

The importance of dental care

by Dr Navdeep Kumar and Dr Hana Cho

Most of you will already know how important it is to look after your teeth when you have thalassaemia. However, many of you have told us that your dentists are not always as clued up as you would like them to be when it comes to understanding the specifics of thalassaemia. We asked Dr Navdeep Kumar, a specialist dental consultant with extensive experience in treating thalassaemia patients to prepare a factsheet that you can hand over to your dentist. If you are one of those who dread visiting the dentist, hopefully this will make it easier for you. It is absolutely vital that you maintain regular visits to your dentist so please do use this helpful aid - see pages 38-39. The message from Dr Kumar and Dr Cho (co-author) is very clear: prevention is better than cure.



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Thalassaemia and the dentist

In the United Kingdom, thalassaemia predominantly affects people of certain ethnic origins (Mediterranean, Asian, Middle Eastern and African). As a result, many dentists may not have experience in treating a patient with this condition. Fear of the unknown may be associated with a reluctance to provide anything other than basic dental care. Indeed, many general dentists may prefer to refer these patients to either the community dental services, or to hospital-based specialised dental units (special care dentistry, paediatric dentistry, oral surgery), especially when extractions of teeth are required. When dental treatment is provided, the dentist may not be fully aware of the impact of thalassaemia on dental management, and so may not liaise with the haematologist when appropriate.

Oro-facial features

Many oro-facial (meaning to do with the mouth, jaw and face) features have been described in thalassaemia, and are shown in the table below:

Feature	Reason
Enlargement of the upper jaw	Bone marrow expansion
Migration and spacing of upper anterior teeth	Changes to bones of the face
Varying degrees of malocclusion (overbite, open bite)	Changes to bones of the face
Painful swelling of salivary glands and dry mouth	Iron deposits
Reduced salivary protection	Reduced immunoglobulin A (IgA) in saliva
Sore or burning tongue	Folate deficiency
Pale gums and mucosa (lining of the mouth)	Anaemia
Discoloured gums	Iron deposits
Delayed dental development	Physical growth delay
Discoloured teeth with short crowns and roots	Iron deposits
Higher rate of dental decay	Multiple reasons; see under 'dental decay'
'Chickenwire-like' appearance of tooth bearing bone on radiographs	Bone marrow expansion

Dental decay

Studies have shown that patients with thalassaemia have a higher rate of dental decay. There are many reasons which contribute to this. Changes to the amount and protective quality of saliva can result in dry mouth, which increases the chance of getting dental decay. Patients may have difficulty accessing regular dental care or may be reluctant to attend if they feel the dentist does not understand their condition. However, it may also be because patients are more concerned with the potentially serious medical complications of thalassaemia, and hence pay less attention to their teeth. Financial and time constraints may also contribute.

Although the higher rate of dental decay means that there is an increased need for fillings, care may only be sought at a late stage when individuals experience pain and try to access emergency dental services. In this situation, the dental decay is often advanced, with the risk of infection and abscess spreading into the tissues of the face and neck. Unfortunately, as a consequence of late presentation, dental extractions may be more likely to be provided than fillings, leading to individuals losing more and more teeth.

Dental care

Dental care should be delivered as a coordinated team approach, ensuring close liaison between the dentist, the haematologist, and where appropriate, the paediatrician. The involvement and treatment provided will depend upon the severity of thalassaemia.

Dental care is provided on a shared care basis. Most patients with thalassaemia can receive routine dental treatment under local anaesthesia from a local general dentist. This means that routine check-ups and treatments are mainly provided by the local general dentist, but referral may be required to specialist services in the community or hospital dental services. This will be for specific courses of treatment, such as extractions if the patient receives regular blood transfusions. Another example is dental treatment under general anaesthesia. This

should be avoided due to the risks associated with underlying anaemia. When general anaesthesia is absolutely necessary, it should be carried out as an inpatient procedure, with the patient admitted under joint care with the haematology team. After completing treatment, the patient will be discharged to the local dentist for continued care. The dental specialties may include paediatric dentistry, special care dentistry (adults above the age of 16), or oral surgery. The dentist or doctor can refer the individual to these services.

Some individuals who have additional medical conditions or needs, may be seen by the community dental services for regular check-ups and treatments. It is important to be registered with a local dentist; either general dentist or community dentist.

Other considerations may need to be taken into account in the following instances:

- If a patient has had a splenectomy, they may be at greater risk of infection following any invasive dental procedures (such as extractions or deep scaling); as such, antibiotics may be prescribed to reduce the risk.
- With repeated blood transfusions there is an increased risk of bleeding due to heparinisation and a slightly greater risk of carriage of blood-borne viruses (Hepatitis C / HIV).
- Cardiomyopathy (heart disease due to effects of iron deposition) – there is a higher risk of stress to the heart.
- Medication-related side-effects – medication-related osteonecrosis of the jaw.

