WAYS OUT
Approaches to safe treatment of multimorbid patients

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Dr Janine Schweppe on the treatment challenge of multimorbid patients

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DEAR READERS,

The phenomenon of multimorbidity is difficult for dentists to grasp, and the complexity of this issue presents many major challenges. As there is a lack of evidence-based guidelines for dealing with several diseases at the same time, dentists most often must find their own way out of the multimorbidity labyrinth.

This topic will gain momentum in the coming years. As life expectancy continues to increase, so too does the number of people suffering from three or more chronic diseases at the same time. Treatment of these conditions is much more time-consuming, and requires both dentists and staff to not only have in-depth knowledge of internal medicine and new, less stressful treatment alternatives, but also of pharmacology, as these comorbidities usually lead patients into polypharmacy (i.e., the simultaneous intake of five or more drugs). In addition, staff must provide more care and attention to multimorbid patients during their stay at the practice, compared to other patients. To guarantee the best possible dental care, close contact with relatives, other medical professionals and legal guardians is often necessary. These requirements often make it challenging for dentists and their staff, and the lack of care concepts and guidelines spoken about by politicians, insurance companies and professional associations further complicates their situation.

In this issue of WE, our authors offer ways out of the labyrinth. Top-ics include the interactions of frequently prescribed medication with drugs used in dental practices (see page 12), as well as minimally invasive dental treatment methods that are less stressful for the already highly stressed multimorbid patient (see page 9). This issue also provides helpful tips for treating multimorbid patients with periodontitis, as well as and step-by-step instructions for intraoral repair (see page 16).

I hope you gain some interesting insights into the subject of multimorbidity and am confident that this issue of the WE will inspire you with new and exciting ideas.

Yours

Dr Janine Schweppe
Global Scientific Affairs Manager – Direct Restorations

Write to us! Do you have any comments on this topic? We are always grateful for your suggestions – recommendations, questions, criticism – by e-mail:

we@kulzer-dental.com
GROWING GLOBAL IMPORTANCE
MULTIMORBIDITY AND POLYPHARMACY

1. Multimorbidity is widespread across the world and has become more prevalent in recent years¹.

2. Older people are more likely to be affected by multimorbidity⁴.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>25–44 years</td>
<td>11.3%</td>
</tr>
<tr>
<td>45–64 years</td>
<td>30.4%</td>
</tr>
<tr>
<td>65–84 years</td>
<td>64.9%</td>
</tr>
<tr>
<td>≥ 85 years</td>
<td>81.5%</td>
</tr>
</tbody>
</table>

People with the lowest economic status are 1.2 to 1.9 times more likely to be affected by multimorbidity than those with the highest economic status (odds ratio 1.2 – 1.9)³.

References
The simultaneous occurrence of several chronic diseases, known as multimorbidity, is on the increase. The diseases often do not exist independently of each other – the consequences of the disease, functional limitations and required drug therapies are linked in a complex way. As a result, polypharmacy, the permanent intake of five or more active substances, is becoming increasingly common. Here are some facts and figures on the subject.

The following diseases are associated with each other:
- Anticoagulation and simultaneous heavy bleeding
- Pain and hypertension or kidney failure
- Depression and reduced drug compliance
- Chronic obstructive pulmonary disease and depression
- Frailty and psychotropic drugs
- Frequent falls and psychiatric/somatic diseases

The disease clusters are different in men and women: cardiovascular, metabolic disorders are less common in women, while psychogeriatric diseases are more common.

A consistent, guideline-oriented therapy of individual diseases potentially leads to polypharmacy.

33% of people over 65 take more than five prescription drugs, according to a study in a developed country.

The number of unwanted side effects increases with the number of diagnoses.

When five drugs are prescribed, they influence each other and create 10 combinations in the body.

The mean number of drug-drug interactions increases with the number of diagnoses.
The growing number of people with two or more chronic diseases is posing an increasing challenge to the healthcare system. But what exactly does multimorbidity mean? What should a dentist keep in mind? And what are the treatment recommendations? In this issue of WE, Dr Andrea Diehl, a Berlin-based dentist, answers these key questions.

