SURGICAL MANAGEMENT OF THE PRIMARY CARE DENTAL PATIENT ON ANTIPLATELET MEDICATION

Summary

Antiplatelet medication

- Low-dose aspirin (75mg-300mg daily), clopidogrel (Plavix®), dipyridamole (Persantin®, Persantin Retard®), aspirin plus dipyridamole (Asasantin Retard®)
- Patients taking antiplatelet will have a prolonged bleeding time but this may not be clinically relevant.
- Stopping antiplatelet therapy increases the risk of a stroke or myocardial infarction occurring; patients are more at risk of permanent disability or death if they stop antiplatelet medication prior to a surgical procedure than if they continue it.
- Bleeding complications, while inconvenient, do not carry the same risks as thromboembolic complications.

Patients taking antiplatelet *monotherapy*

- Postoperative bleeding after dental procedures can be controlled using local haemostatic measures in patients taking antiplatelet monotherapy.
- Published reviews of the available literature advise that antiplatelet monotherapy should not be stopped prior to dental surgical procedures.

Patients taking antiplatelet *dual therapy*

- The combination of clopidogrel plus aspirin is mainly used in patients with stents. The combination of aspirin plus dipyridamole is used for the prevention of strokes or TIAs.
- Aspirin plus dipyridamole poses a similar bleeding risk as aspirin monotherapy.
- There is insufficient evidence to establish to what extent bleeding risk increases if patients take both aspirin and clopidogrel.
- Due to the high risk of thromboembolic events in patients taking aspirin plus clopidogrel they should not have their antiplatelet medication altered or stopped without consultation with the interventional cardiologist.
- Patients taking aspirin plus clopidogrel may need to be referred to a dental hospital or hospital-based oral/maxillofacial surgeon.

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NHS

SURGICAL MANAGEMENT OF THE PRIMARY CARE DENTAL PATIENT ON ANTIPLATELET MEDICATION

Contents

Antiplatelet medications do not need to be stopped before primary care dental surgical procedures

How do antiplatelet medications affect clotting? Top

Platelets provide the initial haemostatic plug at the site of a vascular injury. They are also involved in pathological processes and are an important contributor to arterial thrombosis leading to myocardial infarction and ischaemic stroke.

Available antiplatelet medications include:

- **Low-dose aspirin** (75mg-300mg daily). Used for the secondary prevention of thrombotic cardiovascular or cerebrovascular disease and following coronary artery bypass surgery.[1] N.B. Many patients take low-dose aspirin that is recommended, but not prescribed, by their GP. Others take aspirin of their own accord in the belief that it will offer them cardiovascular protection.

- **Clopidogrel (Plavix®)**. Licensed as monotherapy for the prevention of atherothrombotic events in patients suffering myocardial infarction, ischaemic stroke or peripheral arterial disease and in conjunction with aspirin for non-ST segment elevation acute coronary syndrome (unstable angina or non-Q-wave myocardial infarction) and ST segment elevation acute myocardial infarction in medically treated patients eligible for thrombolytic therapy.[2]

  Clopidogrel is also recommended in combination with low-dose aspirin after the insertion of a coronary artery stent (unlicensed indication). The combination is used for 4 -12 weeks following the insertion of a bare metal stent and for 6 – 12 months following the insertion of a drug-eluting stent (local policies vary).

- **Dipyridamole (Persantin®, Persantin Retard®)**. Used as an adjunct to oral anticoagulation for the prophylaxis of thromboembolism associated with prosthetic heart valves. Modified release dipyridamole preparations are licensed for the secondary prevention of ischaemic stroke and transient ischaemic attacks.[3] **Asasantin Retard®** contains both aspirin and dipyridamole and is licensed for the secondary prevention of stroke and transient ischaemic attacks.[4]

