**Women’s health care**

**Cystitis**

Cystitis is a term used to describe a collection of urinary symptoms including dysuria, frequency and urgency. The symptoms are caused by inflammation of the bladder, which may be due to infection; in 50% of cases, no bacterial cause is found. When infection is present, the most common bacterium is Escherichia coli, and the source is often the gastrointestinal (GI) tract. About half of the cases will resolve within 3 days even without treatment.

**What you need to know**

* Age( Adult, child ),Male or female,
* Symptoms

 Urethral irritation Urinary urgency, frequency Dysuria

 (pain on passing urine).Haematuria (blood in the urine)

 Vaginal discharge

* Associated symptoms

 Back pain Lower abdominal (suprapubic) pain Fever, chills

 Nausea and vomiting

* Duration
* Previous history
* Medication

**Significance of questions and answers**

**Age :**Any child with the symptoms of cystitis should always be referred to the doctor for further investigation and treatment.

**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. In addition, the process is facilitated by sexual intercourse.

2. There is evidence that prostatic fluid has antibacterial properties, providing an additional defence against bacterial infection in males.

**Symptoms:**

older adult have only nonspecific symptoms,and others may have:

 a. Dysuria

 b. Frequent urination

 c. Urgency d. Occasionally, gross hematuria

 e .itching or pricking sensation in the urethra.

 f. The urine may be cloudy and strong smelling; these may be signs of bacterial infection.

**Referral**

1.Any man:because of the possibility of more serious conditions such as kidney or bladder stones or prostate problems.

2.Pregnancy :because bacteriuria (presence of bacteria in the urine) in pregnancy can lead to kidney infection and other problems.

3. Blood in urine : hematuria may indicate renal stones or presence of tumor in the kidney or bladder.

4.vaginal discharge:Indicate local fungal(usually candida or thrush)or bacterial infection and would require referral.

5. Symptoms such as fever, nausea, vomiting, loin pain and tenderness, is indicative of more serious infection such as pyelonephritis.

6.Failed medication would be a reason for referral to the GP surgery.

7. Diabetes Recurrent cystitis

8-Duration longer than 2 days

**Chlamydial infection**

 is a sexually transmitted infection and is most commonly seen inwomen aged 16–24years ,Unfortunately, most women with it (about 80%) do not have any symptoms.Chlamydia can cause pelvic inflammatory disease (PID) and infertility. It is important that the infection be detected and treated. Screening programmers for chlamydia are now widespread.Those with positive results are offered treatment, usually with azithromycin or doxycycline, and advised about informing their sexual partner(s) who should also be tested. Following treatment, the test is repeated after 3 months. The use of condoms can prevent the infection from being spread.

**Duration:** In the absence of other symptoms or problems, treatment with OTC preparations is reasonable for mild cystitis of short duration (<2 days).

Recurrent cystitis

1. Relapse: Infection with the same organism within 14 days of discontinuing antibiotics for the preceding UTIb
2. Reinfection:Infectionwithacompletelydifferentorganism;mostcommoncauseofrecurrentcystitis

Predisposing Factors

**1.** Age **2**. Female sex **3.** Diabetes mellitus **4**. Pregnancy **5.** Immunosuppression  **6.** Urinary tract instrumentation. **7.**Urinarytractobstruction **8.** Renal disease, renal transplantation **9.** Neurologic dysfunction **10.**Irritants like bubble baths and vaginal deodorants).

**11**.Sexual intercourse.like ‘honeymoon cystitis’. Women who get frequent episodes of cystitis following sexual intercourse may be prescribed asupply of an antibiotics such as trimethoprim by their doctor to take within 2 h of sex .

**12.**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. For such women,painful intercourse can also be a problem, and this can be treated with OTClubricantsorprescribed products (e.g.oestrogen creams).Lubricant products are available OTC.

**13**.Medication such as cyclophosphamide.

**Recommended therapy**

1. Trimethoprim/sulfamethoxazole 160 mg/800 mg twice daily for 3 days. Avoid if resistance prevalence is known to exceed 20% or if used for UTI in previous 3 months.
2. Nitrofurantoin 100 mg twice daily for 5 days (ineffective in patients with a CrCl less than 30mL/minute/1.73m2)
3. Fosfomycin 3 g, one dose
4. Alternatives:

 a.Fluoroquinolones for 3days

 b.β-lactams for 5–7days

Management For pain relief, offer paracetamol or ibuprofen for up to 2 days. A high temperature will also be reduced, bearing in mind that a level above 38.5◦Cismore characteristic of higher UTI such as pyelonephritis,and all of these cases should be referred.