In recent decades, life expectancy has risen continuously and it is now over 75 years in almost 60 countries. By 2040, it is forecast that more than 300 million people worldwide will be older than 80 – an increase of 141 percent. At the same time, this is leading to a sharp growth in chronic diseases such as diabetes, cardiovascular diseases, osteoporosis and mental illness. Multimorbidity is a condition in which people suffer from several protracted diseases at the same time. Some consider the criterion of multimorbidity to be fulfilled in the case of two chronic illnesses, others only after a combination of three or more. Whatever its precise definition, multimorbidity is widespread and has become more prevalent in recent years. And the presence of multiple illnesses increases with age: studies of more than 70 million people in 12 countries have shown...
a prevalence in multimorbidity of between 55% and 98% among older people. Gender is another recognised factor in multimorbidity – women tend to be more likely to have multiple illnesses. Finally, multimorbidity is linked to socio-economic status, i.e. low-income groups are more likely to suffer from chronic diseases.

It should be noted that a large, heterogeneous mix of people are affected by multimorbidity and, as such, it is difficult to formulate standardised treatment recommendations – especially since clinical studies focusing on multimorbidity are rare. Nevertheless, there is a need for action in dentistry.

Polypharmacy: the flip side
It is not only the risk of multimorbidity that increases with age, but the risk of polypharmacy too – i.e. the simultaneous and ongoing intake of multiple medications. While there is no uniform definition of the term, it is often understood to mean the intake of five or more medications. In industrialised countries, the prevalence of polypharmacy is between 25 and 80 percent, depending on the definition used, the region studied and the relevant healthcare sector. More and more people in emerging and developing countries are affected by polypharmacy, mainly due to increasing life expectancy and better access to medicines.

In principle, there is a linear relationship between the number of drugs taken and the occurrence of drug-related problems. For example, polypharmacy can lead to adverse events such as falls or bleeding, avoidable examinations and treatments, compliance problems, unplanned hospital admissions and even death. There are also drugs that can exacerbate the course of a disease (“drug-disease interaction”). The treatment of multimorbid patients with polypharmacy therefore involves special risks: for example, a high tendency towards bleeding due to blood thinners or periodontitis caused by the medication they are on.

But there is an enormous conflict between the demands of science-based dentistry, the existing health policy framework and the medical treatment of multimorbid patients. A dentist must now weigh the benefits and risks of a treatment more carefully than ever before.

The consequences for dentistry
At the same time as these trends, in many countries improved prophylaxis is increasing the number of people who still have their own teeth in old age. As a result, they too are benefiting from high-end tooth replacement solutions such as fixed implant restorations.
But there is an enormous conflict between the demands of science-based dentistry, the existing health policy framework and the medical treatment of multimorbid patients. A dentist must now weigh the benefits and risks of a treatment more carefully than ever before. It is important that their recommendation on which therapy to pursue is based on the patient’s individual treatment goals, and not only on what is possible today in terms of modern treatment concepts.

Growing need for coordination

Before treating multimorbid patients, it is essential to perform a thorough medical consultation, including an in-depth conversation about a patient’s medical history. All pathological changes should be included in the final clinical evaluation during initial diagnosis. Dentists must plan to spend more time on this.

General practitioners have a key role for dentists here, as they have precise knowledge of the course of a patient’s disease and the various therapeutic approaches. Interdisciplinary collaboration with additional medical disciplines can also be indispensable. Dentists are also required to have a greater basic knowledge of medicine and internal medicine. They must be able to recognise and evaluate any potential complications of dental treatment in connection with chronic diseases and account for these in a risk assessment. So, dentists should be as up to date as possible on developments in internal medicine and pharmacology.

Conclusion for dental practices

Most elderly people who come to the dental practice are multimorbid to varying degrees, often with complex disease clusters. As a result, the risk of therapeutic conflicts during dental treatment is significantly higher. Currently, decisions in the treatment of multimorbid patients are largely based on a dentist’s personal experience. It is important to develop additional surgically applicable guidelines to cover the most common potential therapeutic conflicts.

INTERACTION OF ORAL HEALTH AND OVERALL HEALTH

As we age, our oral health deteriorates – not least due to limited manual dexterity, reduced motor skills, poor eyesight, decreasing motivation and reduced salivation. Plaque and inflammation of the oral cavity can trigger other problems and diseases, such as an increased risk of pneumonia. It has been found that periodontitis patients have a five-fold increased risk of pneumonia. In a study conducted in early 2000, Japanese scientists linked bacteria from the mouth, throat and intestines to pneumonia and showed that a weekly professional oral hygiene routine reduced the incidence of pneumonia.

