

Women's Health

Lec. Hadeel D Najim

Clinical Pharmacy Department

Cystitis

-Cystitis is inflammation of the urethra and bladder characterized by a collection of urinary symptoms, including: **dysuria (painful urination), urinary frequency and urinary urgency.**

-Bacterial infection is found in 50% of cases, most commonly *Escherichia coli*, often from the gastrointestinal tract.

-Some people may be sensitive to chemicals contained in certain products, such as bubble bath and feminine hygiene sprays which may develop a reaction within the urethra or bladder, causing inflammation and 'chemical cystitis'.

-About half of the cases will resolve within 3 days even without treatment.

What you need to know

Age

Any person under 16 years of age with the symptoms of cystitis should always be referred to the doctor for further investigation and treatment. UTIs in children may result in damage to the kidneys or bladder.

Gender

Cystitis is much more common in women than in men for two reasons:

- 1- Cystitis occurs when bacteria pass up along the urethra and enter and multiply within the bladder. As the urethra is much shorter in females than in males, the passage of the bacteria is much easier.
- 2- There is evidence that prostatic fluid has antibacterial properties, providing an additional defence against bacterial infection in males. Any person who presents with the symptoms of cystitis requires medical referral because of the possibility of more serious conditions such as kidney or bladder stones or prostate problems.

Pregnancy If a pregnant woman presents with symptoms of cystitis, referral to the doctor is the best option, because bacteruria (presence of bacteria in the urine) in pregnancy can lead to kidney infection and other problems.

Symptoms

Cystitis sufferers often report that the first sign of an impending attack is an itching or pricking sensation in the urethra. The desire to pass urine becomes frequent; women with cystitis may feel the need to pass urine urgently, but pass only a few burning, painful drops. This frequency of urine occurs throughout the day and night (nocturia). Dysuria (pain on passing urine) is a classical symptom of cystitis. After urination, the bladder may not feel completely empty, and even straining produces no further flow. The urine may be cloudy and strong smelling.

Blood in urine

Haematuria (presence of blood in the urine) is an indication for referral to the doctor. It often occurs in cystitis when there is so much inflammation of the lining of the bladder and urethra that bleeding occurs. Sometimes blood in the urine may indicate other problems such as a kidney stone (associated with loin pain) and tumour in the bladder or kidney (blood in the urine develops without any pain)

Vaginal discharge

The presence of a vaginal discharge would indicate local fungal or bacterial infection and would require referral.

Associated symptoms

When dealing with symptoms involving the urinary system, it is best to think of it as divided into two parts: the upper (kidneys and ureters) and the lower (bladder and urethra). The pharmacist should be aware of the symptoms that accompany minor lower UTI and those that suggest more serious problems higher in the urinary tract, so that referral for medical advice can be made where appropriate.

Upper UTI symptoms

Systemic involvement, demonstrated by fever, nausea, vomiting, loin pain, and tenderness are indicative of more serious infection such as pyelitis or pyelonephritis and patients with such symptoms require referral.

Other symptoms

Cystitis may be accompanied by suprapubic (lower abdominal) pain and tenderness; pain is sometimes felt in the lower back.

Previous history

Women with recurrent cystitis should see their doctor. The anxiety produced by repeated occurrences of cystitis is itself thought to be a contributory factor.

Relapse (recurrent cystitis with the same bacterium),

Reinfection (recurrent cystitis with different organism).

Predisposing factors:

- Diabetes

Recurrent cystitis can sometimes occur in diabetic patients and therefore anyone describing a history of increasing thirst, weight loss and a higher frequency of passing urine than normal should be referred.

- Honeymoon cystitis

Sexual intercourse may precipitate an attack (honeymoon cystitis) due to minor trauma or resulting infection when bacteria are pushed along the urethra.

- Other precipitating factors

Other precipitating factors may include the irritant effects of toiletries (e.g. bubble baths and vaginal deodorants) and other chemicals (e.g. spermicides and disinfectants). Lack of personal hygiene is not thought to be responsible, except in extreme cases.