Potassium and sodium citrate

work by making the urine alkaline. 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 but not produce an antibacterial effect.

 Contraindications:For potassium citrate, these would include anyone taking potassiumsparing diuretics, aldosterone antagonists or angiotensin-converting enzyme inhibitors, 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 or capsules are also unlikely to be effective in the treatment of acute cystitis. Patients taking warfarin should not take cranberry products.

**Recurrent cystitis**

 a. Relaps

i. Assess for pharmacologic reason for treatment failure. ii. Longer treatment (for 2–6 weeks, depending on length of initial course)

 b. Reinfection (reassess need for continuous prophylactic antibiotics every 6–12 months)

 i. If patient has two or fewer UTIs in 1 year, use patient-initiated therapy for symptomatic episodes (3-day treatment regimens).

ii. If patient has three or more UTIs in 1 year and they are temporally related to sexual activity, use post-intercourse prophylaxis with trimethoprim/sulfamethoxazole single strength, cepha-lexin 250 mg, or nitrofurantoin 50–100 mg and counsel on voiding after intercourse.

iii. If patient has three or more UTIs in 1 year that are not related to sexual activity, use daily or three times per week prophylaxis with trimethoprim 100 mg, trimethoprim/sulfamethoxazole single strength, cephalexin 250 mg, or nitrofurantoin 50–100 mg.

**Practical points**

1. The traditional advice

 i) Drinking large quantities of fluids should theoretically help in cystitis because the bladder is emptied more frequently and completely as a result of the diuresis produced; this is thought to help flush the infecting bacteria out of the bladder. However, this may cause more discomfort where dysuria is severe and may be better as advice to prevent recurrence rather than to use during treatment.Drinking the normally recommended amount of fluids may be preferred.

 ii) During urination the bladder should be emptied completely by waiting for 20 s after passing urine and then straining to empty the final drops. Leaning backwards is said to help to achieve a more complete emptying of the bladder than the usual sitting posture.

 iii) After a bowel motionwipingtoiletpaperfromfronttobackmayminimise transfer of bacteria from the bowel into the vagina and urethra.

 iv) Urination immediately after sexual intercourse will theoretically flush out most bacteria from the urethra, but there is no evidence to support this.

 2. Reduced intake of coffee and alcohol may help because these substances seem to 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.

**Significance of questions and answers**

**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, which candida feeds on, 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 that this protective barrier is not present, with a consequent increased tendency to bacterial (but not fungal) infection.

**Duration** :some women delay seeking advice from the pharmacist or doctor because of embarrassment about their symptoms.

 **Symptoms**

 **Itch (pruritus)**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.

 **Discharge** :The discharge is classically cream coloured, thick and curdy in appearance but, alternatively, may be thin and rather watery,not usually produce an unpleasant odour, in contrast to that produced by bacterial infection. Infection leading to discharge described as yellow or greenish is more likely to be bacterial in origin, for example, chlamydia or gonorrhoea.

 **Partner’s symptoms** :Men may be infected with candida without showing any symptoms. Typical symptoms for men are an irritating rash on the penis, particularly on the glans. This must be treated at the same time as vaginal thrush; otherwise reinfection will occur.

**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.

**Dyspareunia (painful intercourse)** Painful intercourse may be associated with infection or a sensitivity reaction where the vulval and vaginal areas are involved.

**Threadworms** :can lead to vaginal pruritus and this sometimes occurs in children. The patient would also be experiencing anal itching in such a case. The pharmacist should refer girls under the age of 16 years to the doctor if there are vaginal symptoms.

**Previous history:** Recurrent thrush is a problem for some women, and many recognise that it follows antibiotic treatment.Recurrent infections are defined as ‘four or more episodes of symptomatic candidosis annually’.Repeated thrush infections may indicate an underlying problem or altered immunity, and further investigation is needed.

 **Pregnancy**

Any pregnant woman with thrush should be referred to the doctor.