References

A MINIMALIST TREND

FRUGAL DENTISTRY

As technology becomes increasingly sophisticated and complex, there is a new trend towards products that are frugal – which is Latin for simple, economical or usable. The central benefit of these products is their simplicity: They can only be used for their original purpose. But this is not the only advantage of frugal innovations. They are also cost-effective, robust and use fewer resources as a result.

WITHIN THE FRAMEWORK OF FRUGAL DENTISTRY, PATIENTS SHOULD RECEIVE PRAGMATIC TREATMENT THAT IS ADEQUATE, SUSTAINABLE AND ECONOMICAL:

### Not cheap, but inexpensive.
Although frugal dentistry is distinct from the premium segment, it is not a low-cost solution. Developers’ main aim is to deliver a robust, simple yet durable product.

### Quality standards must be met.
Frugal innovations must also comply with all applicable quality and regulatory standards during development.

### Old wine in a new bottle
Frugal medicine is not an entirely new concept. For patient-specific care, however, it is encouraging that there is no longer a focus on high-tech procedures and increasingly sophisticated CAD/CAM technologies, but that moderate and sustainable minimally invasive concepts are being explored too.

### Responses to customers’ needs
Frugal dentistry is also a response to an urgent customer requirement: Young people worldwide are increasingly looking for adequate, resource-saving and long-lasting dental solutions without any superfluous extras. In fact, frugal treatment methods are also often the preferred choice among older, comorbid patients. The aim is not to expose patients who are already stressed to additional stress caused by invasive therapies.

### As much as necessary, as little as possible.
Frugal products are not built according to the usual principle of “over-engineering”, i.e., products that are more than perfect, tested for years and as tiny as possible. Instead, it is a matter of using parts that are as robust as possible and that last a long time, but that offer only limited functionality. And of course, they do not employ the very latest technologies – these are simply too expensive.

**References**


It does not always have to be about high-tech: People around the world are becoming more conscious consumers, are cycling more often and making efforts to reduce waste. And simple, sustainable, resource-efficient alternatives to high-end solutions are also gaining ground in the dental market – a trend known as “frugal dentistry”.

**WHAT EXPERIENCE HAVE YOU HAD?**

Share your thoughts as well as tips and tricks via e-mail: we@kulzer-dental.com. Maybe they will be published in the next issue.
With frugal treatment concepts, patients receive pragmatic, sustainable and usually cost-efficient materials and solutions that avoid invasive procedures and extractions. In this edition of WE, we present four frugal methods.

1. A pleasant alternative to conventional anaesthesia
   Intraligamentous anaesthesia (ILA) is a gentle alternative to conventional anaesthesia: Local anaesthetic administration is useful for various indications because it is less stressful for the cardiovascular system. Injecting the active substance into the desmodont of the periodontium achieves immediate and complete anaesthesia of an individual tooth, without the patient having to endure a numb tongue, lips or cheeks.

2. Minimally invasive treatment of extensive defects
   Today, even more extensive tooth substance defects can be treated with direct restorations. The idea behind Proximal Box Elevation (PBE) and similar techniques is to first lay the proximal box coronally with a composite increment in deeply damaged teeth. In a second step, the final composite or ceramic restoration can be inserted. PBE enhances popular treatment concepts for extending the clinical crown in two ways. The dentist dispenses with crown extension or extrusion if the composite restoration margin can be laid supragingivally. It is important to note that the finished and polished margin should ideally end up at least one millimetre above the alveolar bone and should not damage the connective tissue attachment. If a restoration margin needs to be inserted more deeply, a crown extension is still necessary, but can be less extensive. With PBE, the distance between the bone edge and the restoration margin can be set at approximately one millimetre. Using appropriate techniques and materials and good oral hygiene, it is possible to achieve inflammation-free conditions in the proximal region, even if the biological width is less than one millimetre.
Intelligent gap management planning

“Every gap must be closed”: this is the motto of modern dentistry. However, gaps without functional losses and without noticeable aesthetic disadvantages can be left in their original condition. Even in patients with a shortened row of teeth, dentists should check the situation carefully. A retrospective cohort study in the Netherlands showed that shortened dentures can remain stable over decades. Instead of a bridge or implant-prosthetic restoration, a direct widening of the tooth or the adjacent teeth using composite may also be an alternative treatment option to closing a gap. The medial diastema is another example: this can be closed in a time-consuming and cost-intensive way using veneers or crowns in addition to orthodontic treatment; but it can also be done using abutments made from composite. In addition, the conversion of a canine tooth into a lateral incisor using composites is a simple but practical option if the anterior tooth is not attached.