- **Postmenopausal women**

Oestrogen deficiency in postmenopausal women leads to thinning of the lining of the vagina. Lack of lubrication can mean the vagina and urethra are vulnerable to trauma and irritation, and attacks of cystitis can occur later in. There may be other symptoms, such as hot flushes and night sweats.

- **Medication**

Cystitis can be caused by some cytotoxic drugs such as *cyclophosphamide* and also by *methenamine hippurate* (*hexamine*) (because of formaldehyde release).

When to refer

All men, children under 16 years of age
Fever, nausea/vomiting
Loin pain or tenderness
Haematuria
Vaginal discharge
Duration of longer than 2 days
Pregnancy
Recurrent cystitis
Failed medication (more than 2 days)

Treatment timescale

Symptoms should subside within **2 days**.

Management

Paracetamol or ibuprofen for pain relief for up to 2 days.

Potassium and sodium citrate

Potassium and sodium citrate work by making the urine alkaline without antibacterial effect. The acidic urine produced as a result of bacterial infection is thought to be responsible for dysuria; alkalinisation of the urine can therefore provide symptomatic relief.

Contraindications

Potassium citrate cannot use with potassium-sparing diuretics, aldosterone antagonists or ACEI, in whom hyperkalaemia may result. Sodium citrate should not be recommended for hypertensive patients, anyone with heart disease or pregnant women.

Complementary therapies

Cranberry juice has been recommended as a folk remedy for years as a preventive measure to reduce UTI. But many evidence showed that drinking cranberry juice on a regular basis does not appear to have a significant benefit in preventing UTIs.

Practical advices:

Drinking large quantities of fluids.
During urination the bladder should be emptied completely.
After a bowel motion wiping toilet paper from front to back.
Reduced coffee and alcohol intake (they act as bladder irritants in some people).

Vaginal thrush

Vaginal candidiasis (thrush) is a symptomatic inflammation of the vagina and/or vulva caused by a superficial fungal infection with candida yeast.

What you need to know

Age

Vaginal candidiasis (thrush) is common in women of **childbearing age**, and **pregnancy** and diabetes are strong predisposing factors. This infection is rare in children and in postmenopausal women because of the different environment in the vagina. In contrast to women of childbearing age, where vaginal pH is generally acidic (low pH) and contains glycogen, the vaginal environment of children and menopausal women tends to be alkaline (high pH) and does not contain large amounts of glycogen.

Oestrogen, present between adolescence and the menopause, leads to the availability of glycogen in the vagina and also contributes to the development of a protective barrier layer on the walls of the vagina. The lack of oestrogen in children and postmenopausal women means this protective barrier is not present, with a consequent increased tendency to bacterial (but not fungal) infection. Women under 16 or over 60 years complaining of symptoms of vaginal thrush should be referred to their doctor.

Symptoms

Itch (pruritus) and soreness

Itch is not always due to fungal infection. Allergic or irritant dermatitis may be responsible for vaginal itch, so ask whether the patient has recently used any new toiletries (e.g. soaps and bath or shower products) or vaginal deodorants. The itch associated with thrush is often intense and burning in nature. Sometimes, the skin may be excoriated and raw from scratching when the itch is severe. Occasionally, threadworm infestation can lead to vaginal pruritus and this has sometimes occurred in children. The patient would also be experiencing anal itching too in such case.

Discharge

The most common infective cause of vaginal discharge is. The discharge is classically cream coloured, thick and curdy in appearance but, alternatively, may be thin and rather watery. The discharge associated with candida infection does not usually produce an unpleasant odour, compared to that produced by bacterial infection. Discharge described as yellow or greenish is more likely to be bacterial in origin, e.g. chlamydia or gonorrhoea.

Dysuria (pain on urination)

Dysuria may be present and scratching the skin in response to itching might be responsible, although dysuria may occur without scratching. Sometimes the pain on passing urine may be mistaken for cystitis by the patient. If a woman complains of cystitis, ask about other symptoms [lower abdominal pain or dysuria because of their possible link with kidney infections].

Partner's symptoms

Men also may be infected with candida with minor itching or even symptomless. Partner must be treated at the same time.