All antiplatelet medications affect clotting by inhibiting platelet aggregation but they do so by a variety of different mechanisms. Aspirin irreversibly acetylates cyclooxygenase, inhibiting the production of thromboxane A_2.[5] This results in decreased platelet aggregation by adenosine diphosphate (ADP) and collagen. Clopidogrel selectively inhibits ADP-induced platelet aggregation. Dipyridamole is an adenosine reuptake inhibitor and phosphodiesterase inhibitor with antiplatelet and vasodilating activity.[6] The action of dipyridamole is reversible. Aspirin begins irreversibly inhibiting platelet aggregation within one hour of ingestion and clopidogrel within two hours; this lasts for the life of the platelets (7-10 days).[5,7] The effect is only overcome by the manufacture of new platelets. [8] Complete recovery of platelet aggregation may occur in 50% of cases by day three and in 80% of cases by day four.[9]

Aspirin and clopidogrel have a synergistic antiplatelet effect as both affect platelet aggregation by different mechanisms.[10] There is evidence that the effects of aspirin and dipyridamole on platelet behaviour are additive however, addition of dipyridamole to acetylsalicylic acid does not increase the incidence of bleeding events.

Non-steroidal anti-inflammatory drugs (NSAIDs) other than aspirin (e.g. ibuprofen, diclofenac) have a reversible effect on platelet aggregation and platelet function is restored once the drug is cleared from the circulation. NSAIDs are not used clinically for their antiplatelet activity.

Cyclooxygenase-2 (COX-2) inhibitors (e.g. celecoxib) do not have any appreciable antiplatelet activity.[11]

When platelets are inhibited it takes longer for free blood flow from a cut to stop and for primary haemostasis to occur i.e. the 'bleeding time' is prolonged.

How is bleeding time assessed? Top

SUMMARY OF EVIDENCE

- There is no suitable test available to assess the increased risk of bleeding in patients taking antiplatelet medications.

Platelet function is commonly assessed using the cutaneous bleeding time test. When platelet function is normal bleeding time ranges from 2 to 10 minutes depending on the individual and the test used.[12,13,14,15] This range varies between institutions and depending on the method of measurement used. Bleeding times may be longer in women than men.

A correlation between bleeding time test results and the rate of surgical bleeding complications has not been established.[16] One study in 30 healthy patients found no relationship between the cutaneous bleeding time test and oral bleeding time following a single tooth extraction. The authors concluded that the cutaneous bleeding time test has no role in the prediction of bleeding in the dental setting.

The cutaneous bleeding time test should not be used to estimate the haemorrhagic risk in a patient on antiplatelet medication.[17] There is currently no suitable bioassay test sophisticated enough to be used routinely for the monitoring of side effects associated with antiplatelet medications.

How do antiplatelet medications affect bleeding time? Top

All patients receiving antiplatelet medications must be considered to have drug-induced altered platelet function. However, the effect on primary haemostasis is minimal when antiplatelet agents are used as monotherapy in patients without additional risk factors for impaired clotting.[18] There will be an increased bleeding tendency if two antiplatelet agents are used in combination.[19] Aspirin can double the baseline bleeding time but this may still be within or just outside the normal range. It has been reported that only 20% to 25% of patients using aspirin have an abnormal bleeding time. Clopidogrel is considered a more potent antiplatelet agent and can prolong the bleeding time by 1.5 to 3 times normal.[10,19] Sensitivity to antiplatelet agents varies from one person to another.

A small study has assessed the effect of cessation of low-dose aspirin on bleeding time in healthy volunteers.[15] Baseline bleeding times were measured using a standardised method (manufacturer's range of normal bleeding times 2 to 10 minutes). Volunteers were then randomly assigned to one of three treatment groups; placebo, aspirin 75mg or aspirin 300mg daily. Treatment was taken for 14 days. Once the aspirin or placebo was stopped bleeding time was measured on a daily basis until it returned to baseline; mean prolongation of bleeding time was also calculated. Mean bleeding time at baseline was between 2 and 10 minutes for all participants. At 24 hours after cessation of treatment the mean prolongation of bleeding time was 22 seconds for patients on placebo, 105 seconds for those on 75mg aspirin and 211 seconds for those on 300mg aspirin. The mean bleeding time for participants who took 75mg aspirin was under 10 minutes at 24 hours after cessation. There was considerable variability among individuals on aspirin as to when haemostatic function returned to baseline. However, all bleeding times had returned to baseline values by the sixth day.