Preservation in place of renewal

Frugal dentistry also means preserving an existing restoration instead of renewing it: intraoral repair can significantly extend the life of direct and indirect restorations. Minor defects, such as flaking of the veneer or localized caries lesions at the restoration margin, can be repaired intraorally. However, in order to this, the bonding must be compatible with the materials used. Adhesives that adhere to various dental materials, such as the iBOND Universal System, can be of valuable assistance here. It is crucial that the adhesive is applied correctly to ensure the restoration functions properly with the bonding agent. Users should follow the instructions on the package and pay attention to exposure times and the type of blowing (for more information on intraoral repair, see pages 18 – 20).

As the examples above demonstrate, good dental care does not always necessitate high-tech procedures. Today, frugal interventions offer a myriad of possibilities for minimally invasive long-term care. The decision on which concrete procedure to pursue should be made together with a patient, based on a thorough risk-benefit analysis.

References

Mr. Singh, what are the challenges in treating people with polypharmacy?

In the case of multiple medication, it is not possible to predict how the individual substances of the different medications will interact. Most ingredients have only been tested individually in scientific studies, but not in combination with other active ingredients. In addition, the body changes with age and, for example, the body fluid decreases, whereas the body fat percentage increases. These age-related changes reduce the ability to metabolize and excrete drugs.

The dentist must therefore increasingly expect patients to show interactions as a result of polypharmacy. Although the areas of application for pharmaceuticals in dentistry are relatively manageable, it is important to know the side effects and interactions of the drugs prescribed by dentists, as well as the most frequently prescribed drugs in general medicine. The most common side effect seen with the polypharmacy is the disturbance in production of saliva, resulting in salivary hypofunction. The salivary hypofunction depends upon anti-cholinergic load of the individual medications. The effect salivary hypofunction then translates into various problems in the oral cavity e.g. dry mouth, increased carious lesions, metallic taste, candidiasis, burning mouth and etc.

Which combinations of drug groups lead to interactions?

Local anaesthetics, analgesics and antibiotics count to the most frequently prescribed drugs for dental procedures. In the case of local anaesthetics, the absolute contraindications must be considered. These include cardiac decompensation, lack of compliance due to disability, age and dementia. In addition, the adrenaline additive increases the effectiveness of many local anaesthetics, for example in combination with digoxin, digitoxin, tricyclic antidepressants, MAO inhibitors, antiparkinson drugs, guanethidine and β-blockers. This can lead to high blood pressure and cardiac arrhythmia. The most commonly prescribed drugs are, for example, psychiatric and antihypertensive drugs, which, taken together, produce a significant anticholinergic effect and can cause negative changes in the oral cavity.

It is also important that the dentist considers the age-related limitation of metabolic functions. Therefore, a reduction of the maximum doses is recommended from the age of 60 to 65 years. Especially for patients with a body weight of less than 70 kg, the individual maximum drug dose must be recalculated.
What interactions occur during pain management?

To the frequently analgesics used in dental practice belong non-steroidal anti-inflammatory drugs such as ibuprofen, diclofenac, dexketoprofen, ketoprofen, naproxen and the Cox-2 inhibitor etoricoxib. These analgesics are known to interact with many other drugs used at the same time. Of importance are interactions with beta-adrenoceptor blockers, diuretics, lithium, ACE inhibitors, oral anticoagulants and digoxin. Nonsteroidal anti-inflammatory drugs can reduce the effect of ACE inhibitors and beta-adrenoceptor blockers. They reduce sodium excretion and thus the effect of diuretics. The interactions become clinically relevant when used continuously for seven to eight days. Treatment with non-steroidal anti-inflammatory drugs should therefore not last longer than four days if ACE inhibitors, beta-adrenoceptor blockers or diuretics are taken at the same time.

