

Management of acute dental pain in adults within the AAA triaging necessary with Covid 19

The document has been written with a view to reviewing existing knowledge bases and streamlining the information within them for specific targeting of AAA triaging. Whilst guidelines are readily available it is understood that many dentists will not be familiar with their content and the aim of this document is centralise the knowledge for the management of pain and sepsis over the phone.

1. Appropriate Pain management protocols

This is intended to help those tasked with triaging patients in pain who may need the services of an Urgent Dental Care centre (UDC).

Whenever considering the management of adult patients suffering with severe dental pain it is important to remember that antibiotics have a very limited role and are rarely needed to manage the common causes of dental pain. Where antibiotics are used, they are intended as an adjunct to local measures (treatment of the tooth) and are not a “cure”. In cases of significant worsening infection, they have a role to help manage the infection until such time as local measures can be delivered.

As a rule of thumb: if the patient has severe pain in the absence of accompanying swelling or raised temperature then antibiotics are unlikely to be needed. If a course has been taken and the symptoms have not resolved then it is more likely than not that local measures are needed rather than further antibiotics.

We have good empirical evidence to help us recommend appropriate pain relief medication for adult patients suffering with severe dental pain.

It is generally accepted that the appropriate pain relief pathway begins with paracetamol and then includes ibuprofen if the initial medication is not sufficient. This approach reflects the relatively fewer side effects associated with paracetamol compared to Ibuprofen.

For mild to moderate dental pain, paracetamol may be sufficient but this is rarely the case for severe pain. Ibuprofen is an example of a Nonsteroidal anti-inflammatory (NSAIDs) and is the best pain relief medication for severe dental pain with the lowest risk of side effects for this group of medication.

For adults, an appropriate pain relief medication pathway for adults is as follows (please consult SDCEP guidelines for children) :

paracetamol 1000mg x4 day to a maximum of 4g

Paracetamol 1000mg x4 per day + ibuprofen 200-400mg x6 day

Paracetamol 1000mg x4 per day + ibuprofen 600mg x4 per day to a maximum of 2.4g per day

These are the maximum doses allowable for these medications. No other pain relief remedies

containing these drugs should be taken. The use of Ibuprofen is not contra-indicated for Covid patients.

Many patients cannot take NSAIDs due to underlying health conditions. It is assumed that those providing triaging services will have access to appropriate guidelines regarding contra-indications to NSAIDs use but in general the following patients should avoid their use entirely or only use with caution.

Those with known problems with NSAIDs use are:

History of GI haemorrhage or perforation or recurrent GI ulceration

Allergic reactions or hypersensitivity to NSAIDs

Severe heart failure, hepatic or renal impairment

High dose ibuprofen (>2.4g/day {400 mg x6 per day}) should be avoided in patients with ischaemic heart disease, peripheral arterial disease, cerebrovascular disease, congestive heart failure or patients with uncontrolled persistent hypertension

NSAIDs should not be used in the 3rd Trimester

There are other NSAIDs in use with Diclofenac and Naproxen being the two most commonly used alternatives. Naproxen is a non-selective cox inhibitor, like ibuprofen but is usually prescribed with omeprazole to help minimise the risks of GI complications and side effects. Diclofenac is an example of a selective Cox2 inhibitor and is commonly prescribed to help with pain associated with musculo-skeletal disorders. (Cox is cyclo-oxygenase – an enzyme needed for prostaglandin synthesis).

Naproxen and diclofenac do not offer any significant advantage over ibuprofen in the management of acute dental pain and carry greater risk of side effects and complication. (Diclofenac should be avoided in patients with Inflammatory bowel disease, along with all of the other conditions mentioned above). The use of Naproxen and diclofenac should not be seen as an alternative to local measures for patients who are already taking appropriate levels of paracetamol and ibuprofen.

