SALPINGITIS

An acute inflammation of the fallopian tubes.

Diagnosis   Female

Related Diagnoses:
Fallopian tube blockage    Hematosalpinx

About Salpingitis

Salpingitis is an acute inflammation of the fallopian tubes, most commonly caused by sexually transmitted diseases. Salpingitis usually presents as an acute abdomen. General symptoms include low-grade fever, abdominal pain, and infertility.

The most common cause of salpingitis in sexually active women is vaginal flora, introduced during sexual intercourse, or a sexually transmitted micro-organism from a sex partner, most commonly Chlamydia trachomatis and Neisseria gonorrhoea.

Two types of salpingitis can be distinguished (Pic. 1):

- Acute salpingitis - it is the one that presents the worst symptoms (fever, sharp pain in the lower part, etc.).
- Chronic salpingitis - it can sometimes go unnoticed and usually it is after the menstrual period when it becomes evident.

It is often used synonymously with pelvic inflammatory disease (PID), although PID lacks an accurate definition and can refer to several inflammations of the female upper genital tract, such as lining of the uterus (endometritis), ovaries (oophoritis), muscle layer of the uterus (myometritis), ligaments around the uterus (parametritis) and infection in the pelvic lining of the abdominal cavity (peritoneum). In contrast, salpingitis only refers to infection and inflammation in the fallopian tubes.

Salpingitis may be diagnosed by pelvic examination, blood tests, and/or a vaginal or cervical swab. Approximately 60% to 80% of women with acute salpingitis have a normal temperature or no white blood cell elevation. This finding correlates with the observation that most women with tubal infertility have never been treated for a recognized episode of salpingitis. The most common treatment includes antibiotics.

Salpingitis occurs in an estimated 15% of reproductive-age women, and 2.5% of all women become infertile as a result of salpingitis by age 35. Duration of symptoms is the major determinant of subsequent infertility. Early diagnosis and treatment are crucial for preserving fertility and the effectiveness of antibiotic therapy is dependent upon the interval from the onset of symptoms to the initiation of treatment.

Associated diseases
- pelvic inflammatory disease (PID)
- chlamydial infection
- gonorrhea

Complications

However, salpingitis can also lead to infertility, because the eggs released in ovulation can’t get contact with the sperm. The more times one has the infection, the greater the risk of infertility. With one episode of salpingitis,
the risk of infertility is 8-17%. With 3 episodes of salpingitis, the risk is 40-60%, although the exact risk depends on the severity of each episode. Women treated after 3 or more days of symptoms had significantly more infertility than those treated earlier. Better recognition and treatment of cervix inflammation (cervicitis) and endometritis (inflammation of the endometrium, the inner lining of the uterus) before salpingitis develops is even more important in the prevention of infertility than the treatment of salpingitis per se.

In addition, damaged oviducts increase the risk of ectopic pregnancy. Thus, if one has had salpingitis, the risk of a pregnancy to become ectopic is 7 to 10-fold as large. Half of ectopic pregnancies are due to a salpingitis infection.

Other complications are:
- infection of ovaries and uterus
- infection of sex partners
- an abscess on the ovary

**Risk factors**

It’s been theorized that retrograde menstrual flow and the cervix opening during menstruation allows the infection to reach the fallopian tubes.

**Other risk factors include surgical procedures which break the cervical barrier, such as:**
- endometrial biopsy
- curettage
- hysteroscopy

**Another risk is factors that alter the microenvironment in the vagina and cervix, allowing infecting organisms to proliferate and eventually ascend to the fallopian tube:**
- antibiotic treatment
- ovulation
- menstruation
- sexually transmitted disease (STD)

**Finally, sexual intercourse may facilitate the spread of disease from vagina to fallopian tube. Coital risk factors are:**
- uterine contractions
- sperm, carrying organisms upwards

**Impact on fertility**

The rate of infertility is approximately 15% after a first episode of salpingitis and increases to 50% after a third episode.

In gonococcal and chlamydial salpingitis, the microorganisms ascend by surface extension from the lower genital tract through the cervical canal by way of the endometrium to the fallopian tubes. There can be adhesion of the mucosal folds, destruction of cilia, occlusion of the infundibulum (Pic. 2), and production of pus filling the fallopian tubes (pyosalpinx). Tubal factor infertility impedes the descent of a fertilized or unfertilized ovum into the uterus through the fallopian tubes and prevents a normal pregnancy and full term birth.

**Prevention**

The best prevention is to detect and treat early-stage asymptomatic and symptomatic infections. This can be achieved by the screening of all sexually active reproductive age women and by educating clinicians and patients on the importance of this testing. The importance of practicing safe sex methods cannot be over emphasized in public.

Prompt treatment is the key in adequate eradication of the responsible organism(s) and preventing long term
sequelae like hydrosalpinx (distally blocked fallopian tube filled with serous or clear fluid), infertility, ectopic pregnancy, and chronic pelvic pain. If the patients with mild symptoms had only cervicitis (inflammation of the uterine cervix) or endometritis and not salpingitis, prompt treatment before the onset of salpingitis would have a major impact on preventing tubal occlusion.