Previous history

Recurrent thrush is a problem for some women, often following antibiotic treatment. ***Recurrent infections*** are defined as ‘four or more episodes of symptomatic candidosis annually’ [any woman who has experienced more than two attacks of thrush during the previous 6 months should be referred to the doctor]. Repeated thrush infections may indicate an underlying problem or altered immunity and further investigation is needed.

Pregnancy

During pregnancy almost one in five women will have an episode of vaginal candidiasis. This high incidence has been attributed to hormonal changes with a consequent alteration in the vaginal environment leading to the presence of increased quantities of glycogen. Any pregnant woman with thrush should be referred to the doctor.

Diabetes

It is thought that *Candida* is able to grow more easily in diabetic patients because of the higher glucose levels in blood and tissues. Sometimes recurrent vaginal thrush can be a sign of undiagnosed diabetes or, in a patient who has been diagnosed, of poor diabetic control.

Oral steroids

Patients taking oral steroids may be at increased risk of candidal infection.

Immunocompromised patients

Patients with HIV or AIDS are prone to recurrent thrush infection because the immune system is unable to combat them. Patients undergoing cancer chemotherapy are also at risk of infection.

Medication

Oral contraceptives

It has been suggested that the oral contraceptive pill (OCP) is linked to the incidence of vaginal candidiasis; however, oral contraceptives are no longer considered a significant precipitating factor.

Antibiotics

Broad-spectrum antibiotics wipe out the natural bacterial flora (lactobacilli) in the vagina and can predispose to candidal overgrowth. Some women find that an episode of thrush follows every course of antibiotics they take. The doctor may prescribe an antifungal at the same time as the antibiotic in such cases.

Local anaesthetics

Creams and ointments advertised for ‘feminine’ itching often contain local anaesthetics – a well-known cause of sensitivity reactions. It is important to check what, if any, treatment the patient has tried before seeking your advice.

When to refer

- First occurrence of symptoms
- Patient under 16 or over 60 years
- Known hypersensitivity to imidazoles or other vaginal antifungal products
- Pregnancy or suspected pregnancy
- More than two attacks in the previous 6 months
- Vaginal bleeding or discharge

- Vulval or vaginal sores, ulcers or blisters
- Associated lower abdominal pain or dysuria
- Adverse effects (redness, irritation or swelling associated with treatment)
- No improvement within 7 days of treatment

Management

- **Single-dose intravaginal and oral *azole*** preparations are effective in treating vaginal candidiasis and give 80–95% clinical and mycological cure rates.
- Topical preparations give quicker initial relief, probably due to the vehicle. They may sometimes exacerbate burning sensations initially, and oral treatment may be preferred if the vulva is very inflamed.
- Oral therapies are effective, but it may take 12–24 h before symptoms improve. Some women find oral treatment more convenient (single-dose products very convenient) and compliance is higher than with treatments involving several days' use.
- The patient can be asked whether she prefers a pessary, vaginal cream or oral formulation. Some experts argue that oral antifungals should be reserved for resistant cases.
- Where external symptoms are also a problem, an *azole* cream (*miconazole* or *clotrimazole*) can be useful in addition to the intravaginal or oral product. The cream should be applied twice daily, morning and night.
- Oral *fluconazole* interacts with some drugs: anticoagulants, oral sulphonylureas, ciclosporin (cyclosporin), phenytoin, rifampicin and theophylline.
- Reported side-effects from oral *fluconazole* occur in some 10% of patients and are usually mild and transient. They include nausea, abdominal discomfort, flatulence and diarrhoea. Oral *fluconazole* should not be recommended during pregnancy or for nursing mothers because it is excreted in breast milk.

Dysmenorrhoea

Dysmenorrhoea, or painful periods, is cramping pain, usually in the lower abdomen, occurring shortly before or during menstruation, or both. **Primary dysmenorrhea** is defined as pain in the absence of pelvic disease and is thought to be caused by uterine prostaglandins being produced. **Secondary dysmenorrhoea** is caused by an underlying pelvic pathology, such as pelvic infection, endometriosis, fibroids or endometrial polyps.