For patients who cannot take NSAIDs and are not able to manage their pain with paracetamol alone, the use of an opioid in conjunction with paracetamol can be considered. The most commonly used combination drug prescribed for severe acute pain is co-codamol 30/500 which contains 30mg of codeine and 500mg of paracetamol in each tablet. Patients can take up to 60/1000 (ie 2 tablets) 4 times a day. This dose has been shown to have an equivalent pain relief outcome to 600mg ibuprofen. Lower doses of co-codamol are available – for instance 8/500 tablets can be purchased over the pharmacy counter but are unlikely to be effective. **NB. Co-codamol is not listed in the DPF and therefore can only be prescribed on a private prescription.**

All opioid medication carries a risk of dependency and as such should be used for short courses only, avoiding repeat prescriptions where possible. They should be used with caution in patients with a history of drug dependence. They should also be avoided in acute ulcerative colitis/antibiotic associated colitis and conditions where there is inhibition of peristalsis. As with all opioids they should be avoided in patients with respiratory depression/impaired respiratory function, head injury cases, raised intracranial pressure, adreno cortical insufficiency, inflammatory bowel disorders, hypotension and hypothyroidism. For approximately 10% of the population

codeine is ineffective, due to underlying metabolic conditions.

Dihydrocodeine is often prescribed as stand-alone pain relief medication (not in combination with paracetamol). This is considered to be less effective than the combination of codeine and paracetamol which is better supported in the literature. For this reason, stand-alone Dihydrocodeine should not be used even though Dihydrocodeine is listed in the DPF and so is available on an NHS prescription. Even the BNF states that it is relatively ineffective for dental pain.

Steroidal pain relief in the form of corticosteroids such as dexamethasone with doses of 2-8mg per day, over a short, decreasing dose prescription can help with inflammatory dental pain. The risk of promoting infection due to the immunosuppressive nature of steroids is considered to be low but needs to be considered against a background of Covid-19. Their use would need to be restricted to cases where appropriate, high doses of paracetamol/ibuprofen had proved to be ineffective, particularly following local measures where additional pain relief is required for the short term..

Summary

Severe acute dental pain can usually be managed in the short term with appropriate pain relief medication. Antibiotics are rarely needed and will be of no benefit in inflammatory pain such as pulpitis and acute apical periodontitis; their use here is completely contraindicated.

Paracetamol and ibuprofen in combination and at appropriate doses are the “gold standard” of pain relief for acute dental pain: nothing works better than these.

When prescribing pain relief medication, it should be stressed that they will reduce the symptoms to a manageable level but may not remove them entirely.

Alternatives to ibuprofen exist and should be used where NSAIDs cannot be taken. Some patients who cannot tolerate ibuprofen due to gastric side effects can tolerate Naproxen in combination with omeprazole although this does not offer any greater pain relief. (Naproxen is not listed in the DPF – Diclofenac is).

A combination of paracetamol and codeine (or dihydrocodeine with paracetamol combination) is a suitable alternative for patients who cannot take NSAIDs but does not offer any greater pain relief than appropriate doses of ibuprofen for those who can take NSAIDs. These are private only prescriptions.

High doses of any pain relief medication should be avoided for extended periods as all carry risks of complications. Self-prescribed paracetamol overdose due to tooth ache is the second commonest cause of patients being admitted to hospital with paracetamol induced liver toxicity!

Patients in severe dental pain need treatment of the offending tooth; the pain relief medication will buy them time until a suitable appointment is available.

References

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2. Appropriate Antibiotic management protocols

The Role of Antibiotics in Managing Acute Pain in Covid 19 and Risk of Antibiotic Associated Colitis (known as CDiff Infection)

Prior to the arrival of Covid 19 and AAA triaging, guidelines on the use of antibiotics were clear that antibiotics do not cure toothache and should only be used where there was evidence of systemic involvement as determined by a temperature of 38 C or above, swellings moving to the eye or towards the neck, trismus or difficulty in swallowing, and lymphadenopathy. Interventive dentistry is much more effective for the treatment of dental problems and studies indicate that between 50-80% of AB prescriptions in dentistry are inappropriate. Prior to Covid 19 the emphasis was towards reducing the risk of AMR and the consequences of this in the future.

With the advent of Covid 19 and the loss of face to face consultations the prescribing protocols have been relaxed to include localised swellings as well. However, the main reason for patient contacts is pain and it is important for dentists to understand that the ability of antibiotics to resolve a localised swelling and any associated pain is very limited. The reason for extending the recommendation for the use of antibiotics for localised swellings is prophylactic to reduce the risk of the swelling spreading. Access for ABs to the bacteria causing the localised swelling is extremely limited. It is very likely that in cases of localised swelling the antibiotics will not resolve the swelling and the pain needs to be controlled with analgesics which have a far more important role to play. A diagnosis of apical periodontitis (my tooth hurts to bite on) in the absence of any swelling should be managed by analgesics alone. It would be helpful for the dentist to inform the patient that the aim of the antibiotics is to prevent the spread of infection rather than eliminate the swelling to establish an appropriate level of expectation. In cases of continued pain and localised swelling, it is likely that the dentist will have to prescribe another course of antibiotics as DERs/Rego may not allow the case to be referred on to a hub.

