CLINICAL POLICIES

Subject: Anticoagulant therapy and dental surgery
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POLICY

The purpose of this policy is to provide oral health professionals with a clear guideline that patients on anticoagulant therapy may be treated routinely when undergoing minor oral surgery.

DEFINITION

Medication prescribed to patients at high risk of developing blood clots, to prevent the formation of these.

GUIDELINE

The relevance of anticoagulant therapy in dentistry specifically centres on frequent requests for general anaesthetic to do minor oral surgery. The motivation for the general anaesthetic is then specifically stated as the discontinuation of the anticoagulant therapy and increased risks associated with the surgery under these circumstances. This policy serves to indicate, based on extensive and authoritative reviews and research, that these reasons are not valid and no general anaesthetic should be authorised, based on such a motivation.

It also serves to indicate that the discontinuation of anticoagulant therapy for minor oral surgery and extractions, could pose a serious, and indeed fatal, risk to these patients.

GENERAL INFORMATION

Warfarin is prescribed to more than four million Americans and more than 300 000 patients in the UK. In South Africa it is also commonly prescribed and, due to the fact that people retain their teeth much longer, these patients routinely present in the dental surgery. It is prescribed to patients for conditions such as atrial fibrillation, mechanical heart valve and venous thromboembolism. Treatment reduces the risk of arterial thrombo-embolic events and recurrent venous thromboembolism dramatically.

Coronary artery stent placement also requires anticoagulant therapy. This is usually dual therapy with aspirin and clopidogrel or ticlopidine.

The appearance of novel anticoagulants such as dabigatran, rivaroxaban and apixaban will probably start affecting physician prescribing patterns and dentists should take note of these drugs and the clinical implications. These anticoagulants offer predictable anticoagulant response and eliminate the need for monitoring. Oral surgical procedures, mostly the removal of teeth and roots, are routinely indicated. Until a number of years ago the standard procedure in these cases was to stop anticoagulant therapy for 48 to 72 hours before surgery in order to prevent excessive bleeding.

It has now been shown in several studies that this approach is not scientifically based, and at worst could lead to far greater complications in the event that a thromboembolism occurs during the time when treatment is discontinued. In a review of 493 patients undergoing 542 dental procedures and where anticoagulant therapy was withdrawn, five patients developed serious embolic complications and four patients died.

The belief that dental treatment, even examinations and scaling, could lead to massive haemorrhage is found in a section of the patient population taking anticoagulants. This stems from uncertainty and the established practice by physicians and dentists to recommend the discontinuation of this medicine over years.
The same review, investigated 2,014 dental procedures performed on 774 patients receiving Warfarin therapy without interruption, of which 1,694 underwent single, multiple and even full mouth extractions. A total of 12 patients had postoperative bleeding which was not controlled by local measures. Of these, eight had an International Normalised Ratio (INR) above current therapeutic levels at the time or in the week after the procedure. These patients represented less than 2% of the study and very importantly, no fatalities were reported.

Another study indicated that of 5,431 patients undergoing more than 11,381 surgical procedures, with many patients at higher than present therapeutic INR levels, only 31 (~0.6% of patients) required more than local haemostasis to control the haemorrhage and no deaths were recorded.

Dental treatment which could potentially lead to excessive bleeding would be:

- Extractions (single and multiple)
- Minor oral surgery (surgical removal of teeth and roots)
- Periodontal surgery
- Biopsies
- Deep scaling and root planing
- Endodontics
- Local anaesthesia blocks and infiltrations

When the International Normalised Ratio (INR) was developed, it standardised anticoagulant measurement. Previously the widely used PT ratios differed considerably, due to the differences in thromboplastin used for the tests. A value of 3.5 is the target INR, with a range of 3 – 4. Patients with a value >5 are not candidates for oral surgery. Several authors suggest that no change in treatment is required if INR is <4.0.

Several studies were reported where any number between 1 and 20 teeth were removed. The available data does not provide adequate information to evaluate the safety of outpatient treatment when routinely removing more than five teeth. When the therapeutic levels of anticoagulation are carefully managed, and a specific protocol to control bleeding is followed, more teeth can be removed safely. Several studies reported the placement of gelatine sponges, oxidised cellulose (Surgicel) and sutures to minimise post-operative bleeding.

Official guidelines also recommend 5% tranexamic acid mouthwashes, four times a day for two days in cases where more procedures or more extensive oral surgery are performed and is sufficient.

It is important to correctly identify patients at risk and this can only be done when a detailed medical history is obtained and thorough examination is performed. Patients on anticoagulant therapy with co-morbidities such as liver disease, renal disease and thrombocytopenia cannot be managed in the dental rooms. Any maxillo-facial surgery involving hospitalisation and specialist management would also have to be managed differently and in consultation with attending medical specialists.

The following guidelines were suggested by Jeske and Sachko in the Journal of the American Dental Association, November 2003:

- Identify the reason the patient is receiving anticoagulation therapy.
- Assess the potential risk versus benefit of altering the drug’s regimen.
- Know the laboratory tests used to assess anticoagulation levels.
- Be familiar with local methods of obtaining haemostasis both intra-operatively and post-operatively.
- Be familiar with the potential complications associated with prolonged or uncontrolled bleeding.
- Consult the patient’s prescribing physician to discuss the type of dental care and investigate the need to alter the anticoagulant regimen. This is particularly important when the patient had coronary artery stents placed. No discontinuation of anticoagulant therapy should be prescribed by a dental professional before discussing this with the patients attending physician or cardiologist.
All conditions for which anticoagulant therapy is prescribed, are potentially fatal. This fact must always be weighed against the risk of post-operative bleeding after dental surgery in patients on anticoagulant therapy. The general consensus of a number of researchers in Europe and America is currently that this treatment, even dual anti-platelet therapy, should not be discontinued for the treatment of patients requiring minor oral surgery. It is also safe to do these procedures in a normal practice setting, and the placement of gelatine sponges and sutures are adequate local control measures to prevent post-operative bleeding.

REFERENCES