What you need to know

Age

The initial onset of **primary dysmenorrhoea** is usually 6–12 months after starting periods (menarche), with the onset of ovulatory cycles. The age at menarche varies between 10 and 16 years.

Secondary dysmenorrhoea can occur at any time after menarche, but most commonly arises as a new symptom when a woman is in her 30s or 40s, after onset of the underlying causative condition.

Timing of cycle and pain

Dysmenorrhoea is often not associated with the start of menstruation (menarche). This is because during the early months (and sometimes years) of menstruation, ovulation does not occur. These anovulatory cycles are usually, but not always, pain free and therefore women sometimes describe period pain that begins after several months or years of pain-free menstruation.

Timing and nature of pains

Primary dysmenorrhoea

Primary dysmenorrhoea classically presents as a cramping lower abdominal pain that often begins during the day before bleeding starts. The pain gradually eases after the start of menstruation and is often gone by the end of the first day of bleeding.

Secondary dysmenorrhoea

The pain of secondary or acquired dysmenorrhoea may occur during other parts of the menstrual cycle and can be relieved or worsened by menstruation. Such pain is often described as a dull, aching pain rather than being spasmodic or cramping in nature. Often occurring up to 1 week before menstruation, the pain may get worse once bleeding starts (like in endometriosis). Secondary dysmenorrhoea is more common in older women, especially in those who have had children. In pelvic infection, a vaginal discharge may be present in addition to pain. If, from questioning, the pharmacist suspects secondary dysmenorrhoea, the patient should be referred to the doctor for further investigation.

Endometriosis: The womb (uterus) has a unique inner lining surface (endometrium). In endometriosis, pieces of endometrium are also found in places outside the uterus. These isolated pieces of endometrium may lie on the outside of the uterus or ovaries, or elsewhere in the pelvis. Each section of endometrium is sensitive to hormonal changes occurring during the menstrual cycle and goes through the monthly changes of thickening, shedding and bleeding. This causes pain wherever the endometrial cells are found. The pain usually begins up to 1 week before menstruation and both lower abdominal and lower back pain may occur with other associated symptoms. It mainly occurs in women aged between 30 and 45 years, but can occur in twenties also.

Other symptoms

Women who experience dysmenorrhoea will often describe other associated symptoms. These include nausea, vomiting, general GI discomfort, constipation, headache, backache, fatigue, feeling faint and dizziness.

Medication

It is important to find out if the patient is already taking a nonsteroidal anti-inflammatory drug (NSAID) or oral contraceptives because the symptoms of dysmenorrhoea usually reduced or eliminated by these agents. Woman presenting with the symptoms of dysmenorrhoea and who is taking the pill is probably best referred to the doctor for further investigation.

When to refer

Presence of abnormal vaginal discharge
Abnormal bleeding
Symptoms suggest secondary dysmenorrhoea
Severe intermenstrual pain and bleeding
Failure of medication (for 2 cycles)
Pain with a late period (possibility of an ectopic pregnancy)
Presence of fever

Treatment timescale

If the pain of primary dysmenorrhoea is not improved after **two cycles** of treatment, referral.

Management

- NSAIDs (Ibuprofen and *naproxen*)

Since the pain of dysmenorrhoea is thought to be linked to increased prostaglandin activity, and raised prostaglandin levels have been found in the menstrual fluids and circulating blood of women who suffer from dysmenorrhoea. Therefore, the use of analgesics that inhibit the synthesis of prostaglandins is logical.

NSAIDs can be considered the treatment of choice for dysmenorrhoea, provided they are appropriate for the patient (i.e. the pharmacist has questioned the patient about previous use of *aspirin*, and history of GI problems and asthma). NSAIDs could be administered either at the onset of pain or premenstrually (both are effective).

Naproxen 250mg tablets can be used by women aged between 15 and 50 years for primary dysmenorrhoea only. Two tablets are taken initially then one tablet 6–8 hours later if needed. Maximum daily dose is 750mg and maximum treatment time is 3 days.

Contraindications

Active or history of peptic ulcer (NSAIDs can cause GI irritation). Take it with food.