The current guidelines state the 2 main antibiotics that should be used in dentistry are Penicillin (Amoxicillin or Pen V) and Metronidazole. **Depending on the diagnosis:**

- Amoxicillin is the first choice and Metronidazole becomes the first choice if the patient is allergic to penicillin, or
- Metronidazole is first choice with Amoxicillin second.

Dosages in Adults:

Amoxicillin is 500mg TDS 5 days and review after 3 days.

Metronidazole for gram negative anaerobic infections (e.g. pericoronitis and AUG) is 400mg TDS up to 5 days review after 3 and discontinue if resolving

Metronidazole for Mixed infections (e.g. dental abscesses) is 400 mg TDS 5 days and review at 3 days.

The reason for reviewing at 3 days is if there is no improvement consideration should be given for an alternative antibiotic. If there is improvement the patient should stop taking the antibiotic.

NB. Metronidazole dose has increased from 200mg to 400mg several years ago because it was shown that 400mg is the MIC (minimum inhibitory concentration is the lowest concentration of this drug, which prevents visible growth of the bacteria sensitive to it that are associated with dental infections). Avoid using metronidazole in:

- **alcohol dependency (metronidazole mimics disulfiram and can lead to death)**
- **pregnancy**
- **check for drug interactions**

Clarithromycin or Azithromycin, is 3rd choice rather than Erythromycin which now has less value in dentistry as a result of antimicrobial resistance to it and greater side effects.

Dosages in Adults:

Clarithromycin is 250mg bds for up to 5 days review at 3 days

Azithromycin is 500mg x 1 daily for 2-3 days

If the first course of ABs has not worked and you need a **second course** then you would prescribe the second choice antibiotic. This should be determined after 3 days having rung the patient back. Rarely, if you feel that 2 different antibiotics are needed straight away because the infection is serious enough then the combination choice should be Amoxicillin plus Metronidazole and not Co-Amoxiclav as the former combination has a better spectrum of activity and the latter has an increased risk of a CDiff Infection -see below.

CDiff – Clostridium Difficilis

The risk of CDiff increases with each course of antibiotic. It is clear to see what impact Amoxicillin has on the gut flora with the frequency of diarrhoea associated with its use. Not everyone carries CDiff in their guts so it is the patients who do that are at risk and you cannot know who is a carrier and who is not. The 2 most likely ABs in dentistry to cause CDiff are Co-amoxiclav and Clindamycin. Rarely Amoxicillin on its own has been known to cause death from CDiff (there have been some cases) but the most potent antibiotic of all for causing this infection is Clindamycin. There is a 6% mortality rate associated with CDiff apart from the fact that it is an extremely unpleasant infection anyway. In the current climate of Covid 19, any patient who develops a CDiff infection who then goes onto to catch Covid 19 now has a much greater chance of mortality.

Advice from the FGDP guidelines state:

"The prescribing of clindamycin, cephalosporins or co-amoxiclav offers no advantage over a penicillin, metronidazole or a macrolide and is not recommended for the routine management of dento-alveolar infections.

The inappropriate use of clindamycin, cephalosporins or co-amoxiclav will contribute to the development of resistance to these drugs and can lead to the development of ***Clostridium Difficile*** infection.

The use of antibiotics other than recommended in this guidance should only be at the direction of a specialist".

It is not the purpose of this guidance document on the use of antibiotics to go into details on dosages or drug interactions as these are freely available. It is well understood that a dentist may prescribe any drug that is available in the Dental Practitioners Formulary but just because the drug is available does not mean that it is the best one to use. It is incumbent on dentists from a medico legal perspective to explain the risks of complications with treatment and this does include CDiff. A patient who develops a CDiff infection is deemed to have suffered harm and any successful legal defence in the event of litigation will be based on whether the patient has had the risks properly explained and that these are recorded in the notes. If the swelling has not resolved after a course of Amoxicillin and Metronidazole it is very likely that the infection will not resolve without active clinical intervention. Any dentist thinking of a 3rd course of antibiotics should take advice and should think very carefully about the appropriateness of Co-Amoxiclav or Clindamycin.

References

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