**Diabetes**

 It is thought that candida is able to grow more easily in people with diabetes because of the higher glucose levels in blood and tissues .

**Sexually transmitted** :women who have previously had a sexually transmitted infection should not be sold OTC treatments for thrush.

**Oral corticosteroids** Patients taking oral corticosteroids may be at increased risk of candidal infection.

**Immunocompromised** patients Patients with HIV or AIDS are prone to recurrent thrush infection because the immunesystem is unable to combat them.

 **Medication** oral contraceptives are no longer considered a significant precipitating factor.

Antibiotic:Broad-spectrum antibiotics wipe out the natural bacterial flora (lactobacilli) in the vagina. These organisms keep candida suppressed, and their absence can predispose to candidal overgrowth.

Local anaesthetics Vaginal pruritus may actually be caused by some of the products used to relieve the symptom.

**When to reffer**

First occurrence of symptoms ,Known hypersensitivity to imidazoles or other vaginal antifungal products ,Pregnancy or suspected pregnancy ,More than two attacks in the previous 6 months ,Previous history of STD ,Exposure to partner with STD, Patient under 16 or over 60 years ,Abnormal or irregular vaginal bleeding ,Any bloodstaining of vaginal 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**

Topical preparations may give quicker initial relief from itch or soreness, probably due to the vehicle. They may sometimes exacerbate burning sensations initially, and oral treatment may be preferred if the vulva is very inflamed.

Patients find single-dose products very convenient, and adherence 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.

Imidazole 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. The imidazoles can cause sensitivity reactions, but these seem to be rare. Oral fluconazole interacts with some drugs: anticoagulants, oral sulphonylureas, ciclosporin (cyclosporin), phenytoin, rifampicin and theophylline.The effects of single-dose fluconazole rather than continuous therapy with the drug in relation to interactions are not clear. Theoretically, single-dose use is unlikely to cause problems, Oral fluconazole should not be recommended during pregnancy, where it may affect the foetus, or for nursing mothers because it is excreted in breast milk.

**Practical points**

 ***Privacy*** Patients seeking advice about vaginal symptoms may be embarrassed, fearing that their conversation with the pharmacist will be overheard.

***Treatment of partner*** Symptomatic males with candidal balanitis (penile thrush) and whose female partner has vaginal thrush should be treated. An imidazole cream can be used twice daily on the glans of the penis, applied under the foreskin for 7 days. Oral fluconazole can also be used.

**Dysmenorrhoea**

Dysmenorrhoea, or painful periods, is cramping pain, usually in the lower abdomen, occurring shortly before or during menstruation, or both. Primary dysmenorrhoea is defined as pain in the absence of pelvic disease, whereas secondary dysmenorrhoea is caused by an underlying pelvic pathology such as pelvic infection, endometriosis, fibroids or endometrial polyps.

**Significance of questions and answers**

**Age** The peak incidence of primary dysmenorrhoea occurs in women between the ages of 17 and 25 years. Primary dysmenorrhoea often becomes less troublesome after having children.

**Previous history** :The pharmacist should establish whether the menstrual cycle is regular and the length of the cycle. Further questioning should then focus on the timing of pains in relation to menstruation.

**Timing and nature of pains**:Primary dysmenorrhoea classically presents as a cramping lower abdominal pain that often begins the day before bleeding starts. The pain gradually eases after the start of menstruation and is often gone by the end of the first or second day of bleeding. It is commonly accompanied by symptoms such as nausea, vomiting, migraine, bloating and emotional upset.

**Medication** :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 a non-steroidal anti-inflammatory drug (NSAID) that inhibits the synthesis of prostaglandins is logical.

**Whento refer**

 Presence of abnormal vaginal discharge ,Abnormal bleeding, Symptoms suggest secondary dysmenorrhoea ,Severe intermenstrual pain (mittelschmerz) and bleeding, Failure of medication, 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 to the doctor would be advisable.

 **Management**

**NSAIDs (ibuprofen and naproxen)** can be considered the treatment of choice for dysmenorrhoea, They inhibit the synthesis of prostaglandins and thus have arationale for use.

Doses for ibuprofen required for analgesic activity is 200–400 mg .The maximum daily dose allowable for OTC use is 1200 mg and ibuprofen tablets or capsules should not be given to children under 12 years .