The most important principle of dental care is that prevention is better than cure. It is therefore extremely important to keep teeth and gums in as clean and healthy a state as possible by brushing teeth twice a day with a medium-textured small-headed toothbrush. Alternatively, an electric toothbrush can be used, and the dentist will be able to advise which ones are suitable. A fluoride toothpaste is recommended to reduce the risk of dental

decay. Regular check-ups are essential to ensure that problems can be picked up at an early stage and treated before acute infections arise. Individuals with thalassaemia who present with acute dental infections and abscesses should be treated at the earliest opportunity, especially if they have had a splenectomy. If the person is not registered with a dentist, they should seek emergency dental care from the local emergency dental services (call NHS 111) or hospital so that antibiotics can be prescribed until suitable care can be arranged. Alternatively, their general medical practitioner may be able to assist.

Summary

It is important that both dentists and people with thalassaemia understand the implications of this condition on oral and dental health. The key to management is the prevention of oral disease. It is essential to visit a dentist regularly, so that any problems can be detected and managed early.

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THALASSAEMIA FACTSHEET FOR DENTISTS

What is thalassaemia?

Thalassaemia is a group of genetic conditions that affects haemoglobin formation. The haemoglobin is abnormal and can result in anaemia. Depending on the globin chain affected, it is classified into two main types: beta and alpha. These can be further subcategorised into minor, intermedia and major. The medical management depends on the severity of the condition.



Image: Mohamed Hassan from PixaBay

This factsheet has been produced by dentists for dentists! It provides a summary for the dental management of patients with thalassaemia. Please print it, photocopy or tear it from this magazine and hand it to your dentist.

What are the dental implications?

The table opposite provides treatment guidance.

When should I refer the patient?

- ☐ Patients should be managed on a shared care basis.
- ☐ Most patients can be seen by a general dental practitioner for routine examination and non-invasive dental treatment.
- ☐ If the patient is transfusion-dependent and requires invasive dental treatment, such as extractions, refer to either community dental services or hospital dental services (Paediatric Dentistry, Special Care Dentistry or Oral Surgery depending on availability) for a course of treatment.

	Risk Assessment	Details	Treatment Modification
Medical	Chronic anaemia	<input type="checkbox"/> Fatigue <input type="checkbox"/> Poor motivation <input type="checkbox"/> Oral manifestations of anaemia	<input type="checkbox"/> Consider tolerance to dental procedure <input type="checkbox"/> If sedation / GA required arrange pre-operative assessment
	Infection	<input type="checkbox"/> Due to splenectomy, immune abnormalities, iron overload, severe anaemia <input type="checkbox"/> Bacterial and fungal	<input type="checkbox"/> Manage infections early and more aggressively – consider prescription for oral antibiotics <input type="checkbox"/> Consider post-operative antibiotics (liaise with haematology team)
	Transfusion	<input type="checkbox"/> Patients with thalassaemia major +/- intermedia receive regular blood transfusion	<input type="checkbox"/> Confirm whether patient receives regular blood transfusions <input type="checkbox"/> Avoid treatment on the same day <input type="checkbox"/> Time dental appointment within 1 week of transfusion <input type="checkbox"/> Consider referral to community dental service or hospital dental services for invasive dental procedures
	Blood-borne viruses	<input type="checkbox"/> Transfusion-transmitted infections: - Hepatitis B, C, G - HIV	<input type="checkbox"/> Follow cross-infection control protocol <input type="checkbox"/> Confirm status of infection and management <input type="checkbox"/> Check for presence of liver cirrhosis – caution when prescribing drugs, bleeding risk (pre-operative blood test may be required)
	Cardiomyopathy	<input type="checkbox"/> Due to iron overload <input type="checkbox"/> Risk of increased stress to the heart	<input type="checkbox"/> Assess degree of cardiac involvement; liaise with medical team <input type="checkbox"/> Minimise stress / anxiety for the patient
	Depression	<input type="checkbox"/> Poor motivation, tolerance, acceptance, fatigue	<input type="checkbox"/> Consider tolerance to dental procedure <input type="checkbox"/> Adapt treatment plan accordingly
Dental	Malocclusion	<input type="checkbox"/> Enlargement of maxilla due to bone marrow expansion / hyperplasia <input type="checkbox"/> Spacing of maxillary incisors	<input type="checkbox"/> May require orthodontic intervention
	Medication-related osteonecrosis of the jaw (MRONJ)	<input type="checkbox"/> Antiresorptive drugs for osteoporosis - Oral or intravenous bisphosphonates - Denosumab	<input type="checkbox"/> Follow SDCEP guidelines on MRONJ (2017)*
	Caries	<input type="checkbox"/> Xerostomia (iron deposits in salivary glands) <input type="checkbox"/> Reduced salivary IgA <input type="checkbox"/> Higher levels of salivary <i>Streptococcus mutans</i> <input type="checkbox"/> Poor motivation	<input type="checkbox"/> Follow PHE toolkit for prevention (2017)**
	Periodontal disease	<input type="checkbox"/> Short crowns and roots <input type="checkbox"/> Splenectomy <input type="checkbox"/> Poor motivation	<input type="checkbox"/> Regular monitoring and maintenance

* Scottish Dental Clinical Effectiveness Programme (SDCEP) (2017). Oral Health Management of Patients at Risk of Medication-related Osteonecrosis of the Jaw

** Public Health England / Department of Health (2017). Delivering better oral health: an evidence-based toolkit for prevention.