Antibiotics belong to the most important drugs in the fight against bacteria in dentistry. What must dentists consider here?

In the case of antibiotics, interactions with anticoagulants are risky. Comedication with antibiotics such as penicillin’s and macrolide antibiotics increases the risk of bleeding four to seven times. Macrolide antibiotics can be toxic in combination with migraine medications containing the active ingredient dihydroergotamine. Interactions with antihistamines, anti-arrythmics and neuroleptics have also occurred, leading to dangerous cardiac arrhythmias.

Which role does the dentist play in the treatment of polypharmacy patients?

When treating patients with polypharmacy, dentists have to spend a lot of time on anamnesis, studying the medication plan and additional coordination tasks. This is mainly due to the close cooperation with specialists, hospitals and social services in the field of medicine. In addition, the assessment of a dental surgical risk for multimorbidity and polypharmacy is difficult due to the scarcity of available data. The direct or indirect effects of polypharmacy are currently causing the failure of many restorations or other complications in the oral cavity. Here, further studies with multimorbid patients under highly prevalent multimorbid clusters after dental surgery are essential.

Most commonly prescribed drugs in the US and their relevance in dentistry

<table>
<thead>
<tr>
<th>Drug</th>
<th>Drug interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atorvastatin</td>
<td>Erythromycin/Clarithromycin contraindicated due to risk of myopathy/Rhabdomyolysis and acute renal failure. INR of anticoagulants may increase.</td>
</tr>
<tr>
<td>Levothyroxin</td>
<td>Increases INR if taking Warfarin. Tachycardia if used with Ketamine and carbamazepine may increase thyroid hormone metabolism</td>
</tr>
<tr>
<td>Lisinopril</td>
<td>Adrenaline and NSAIDs can weaken antihypertensive effects. Postural hypotension</td>
</tr>
<tr>
<td>Amiodipine</td>
<td>Erythromycin/Clarithromycin can increase blood pressure-lowering effect. Gingival enlargement.</td>
</tr>
<tr>
<td>Metoprolol</td>
<td>Considerable increase in blood pressure possible with simultaneous administration of adrenaline. Xerostomia, dysgeusia, and oral lichenoid reactions.</td>
</tr>
<tr>
<td>Acetaminophen with hydrocodone</td>
<td>No specific interaction</td>
</tr>
<tr>
<td>Metformin</td>
<td>Metallic taste (dysguesia), burning sore tongue.</td>
</tr>
<tr>
<td>Omeprazole</td>
<td>Increase effect of warfarin. Hypomagnesemia</td>
</tr>
<tr>
<td>Amlodipine</td>
<td>Erythromycin/Clarithromycin can increase blood pressure-lowering effect. Gingival enlargement.</td>
</tr>
<tr>
<td>Albuterol</td>
<td>Tremor, xerostomia, increased periodontal disease risk, oral candidiasis and dental caries.</td>
</tr>
</tbody>
</table>

References for table


References


DO YOU WANT TO LEARN MORE?

In 2019, the World Health Organization (WHO) published a report on this issue. This report – Medication safety in polypharmacy – outlines the problem, current situation and key strategies to reduce medication-related harm. To read it, go to apps.who.int/iris and search for “polypharmacy”.

MABI L. SINGH

Associate Professor, Department of Diagnostic Sciences Tufts University, Boston, has been involved in running a dry mouth clinic due to autoimmune diseases, medications, therapeutic radiation, chemotherapy and etc. at Tufts University School of Dental Medicine. He is involved with the development of many dry mouth products.
For example, “bridging” with low-molecular-weight heparins no longer makes sense here; all procedures with a risk of bleeding can easily be carried out when the effect of the tablet has worn off, before the next tablet intake.

New oral anticoagulants (NOACs) have overtaken coumarins: in the US, the use of new anticoagulants has increased rapidly in recent years. Dr Peer W. Kämmerer, dentist, physician and author of a current guideline in this field, answers the most important questions on treating dental patients who are taking NOACs.