What are the thromboembolic risks associated with stopping antiplatelet medications in the perioperative period? Top

SUMMARY OF EVIDENCE

- Stroke and myocardial infarction have been associated with cessation of antiplatelet medication approximately 10 days before the event.
- Stopping aspirin prior to surgical procedures may increase the risk of thromboembolic events by 0.005%.

Thromboembolic events associated with the cessation of antiplatelet medications have only recently been identified. One of the first papers to be published describing this association was a retrospective analysis of 475 patients admitted to hospital with a myocardial infarction; 11 (2.3%) had discontinued aspirin therapy within 15 days prior to admission. [20] Nine patients discontinued aspirin prior to planned surgical procedures, one of which was a dental procedure. The dental patient had been stable and symptom free on aspirin for 10 years but suffered a myocardial infarction 10 days after stopping aspirin therapy.

The same author has now published a prospective cohort study of 1,358 consecutive patients admitted to hospital with acute coronary syndromes.[21] It was found that 5% of the patients had recently (11.9 ± 0.8 days before admission) stopped oral antiplatelet agents. Two thirds of the patients who had stopped oral antiplatelet agents had done so for planned surgery. Patients who had recently withdrawn from oral antiplatelet agents were characterised by catastrophic outcomes with a 2-fold increase in the rate of death compared with prior users or nonusers. In addition bleeding complications in this group were unusually high and were significantly linked to ischaemic events. The study conclusion was that these observations support the hypothesis of a rebound effect after oral antiplatelet medication interruption.

Another prospective cohort study examined the incidence of aspirin withdrawal in 1,236 patients admitted to hospital for acute coronary syndrome.[9] Fifty-one new coronary events occurred less than one month after aspirin withdrawal and represented 4.1% of all patients hospitalised for a coronary event but 13.3% of those who relapsed. The mean delay between aspirin withdrawal and acute coronary event was 10 ± 1.9 days (range 4 to 17 days). Thirteen (25.5%) of the patients who discontinued their aspirin medication did so prior to dental treatment.

A retrospective case-control study assessed the discontinuation of aspirin as a risk factor for ischaemic stroke.[22] In the study period 309 patients who were receiving aspirin, either as monotherapy or with another antithrombotic drug, prior to the event were admitted with ischaemic stroke or transient ischaemic attack. Cases were matched with controls who had a history of stroke but had not had a stroke within the last six months and who were taking long-term aspirin for secondary prevention. Thirteen patients (4.2%) had discontinued aspirin therapy in the four weeks prior to the event compared to four controls (1.3%). The mean interval between treatment disruption and cerebral infarction in the patient group was 9.5 ± 7 days.

Thromboembolic events were reported in two patients following the withdrawal of antiplatelet medication one week prior to cutaneous surgery[23] and in five patients (two died) following withdrawal of aspirin 8 to 10 days prior to transurethral prostatectomy.[24]

A review and meta-analysis of the cardiovascular risks of use versus perioperative withdrawal of low-dose aspirin found that in 93 patients who presented with acute vascular syndromes after cessation of low-dose aspirin 14 (15.1%) had discontinued it due to dental surgery.[25] The time interval between aspirin discontinuation and the acute vascular event was 8.5 ± 3.6 days for acute coronary syndrome, 14.3 ± 11.3 days for acute cerebral events and 25.8 ± 18.1 days for acute peripheral vascular events.

A further review and meta-analysis of 50,279 patients at risk for coronary artery disease assessed the hazards associated with discontinuing or not adhering to aspirin therapy and concluded that aspirin withdrawal has a major detrimental effect regardless of the indication for its use.[26] The analysis found that the typical average interval from aspirin cessation to thromboembolic event was 10 days.