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

Contraindications

peptic ulcer. All patients should take NSAIDs with or after food to minimise GI problems, sensitivity to aspirin and should be used with caution in anyone who is asthmatic.

 **Aspirin**

Aspirin also inhibits the synthesis of prostaglandins but is less effective in relieving the symptoms of dysmenorrhoea than ibuprofen. It also has the drawback that as anantiplatelet it can makemenstrualbleedingheavier. Aspirin can cause GI upsets and is more irritating to the stomach than NSAIDs. Patients should be advised to take aspirin with or after meals. The pharmacist should establish whether the patient has any history of aspirin sensitivity before recommending the drug.

**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, it is a useful treatmentwhenthepatientcannottakeNSAIDsoraspirinbecauseofstomachproblems or potential sensitivity.

**Hyoscine Hyoscine,** a smooth muscle relaxant, is marketed for the treatment of dysmenorrhoea on the theoretical basis that the antispasmodic action will reduce cramping. In fact, the dose is so low (0.1 mg hyoscine) that such an effect is unlikely. 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.

 **Caffeine** There is some evidence that caffeine may enhance analgesic effect. OTC products contain 15–65 mg of caffeine per tablet.

**Non-drug treatments**

 exercise,keeping active can reduce pain; gentle swimming, walking or cycling may help. Transcutaneous electrical nerve stimulation (TENS) machines cannot be prescribed on the NHS but can be purchased OTC and have been used for painful periods. A systematic review of evidence found that high-frequency TENS may .Locally applied low-level heat may also help pain relief.Putting a heat pad or hot water bottle on the abdomen may help reduce pain

**Premenstrual syndrome**

The term premenstrual syndrome describes a collection of symptoms, both physical and psychological, whose incidence is related to the menstrual cycle. Symptoms are experienced cyclically, usually from 2 to 14 days before the start of menstruation. Relief from symptoms generally occurs once menstrualbleeding begins.

**Symptom**

 In PMS the distressing physical,behavioural and psychological symptoms occur regularly in the absence of organic or underlying psychiatric disease.Psychological symptoms include depressed mood, mood swings, anxiety, irritability and loss of confidence. Lack of libido, difficulty in concentrating, forgetfulness and tiredness may also occur. Physical symptoms include bloating and breast pain. Behavioural symptoms include reduced cognitive ability and aggression. Keeping a symptom diary and determining the relationship to menstruation may help clarify the diagnosis.

 **Severity**

 Most women notice some change of mood in the time leading up to a menstrual period; in a small proportion of women, these symptoms are disabling and may be associated with physical problems. In mild PMS, symptoms do not interfere with the woman’s personal, social and professional life. In moderate PMS, symptoms interfere with the woman’s personal, social and professional life, and daily functioning is possible, although it may not be to the usual level. In severe PMS, the woman withdraws from social and professional activities and cannot function normally.

**Treatment**

 Often explanation, reassurance and support may be all that are required. Treatment of the symptoms of PMS is a matter for debate, and there is a high placebo response to therapy in mood changes, breast discomfort and headaches when taken from 2 weeks before the period starts or throughout the cycle. For more severe cases doctors may prescribe a third-generation combined oral contraceptive, which are thought to reduce symptoms of PMS.

Sometimes SSRI antidepressants such as fluoxetine are prescribed, which appear to reduce mood swings. Talking therapies such as cognitive behavioural therapy (CBT) may also be helpful. All women with PMS may benefit from lifestyle advice that includes to take regular, frequent (2–3 hourly), small, balanced meals rich in complexcarbohydrates to reduce symptoms of bloating. Regular exercise is said to give relief from symptoms, and regular sleep will also help with mood. Things like mindfulness or meditation may help with stress. Smoking cessation and moderation in alcohol consumption are also sensible. Complementary therapies and dietary supplements There are many herbal dietary supplements said to improve symptoms of PMS. Few of these have clear evidence of benefit. There is some evidence that pyridoxine may reduce symptoms.If they wish to try it, it is important that the patient be advised to stick to the recommended dose.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’. Evening primrose oil has been used for many years to treat the breast tenderness associated with PMS. However,there are no good-quality trials to support its use and therefore it is of unknown effectiveness.

**Referance:**

**Symptoms in the pharmacy, A Guide to the Management of Common Illnesses,8th edition**