining undiagnosed, to the recurrent miscarriage, premature delivery or intrauterine fetal growth restriction. Penetration difficulties and after-coital bleeding can be reported.

Therapies

Self therapy

None possible.

Conventional medicine

Pharmacotherapy

Mostly additional to surgical solution, to help epithelization processes, against adhesion development.

Surgical therapy

It is not considered necessary to remove a septum that has not caused problems, especially in women who are not considering pregnancy. There is controversy over whether a septum should be removed prophylactically to reduce the risk of pregnancy loss prior to a pregnancy or infertility treatment. Available literature on reproductive outcome after uterine septoplasty is inconsistent. For example, pregnancy rates ranging from 39% to 81% and life birth rates ranging from 26% to 73% have been reported. Most of these studies were retrospective.

Assisted reproduction

In patients for whom IVF-ICSI is indicated, septum resection is required before the beginning of the cycle in order to minimize the adverse effect of the septum on fecundity and early pregnancy. However, a prospective randomized trial is needed to compare IVF outcome in patients with such uterine anomaly after surgical correction versus those without surgical correction. Reproductive outcome of IVF-ET after hysteroscopic correction
of incomplete uterine septum anomaly in women with primary infertility is not different from women with normal uterine cavity. Multiple pregnancies may have a negative impact on the likelihood of a full term pregnancy; therefore, every effort should be made to achieve a singleton pregnancy in these patients and only eSET (elective single embryo transfer) is accepted in these patients.

Find more about related issues

Diagnoses

Asherman’s syndrome
A medical condition, where the walls of the uterus stick to one another due to bands of scar tissue.
Learn more at: www.fertilitypedia.org/therapy/diag/asherman-s-syndrome

Uterine malformations
A type of female genital malformation resulting from an abnormal development of the Müllerian duct(s) during embryogenesis.
Learn more at: www.fertilitypedia.org/therapy/diag/uterine-malformations

Uterus duplex
Congenital uterine malformation where both Müllerian ducts develop but fail to fuse, thus the woman has a "double uterus".
Learn more at: www.fertilitypedia.org/therapy/diag/uterus-duplex

Organs

Uterus
The uterus is the largest and major organ of the female reproductive tract that is the site of fetal growth and is hormonally responsive
Learn more at: www.fertilitypedia.org/edu/organs/uterus

Reproductive cells

Endometrial cell
Cells composing an inner layer of the uterine lining.
Learn more at: www.fertilitypedia.org/edu/reproductive-cells/endometrial-cell
**Endometrium**
The innermost layer of uterus forming the uterine lumen where the implantation of an oocyte happens.
Learn more at: [www.fertilitypedia.org/edu/reproductive-cells/endometrium](http://www.fertilitypedia.org/edu/reproductive-cells/endometrium)

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**Biological control**

**Estrogen**
The primary female sex hormone responsible for the development and regulation of the female reproductive system and secondary sex characteristics.
Learn more at: [www.fertilitypedia.org/edu/biological-control/estrogen](http://www.fertilitypedia.org/edu/biological-control/estrogen)

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**Reproductive functions**

**Implantation**
The very early stage of pregnancy at which the embryo adheres to the wall of the uterus.
Learn more at: [www.fertilitypedia.org/edu/reproductive-functions/implantation](http://www.fertilitypedia.org/edu/reproductive-functions/implantation)

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**Symptoms**

**Infertility**
The failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse.
Learn more at: [www.fertilitypedia.org/edu/symptoms/infertility](http://www.fertilitypedia.org/edu/symptoms/infertility)

**Preterm birth**
A birth of the baby before 37 completed weeks of gestational age.
Learn more at: [www.fertilitypedia.org/edu/symptoms/preterm-birth](http://www.fertilitypedia.org/edu/symptoms/preterm-birth)

**Recurrent miscarriage**
A disease distinct from infertility, defined by two or more failed pregnancies.
Learn more at: [www.fertilitypedia.org/edu/symptoms/recurrent-miscarriage](http://www.fertilitypedia.org/edu/symptoms/recurrent-miscarriage)

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**Therapies**

**Egg donation**
Process by which a woman donates eggs for purposes of assisted reproduction or biomedical research.
Learn more at: [www.fertilitypedia.org/edu/therapies/egg-donation](http://www.fertilitypedia.org/edu/therapies/egg-donation)
**Elective single embryo transfer**
The procedure of transfer one single good quality embryo in cleavage stage or in stage of blastocyst that was selected as the most appropriate.
Learn more at: [www.fertilitypedia.org/edu/therapies/elective-single-embryo-transfer-1](http://www.fertilitypedia.org/edu/therapies/elective-single-embryo-transfer-1)

**ICSI**
A micromanipulative fertilization technique in which a single sperm is injected directly into an egg.
Learn more at: [www.fertilitypedia.org/edu/therapies/icsi](http://www.fertilitypedia.org/edu/therapies/icsi)

**Sperm donation**
The procedure in which a man (sperm donor) provides his sperm for fertility treatment.
Learn more at: [www.fertilitypedia.org/edu/therapies/sperm-donation](http://www.fertilitypedia.org/edu/therapies/sperm-donation)

**Standard IVF**
A process in which an egg is fertilised by sperm outside the body: in vitro. Own or donated gametes may be used.
Learn more at: [www.fertilitypedia.org/edu/therapies/standard-ivf](http://www.fertilitypedia.org/edu/therapies/standard-ivf)

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**Uterus subseptus**
*The uterus is partially divided by a longitudinal septum.*

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**Sources**

“Uterine and tubal anatomical abnormalities in infertile women: diagnosis with routine hysterosalpingography prior to selective laparoscopy” —by Heis et al. licensed under CC BY 4.0

“Hysteroscopic treatment of partial and complete uterine septum.” —by Valle licensed under CC BY 3.0

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