Estimation of the risk associated with stopping antiplatelet therapy has been attempted. One author estimated that the risk of thromboembolic events associated with the withdrawal of aspirin for 3 to 14 days prior to cutaneous surgery is about 0.005% (1 thromboembolic event in every 21,448 cutaneous excisions).[27] Another review uses the estimate that the background rate of cardiovascular events is about 1.4 per 1,000 patients per week; administration of low-dose aspirin reduces this rate to 1.1 events per 1,000 patients per week. Therefore withholding aspirin perioperatively for 7 days would add a risk of about 0.3 additional events for every 1,000 patients per week. However, the review suggests that a rebound hypercoagulable state may occur when low-dose aspirin is stopped resulting in an increase in the cardiovascular risk to 11 events per 1,000 patients per week immediately following withdrawal.

What are the risks of bleeding associated with continuing antiplatelet medications in the perioperative period?

Top

SUMMARY OF EVIDENCE

- Patients taking antiplatelet medications will have a prolonged bleeding time but this may not be clinically relevant.
- Postoperative bleeding after dental procedures can be controlled using local haemostatic measures in patients taking antiplatelet monotherapy.
- There is insufficient evidence to comment on the bleeding risk if patients take both aspirin and clopidogrel.

Clinically significant postoperative bleeding following dental procedures has been defined[28] as that which:

1. continues beyond 12 hours
2. causes the patient to call or return to the dental practice or accident and emergency department
3. results in the development of a large haematoma or ecchymosis within the oral soft tissues
4. requires a blood transfusion.

Patients with underlying hepatic, renal or bone marrow disorders often have disease related bleeding disorders. Bleeding risk also increases with age and with heavy alcohol consumption.

Two small prospective studies have investigated the effect of continuing low-dose aspirin therapy in patients undergoing dental procedures. One prospectively studied 51 consecutive patients on long-term low-dose aspirin therapy scheduled for oral surgery.[29] Aspirin was not stopped. All patients had bleeding times measured preoperatively; the mean bleeding time was 2.86 $\pm$ 0.54 minutes. All surgery was performed on an outpatient basis under local anaesthetic. In only one case (third molar surgery) was intropeative bleeding considered excessive; applying pressure for 10 minutes with gauze soaked in 1% feracrylum solution (a haemostatic polymer of polyacrylic acid) controlled this. In all other cases a simple pressure pack and suturing produced haemostasis. No postoperative bleeding was reported in any case at planned follow up visits over two weeks.

The second study investigated stopping versus continuing low-dose aspirin prior to dental extraction.[14] Thirty-nine patients taking aspirin 100mg daily were studied. Nineteen continued aspirin as normal and 20 stopped aspirin seven days prior to the planned extraction(s). A bleeding time test was performed one hour prior to the procedure. The mean bleeding time was longer in patients who continued aspirin compared to those who stopped (3.1 mins vs. 1.8 mins, p=0.004). Although the difference was statistically significant, none of the patients who continued aspirin had a bleeding time outside the normal range (1-4.5 minutes in this study). Intraoperative bleeding was controlled in 33 (85%) patients with gauze packing and sutures. Six patients (two who stopped aspirin and four who continued aspirin) had tranexamic acid added to the local packing. No patient experienced uncontrolled bleeding immediately postoperatively or in the following week.

A prospective study of 253 patients (41 taking aspirin, 212 not taking aspirin) undergoing cutaneous surgery found bleeding was easily controlled in all patients. There was no significant difference between the two groups in terms of postoperative complications.

