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Prescribing...

Acute Cellulitis

- This month's bulletin provides a brief overview of the management of cellulitis in primary care.
- Initial management involves accurate assessment and identification of the causes where possible.
- All patients with a confirmed diagnosis of mild to moderate cellulitis will require treatment with high-dose oral antibiotics for seven days.
- Patients with more severe and / or recurrent disease or those who fail to respond to antibiotics require referral and may need hospital admission.
- Over the counter analgesics are very useful for the control of pain or fever and adequate amounts of fluids will help prevent dehydration.

What is it?

Cellulitis is an acute bacterial infection of the dermis and subcutaneous tissue.

How should a patient presenting with apparent acute cellulitis be assessed?

The first step is to confirm the diagnosis, to estimate the severity and to rule out other diagnoses.

- Cellulitis usually presents with an acute onset of red, hot, painful, swollen and tender skin. Blisters or bullae formation may also be seen. Fever, malaise, nausea and shivering may accompany or sometimes precede the skin changes.
- It usually affects one limb only. On the legs some conditions mimic cellulitis. For example varicose eczema may appear similar to cellulitis but this is usually bilateral with crusting, scaling and itching.
- Most cases occur arise from an identifiable break in the skin, usually from a trauma such as a burn or bite. Leg ulcers and atopic eczema are also possible causes.

When should a patient with cellulitis be referred?

Patients with the following signs, symptoms or characteristics should be referred to hospital for further assessment and may require admission and intravenous antibiotics.

- Severe or rapidly deteriorating cellulitis for example those with extensive areas of disease or where it appears to be spreading.
- Severe systemic illness such as fever, nausea or vomiting.
- Children aged below one year or the very frail elderly.
- Gross swelling of the limbs i.e. lymphoedema.
- Failure to respond to oral antibiotics and recurrent cellulitis i.e. more than two episodes at the same site.
- Significant facial cellulitis.

How should it be treated?

Patients with mild to moderate cellulitis and no systemic illness or co-morbidities can usually be managed in primary care. In the guideline by Clinical Knowledge Summary the recommendations listed overleaf are made regarding drug treatment.

A **high-dose oral antibiotic** should be prescribed for **seven days**[1]

- Flucloxacillin 500mg four times daily is the preferred agent. It is licensed for the treatment of cellulitis and diffuses well into the skin and soft tissues. At high doses it is active against the large majority of staph and strep species than cause the condition.
- Erythromycin 500mg four times daily should be given if the patient is allergic to penicillin. Also licensed for the treatment of cellulitis, it is active against many staph and some cocci and anaerobes which may be implicated.
- Clarithromycin 500mg twice daily is another licensed alternative to erythromycin if the latter is likely to be poorly tolerated. However its perceived superior adverse effect profile compared with erythromycin is mainly theoretical and has never been demonstrated in large well conducted randomised controlled trials [1].

Consideration may be given to adding a **second antibiotic** if the cellulitis has arisen from a **wound contaminated with water**[1]

- Doxycycline 100mg once a day for 7 days with flucloxacillin if saltwater contamination is an issue. This is to cover the possibility of contamination with *Vibrio vulnificus*.
- Ciprofloxacin 750mg twice daily for freshwater contamination and to cover the possibility of infection with aeromonas species.

Do self-care measures help?

Symptomatic treatment is considered to be very helpful and patients should be advised to

- Take paracetamol or ibuprofen for fever or pain.
- Drink adequate fluids to prevent dehydration.
- If the leg is affected it should be elevated for comfort and to relieve oedema.

How about follow-up?

Consideration should be given to arranging a follow-up appointment after 7 days of antibiotic treatment. If there is no substantial improvement adherence to treatment should be checked and a further 7 day course prescribed.

The patient should be told to seek immediate advice if antibiotics are not tolerated or if skin signs worsen considerably, but there may be an initial increase in redness due to toxin release. If systemic symptoms such as raised temperature, nausea or vomiting develop urgent advice should also be sought.

In summary

- Cellulitis is an acute bacterial infection of the dermis or subcutaneous tissue.
- When it occurs in a limb it usually affects one only.
- Patients with alarm symptoms including severe or rapidly deteriorating disease, gross limb swelling or severe systemic disease should be referred to hospital
- The first line treatment is a seven day course of oral flucloxacillin 500mg or erythromycin 500mg qds if penicillin allergic.
- The perceived superior side effect profile of clarithromycin is theoretical and has never been proven by good quality trial evidence.

References: Clinical Knowledge Summary

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