Asthmatic patients. The pharmacist can check if a person with asthma has used a NSAID before. If they have done so without problems, they can continue.

- Aspirin

Aspirin also inhibits the synthesis of prostaglandins but is less effective in relieving the symptoms of dysmenorrhoea than is *ibuprofen*. For those who experience symptoms of nausea and vomiting with dysmenorrhoea, *aspirin* is probably best avoided. Soluble forms of *aspirin* will work more quickly than traditional tablet formulations and are less likely to cause stomach problems. Patients should be advised to take *aspirin* with or after meals.

- **Paracetamol**

Paracetamol has little or no effect on the levels of prostaglandins involved in pain and inflammation and so it is theoretically less effective for the treatment of dysmenorrhoea than either NSAIDs or *aspirin*. However, *paracetamol* is a useful treatment when the patient cannot take NSAIDs or *aspirin* because of stomach problems or potential sensitivity. *Paracetamol* is also useful when the patient is suffering with nausea and vomiting as well as pain, since it does not irritate the stomach.

- **Hyoscine**

Hyoscine, a smooth muscle relaxant, is marketed for the treatment of dysmenorrhoea on the theoretical basis that the antispasmodic action will reduce cramping. The anticholinergic effects of *hyoscine* mean that it is contraindicated in women with closed-angle glaucoma. Additive anticholinergic effects (dry mouth, constipation and blurred vision) mean that *hyoscine* is best avoided if any other drug with anticholinergic effects (e.g. tricyclic antidepressants) is being taken.

Non pharmacological advices:

- Keeping active can reduce pain; gentle swimming, walking or cycling may help.
- Locally applied low-level heat may also help pain relief, Using a heat pad or hot water bottle.
- Warm baths or showers may help relieve pain and help with relaxation.
- Activities such as yoga or Pilates may also be useful

PREMENSTRUAL SYNDROME

The term premenstrual syndrome (PMS) describes a collection of **physical, psychological** and **behavioural** symptoms that are experienced cyclically, usually from 2 to 14 days before the start of menstruation. Relief from symptoms generally occurs once menstrual bleeding begins. The cyclical nature, timing and reduction in symptoms are all important in identifying PMS. Some women experience such severe symptoms that their working and home lives are affected.

Symptoms

They usually become most prominent in the week before a menstrual period.

Symptoms of PMS:

Physical	Psychological	Behavioural
Bloating	Depressed mood	Reduced cognitive ability
Breast pain	Mood swings	Aggression
Fatigue	Anxiety	
	Loss of confidence	
	Irritability	

MANAGEMENT

Advices for women experiencing PMS

Lifestyle area	Advice
Diet	Regular, frequent (2–3 hourly), small, balanced meals rich in complex carbohydrates to reduce symptoms of bloating
Exercise	Regular physical activity
Smoking cessation	
Alcohol	Restriction in alcohol intake can improve sleep
Sleep	
Stress	Mindfulness and meditation; yoga

Complementary therapies and dietary supplements

Many herbal and dietary supplements are said to improve symptoms of PMS, such as vitamin B6, evening primrose oil, calcium and vitamin D, magnesium and ginkgo biloba. There is some evidence that these supplements can reduce PMS symptoms but the evidence not definitive.

The mechanism by which *pyridoxine* might work in PMS is unknown. The British National Formulary (BNF) states that ‘prolonged use of pyridoxine in a dose of 10 mg daily is considered safe but the long-term use of pyridoxine in a dose of 200 mg or more daily has been associated with neuropathy. The safety of long-term pyridoxine supplementation with doses above 10 mg daily has not been established.

The mechanism of action of *evening primrose oil* is said to be linked to effects on prostaglandins, particularly in increasing the level of prostaglandin E, which appears to be depleted in some women with PMS. The active component of evening primrose oil is gamma-linolenic (gamolenic) acid, which is thought to reduce the ratio of saturated to unsaturated fatty acids. The response to hormones and prolactin appears to be reduced by gamma-linolenic acid.

References: *Symptoms in the Pharmacy: A Guide to the Management of Common Illnesses*, Ninth Edition. 2022