There are few published studies on the relative risks of perioperative bleeding with clopidogrel and dipyridamole. The pharmacological mechanisms underlying the antiplatelet action of clopidogrel and dipyridamole suggest that patients taking these medications as monotherapy will be at no greater risk of excessive bleeding than those taking aspirin. Patients on either clopidogrel or dipyridamole as monotherapy should not have their therapy stopped or altered before dental procedures.[30]

Dual antiplatelet therapy

Combined use of aspirin and clopidogrel produces additive and possible synergistic effects as the two block complementary pathways in the platelet aggregation cascade.[10,23] The use of this combination is increasing in patients with acute coronary syndrome, in ST segment elevation acute myocardial infarction and in patients who have had coronary artery stents (bare metal stents (BMS), drug eluting stents (DES)) inserted. Patients with stents are at high risk of thromboembolic events and it has been found that the greatest risk for stent thrombosis is premature discontinuation of clopidogrel therefore it is recommended that antiplatelet therapy should not be stopped at any time, but especially within the first 6 -12 months after DES insertion or the first 6-12 weeks after BMS insertion, without discussion with an interventional cardiologist.[31,32] There is insufficient evidence to comment on the bleeding risk if patients take both aspirin and clopidogrel. These patients may need to be referred to a dental hospital or hospital-based oral/maxillofacial surgeon.

The use of aspirin in combination with dipyridamole does not increase the risk of bleeding.[3]

NSAIDs other than aspirin e.g. ibuprofen, diclofenac, also have antiplatelet activity and may increase bleeding time. However, this rarely exceeds normal limits. Even major surgery is not usually complicated by patients taking NSAIDs and they should not be discontinued prior to dental surgical procedures.

How do the risks of thromboembolic events and postoperative bleeding balance? Top

SUMMARY OF EVIDENCE

- Bleeding complications, while inconvenient, do not carry the same risks as thromboembolic complications.
- Patients are more at risk of permanent disability or death if they stop antiplatelet medication prior to a surgical procedure than if they continue it.
- Published reviews of the available literature advise that antiplatelet monotherapy should not be stopped prior to dental surgical procedures.
- There is insufficient evidence to comment if patients take both aspirin and clopidogrel.

Thromboembolic events, including fatalities, have been reported after antiplatelet therapy withdrawal. Although the risk is low, the outcome is serious. This must be balanced against the fact that there is no single report of uncontrollable bleeding when dental procedures have been performed without stopping antiplatelet medications.[14,29,33,34]

A meta-analysis and review has examined the cardiovascular risks associated with the perioperative withdrawal of low-dose aspirin versus the bleeding risks associated with its continuation. The meta-analysis examined bleeding risk associated with any surgical procedure and found that although aspirin increases the frequency of bleeding complications by approximately 50%, however, surgeons who were blinded to the aspirin status of the patient could not differentiate patients taking aspirin from those not taking aspirin. In addition although low-dose aspirin increases bleeding quantitatively it does not move the bleeding complications towards a higher risk category. Thus, in most cases bleeding complications can be handled in the same way as they would be without the influence of aspirin. When assessing the risk of stopping aspirin the meta-analysis showed that discontinuation of low-dose aspirin resulted in hazardous events such as stroke, myocardial infarction or cardiovascular death. Quantifying the incidence of cardiovascular events after aspirin withdrawal was not possible as the retrospective studies included in the meta-analysis did not report the number of patients who did not suffer a cardiovascular event despite aspirin withdrawal. The authors concluded that aspirin should only be discontinued perioperatively if the assessed perioperative bleeding risks are expected to be similar to, or exceed, the observed cardiovascular risks after stopping aspirin.

Should the decision on whether to stop or continue antiplatelet therapy prior to dental surgery be made on a case-by-case basis? This is an attractive option but impractical and potentially dangerous. Even conferring with the prescriber of the antiplatelet medication is unlikely to help as most will be unaware of the haemostatic risks of the planned dental procedures.