## Symptoms

The symptoms usually appear after a menstrual period. The most common are:

- abnormal smell and colour of vaginal discharge
- pain during ovulation
- pain during sexual intercourse
- pain coming and going during periods
- abdominal pain
- lower back pain
- fever
- nausea
- vomiting
- bloating

## Therapies

### Self therapy

**Chinese medicine**

Several herbs and acupuncture points are particularly helpful in the treatment of pelvic inflammatory disease (PID) and salpingitis because it enhances blood circulation, clear heat and toxins, drains pus and abscesses and removes blood stasis.

### Conventional medicine

Treatment is often started without confirmation of infection because of the serious complications that may result from delayed treatment. Treatment depends on the infectious agent (capable of producing infection) and generally involves the use of antibiotic therapy. If there is no improvement within two to three days, the patient is typically advised to seek further medical attention. Hospitalization sometimes becomes necessary if there are other complications. Surgery may be necessary when complications resist to antibiotic therapy. Treating sexual partners for possible sexually transmitted infections can help in treatment and prevention.

**Pharmacotherapy**

**Antibiotics**

For women with salpingitis of mild to moderate severity, parenteral (other than by swallowing) and oral therapies appear to be effective. It does not matter to their short- or long-term outcome whether antibiotics are administered to them as inpatients or outpatients. Typical regimens include cefoxitin or cefotetan plus doxycycline, and clindamycin plus gentamicin.

**Surgical therapy**

**Tubal surgery**

The surgical removal of a fallopian tube (salpingectomy) may be necessary to correct complications
There are some tubal causes of infertility for which surgery can offer little or no chance of success, such as after severe bilateral hydrosalpinx, multisite tubal obstruction, or in patients with extensive and dense pelvic adhesions. At the other end of the spectrum are patients who can achieve a 50% to 65% intrauterine pregnancy rate after microsurgical or laparoscopic adhesiolysis when the fimbriae are spared from disease and a male factor is not encountered.

In choosing between in vitro fertilization (IVF) and tubal surgery, the physician must compare success rates (which can are best defined by the birth of a live baby) and take into account the patient's age, presence of a male subfertility factor, the personal priorities of the couple, and the availability of expertise.

**Assisted reproduction**

If infertility persists after the treatment, assisted reproductive technologies (ART) give an option. Today and in the foreseeable future, ART, endoscopic surgery, and microsurgery have an important place in the management of infertility that results from tubal disease and tubal factor infertility.

In vitro fertilization (IVF) is a treatment option that bypasses the tubal problem instead of attempting a repair. IVF and ART generally start with stimulating the ovaries to increase egg production. After stimulation, the physician surgically extracts one or more eggs from the ovary, and unites them with sperm in a laboratory setting, with the intent of producing one or more embryos. Fertilization takes place outside the body, and the fertilized egg is reinserted into the woman's reproductive tract, in a procedure called embryo transfer.

The technique of selecting only one embryo to transfer to the woman is called elective-Single Embryo Transfer (e-SET) or, when embryos are at the blastocyst stage, it can also be called elective single blastocyst transfer (eSBT). It significantly lowers the risk of multiple pregnancies, compared with e.g. Double Embryo Transfer (DET) or double blastocyst transfer (2BT). Approximately 14 days after the embryo transfer the woman should have a quantitative beta hCG (Human chorionic gonadotropin). This is the first measurable indication of embryo implantation.

Infertile couples may also resort to egg donation or embryo donation when the female partner cannot have genetic children because her own eggs cannot generate a viable pregnancy. Surrogacy via a gestational carrier is also an option when a patient's medical condition prevents a safe pregnancy, when a patient has ovaries but no uterus due to congenital absence or previous surgical removal, and where a patient has no ovaries and is also unable to carry a pregnancy to full term.

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**Find more about related issues**

### Diagnoses

- **Fallopian tube blockage**
  An obstruction prevents the egg or sperm from traveling down the tube, thus making fertilization impossible.
  Learn more at: [www.fertilitypedia.org/therapy/diag/fallopian-tube-blockage](http://www.fertilitypedia.org/therapy/diag/fallopian-tube-blockage)

- **Hematosalpinx**
  Hematosalpinx is a medical condition involving bleeding into the fallopian tube.
  Learn more at: [www.fertilitypedia.org/therapy/diag/hematosalpinx](http://www.fertilitypedia.org/therapy/diag/hematosalpinx)

### Risk factors

- **Ectopic pregnancy**
  A complication of pregnancy in which the embryo attaches outside the uterus.
  Learn more at: [www.fertilitypedia.org/therapy/rf/ectopic-pregnancy](http://www.fertilitypedia.org/therapy/rf/ectopic-pregnancy)
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

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

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

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

Sources

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