A guidance document produced in 2001 advised that antiplatelet medications should only be discontinued in the perioperative period when the haemorrhagic risk of continuing them is definitely greater than the cardiovascular risk associated with their discontinuation. This advice has been strengthened by the conclusions of recently published reviews.[19,25,26]

Consensus is that for minor surgical procedures, including dental procedures, antiplatelet medications used as monotherapy should not be stopped or doses altered and that local haemostatic measures are used to control bleeding.[5,10,14,16,19,27,29,33,34,35,36,37,38] When patients are taking dual antiplatelet therapy either their interventional cardiologist should be contacted for advice or the patient should be referred to a dental hospital or hospital-based oral/maxillofacial surgeon.[31,32]

Which patients taking antiplatelet medication should not undergo surgical procedures in primary care? Top

Patients taking antiplatelet medications with the following medical problems should not be treated in primary care without medical advice or should be referred to a dental hospital or hospital based dental clinic:[28,36,37]

- liver impairment and/or alcoholism
- renal failure
- thrombocytopenia, haemophilia or other disorder of haemostasis
- currently receiving a course of cytotoxic medication
- dual antiplatelet therapy.

For which procedures can antiplatelet medications be safely continued? Top

Minor surgical procedures can be safely carried out without altering the antiplatelet medication dose. Those likely to be carried out in primary care will be classified as minor e.g. simple extraction of up to three teeth, gingival surgery, crown and bridge procedures, dental scaling and the surgical removal of teeth.[28,39]

When more than three teeth need to be extracted multiple visits will be required. The extractions may be planned to remove two to three teeth at a time, by quadrants, or singly at separate visits.

Scaling and gingival surgery should initially be restricted to a limited area to assess if bleeding is problematic.

How should the risk of bleeding be managed? Top

Timing
Think about the timing of the surgery. Planned surgery should ideally be:

- At the beginning of the day - this allows more time to deal with immediate re-bleeding problems.
- Early in the week - this allows for delayed re-bleeding episodes occurring after 24–48 hours to be dealt with during the working week.[37]

Local anaesthetic
A local anaesthetic containing a vasoconstrictor should be administered by infiltration or by intraligamentary injection wherever practical.[28,37] Regional nerve blocks should be avoided where possible. However, if there is no alternative, the local anaesthetic should be administered cautiously using an aspirating syringe. Local vasoconstriction may be encouraged by infiltrating a small amount of local anaesthetic containing adrenaline (epinephrine) close to the site of surgery.

Local haemostasis
Efforts should be made to make the procedure as atraumatic as possible and any bleeding should be managed using local measures.

Sockets should be gently packed with an absorbable haemostatic dressing[28,33,36,37] e.g. oxidised cellulose (Surgicel®), collagen sponge (Haemocollagen®) or resorbable gelatin sponge (Spongostan®) then carefully sutured. Resorbable sutures are preferable as they attract less plaque.[37] If non-resorbable sutures are used they should be removed after 4-7 days. Following closure, pressure should be applied to the socket(s) by using a gauze pad that the patient bites down on for 15 to 30 minutes.

Patients should be given clear instructions on the management of the clot in the postoperative period and advised:[40]

- to look after the initial clot by resting while the local anaesthetic wears off and the clot fully forms (2-3 hours),
- to avoid rinsing the mouth for 24 hours,
- not to suck hard or disturb the socket with the tongue or any foreign object,
- to avoid hot liquids and hard foods for the rest of the day,
- to avoid chewing on the affected side until it is clear that a stable clot has formed. Care should then be taken to avoid dislodging the clot,
- if bleeding continues or restarts, to apply pressure over the socket using a folded clean handkerchief or gauze pad. Place the pad over the socket and bite down firmly for 20 minutes. If bleeding does not stop, the dentist should be contacted; repacking and resuturing of the socket may be required.
- Who to contact if they have excessive or prolonged postoperative bleeding. The surgery and out of hours/on call dentist's name/number should be provided. There should be a facility for the patient to be reviewed and treated immediately by a dentist if a bleeding problem occurs. If it is not possible for the patient to be seen immediately by a dentist then the patient should be referred to their local accident and emergency department.
- On pain control (see below).

How should postoperative pain be managed? Top

Generally paracetamol is considered a safe over-the-counter analgesic for patients taking antiplatelet medications and it may be taken in normal doses if pain control is needed and no contraindication exists. Aspirin at analgesic doses and non-steroidal anti-inflammatory drugs (NSAIDs) e.g. ibuprofen are considered less safe and should be avoided if possible (see interactions below).

If analgesia is to be prescribed, additional options to paracetamol include:

- **Dihydrocodeine –** an opioid analgesic with similar analgesic efficacy to codeine. Its use should be considered second line. It is suitable for mild to moderate pain but has no anti-inflammatory activity and is of limited value in pain of dental origin.

Are there any drug interactions that are relevant to this patient group undergoing dental surgical procedures? Top

NSAIDs should be used with caution in combination with aspirin or clopidogrel. They can damage the lining of the gastro-intestinal tract leading to bleeding that may be worsened by aspirin or clopidogrel.[2,41]

Dipyridamole appears not to interact with NSAIDs.

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Surgical Management of the Primary Care Dental Patient on Antiplatelet Medication

This algorithm applies to patients taking low dose aspirin, clopidogrel or dipyridamole.

Does the patient have one of the following medical problems:
- liver impairment and/or alcoholism
- renal failure
- thrombocytopenia, haemophilia or other disorder of haemostasis

OR
- is currently receiving a course of cytotoxic medication?

YES → REFER to a dental hospital or hospital-based oral/maxillofacial surgeon.

NO ↓

Does the patient take both aspirin AND clopidogrel?

YES → Discuss feasibility of stopping one of the antiplatelet agents with the patient's cardiologist. If this is not recommended consider referral to a dental hospital or hospital-based oral/maxillofacial surgeon (see text).

NO ↓

Does the patient need prophylactic antibiotics? (i.e. are they at risk of endocarditis?)

YES → Follow current guidelines for endocarditis prophylaxis.

NO ↓

Consider the timing of the procedure
In the morning – immediate re-bleeding problems can then be managed during working day.
At the beginning of the week – delayed re-bleeding problems can be managed during the working week.

↓

Use a local anaesthetic containing a vasoconstrictor.

↓

Give local anaesthetics by infiltration or intraligamentary injection wherever practical. Avoid regional nerve blocks where possible. However, if there is no alternative administer cautiously using an aspirating syringe.

↓

Gently pack the socket with an absorbable haemostatic dressing (e.g. Surgicel®, Haemocollagen®, Spongostan®).

↓

Carefully suture the socket.

↓

There is no indication for routinely prescribing antibiotics following minor surgical procedures in this group of patients.

↓

Will the patient require post-operative analgesia?

YES → Paracetamol is the analgesic of choice.
AVOID non-steroidal anti-inflammatory drugs (NSAIDs) e.g. ibuprofen, diclofenac, aspirin in analgesic doses (interaction, see text).
Dihydrocodeine is also available on prescription, but is of limited use for dental pain.

NO ↓

Patients should be given clear instructions on the management of the clot in the postoperative period (see text).

Appendix 1

Will I be paid if I use a haemostatic dressing? Top

Extraction of teeth including minor oral surgery to remove e.g. buried roots, unerupted or impacted teeth are classed as 'Band 2' within the 2006 General Dental Services Contract and attract 3.0 units of dental activity. Additional units of dental activity can be claimed for removal of sutures (1.0) and arrest of bleeding (1.2).[43] There is no additional payment for local haemostatic management of patients taking antiplatelet therapy.

Appendix 2

Will I be at risk from litigation if the patient bleeds? Top

We live in an increasingly litigious society and there will always be the possibility that a patient may pursue a legal claim. Adherence to clinical practice guidelines is one way to limit potential liability.

Dental defence societies assess each case individually but take the following general view:[42,43]

- Practitioners should be aware of and abide by best evidence-based medicine, current teaching and guidance from a responsible body of opinion.
- If contrary advice is received from another medical practitioner, a discussion around the differing opinions is advised with this practitioner. It is important that the patient is not compromised in any way.
- If practitioners adhere to guidance advising that antiplatelet medication is not stopped prior to minor surgical procedures in primary dental care, especially with respect to advice on local haemostasis and suturing, then the practitioner could be defended should problems arise.

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