As a dentist, what should I consider when treating patients who are taking antithrombotic agents?
A serious side effect of any anticoagulant therapy is bleeding. The dentist needs to weigh up the extent of embolism prophylaxis against the individual risk of bleeding. Compared to coumarins, NOACs lower the risk of severe, intracranial and fatal bleeding. In the case of cerebral haemorrhages, the rate is halved. The dentist should keep in mind that the new oral anticoagulants have a significantly shorter half-life period compared to the “old” ones such as phenprocoumon (Marcumar® and Falithrom®) and are therefore much easier to control.

Which factors result in a higher risk of bleeding?
There are many factors that result in a higher risk of bleeding. Dentists should pay attention to patients suffering from hypertension, liver or kidney dysfunction or an unstable INR value – the factor by which the coagulation time of the blood is extended by taking an anticoagulant. In addition, patients over the age of 65, who take non-steroidal anti-inflammatory drugs or suffer from alcohol abuse are particularly at risk.

What should the dentist consider before carrying out dental surgery?
In general, dental surgery only has a low risk of bleeding. The key question for the dentist is whether the wound can be treated sufficiently, for example by suture treatment or compressibility, i.e. bolting or tamponing. This is usually possible apart from when a bleeding takes place in the floor of the mouth, the maxillary sinus or the retromaxillary space. If infected wounds or abscesses are present, a primary wound closure is usually not necessary. This can result in an increased risk of bleeding. The post-operative bleeding risk not only depends on the wound care, but also on perioperative compliance, i.e. the patient’s willingness to actively participate. The severity of the general disease and the patient’s living conditions are also important criteria when it comes to choosing the appropriate treatment strategy.
What other aspects influence the dentist’s decision?
As already mentioned, in addition to estimating the risk of bleeding during surgery, it is also necessary to work out the risk of thrombosis. In general, the dentist needs to weigh up these risks with the GP or the cardiologist treating the patient.

So, who makes the final decision, the dentist or the GP?
Ultimately, the decision lies with the dentist. GPs can assess the risk of thromboembolic complications, but not the extent of the dental intervention. And finally, it is not sufficient to follow the instructions of the GP or the cardiologist to justify any complications. The dentist assumes some of the responsibility for this.

How are monitoring and follow-up treatment carried out?
Post-operatively, close monitoring and an extended follow-up time are advisable. The potentially increased risk of post-operative bleeding must be discussed with the patient and they must be offered an emergency support – even outside office hours. In certain circumstances, especially in the case of the above-mentioned procedures where compression is not possible, hospitalisation should be considered.

### TREATMENT ADVICE FOR PATIENTS TAKING NOACS

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Risk</th>
<th>Advice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local anaesthesia</td>
<td>Conduction anaesthesia of the inferior alveolar nerve may result in an increased rate of accidental lesions of larger vessels.</td>
<td>Use techniques that reduce the risk of vascular injury, such as vestibular infiltration or intraligamentous anaesthesia.</td>
</tr>
<tr>
<td>Extraction of a tooth</td>
<td>Higher risk of post-operative bleeding</td>
<td>The granulation tissue in the alveolus needs to be completely removed as it represents a high risk for post-operative bleeding. Local haemostyptics should then be inserted. Fixed with a suture, the material reduces the risk of post-operative bleeding.</td>
</tr>
<tr>
<td>Soft-tissue procedures</td>
<td>Higher risk of post-operative bleeding</td>
<td>Electroagulation is recommended here. In addition, using tranexamic acid (e.g. as a mouth-rinsing solution) can reduce the post-operative bleeding rate.</td>
</tr>
<tr>
<td>In the event of an emergency</td>
<td>Higher risk of post-operative bleeding</td>
<td>It is advisable to wait until the minimum effect is reached (shortly before the next tablet intake). A local haemostyptic or tranexamic acid can be used to stop bleeding. If possible, the wound should also be closed with a suture and compressions to reduce rebleeding.</td>
</tr>
</tbody>
</table>

**References**

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**DO YOU WANT TO KNOW WHAT OTHER EXPERTS THINK?**

In 2014, Radcliffe Cardiology, in collaboration with Arrhythmia & Electrophysiology Review (AER), conducted a panel discussion on NOACs. The highlights of the seven presentations and discussions can be found at kulzer.com/we.doi.S1
RECOGNISING AND OBSERVING CONNECTIONS

MULTIMORBID PATIENTS WITH PERIODONTITIS

Oral health is closely related to general diseases, especially chronic periodontitis. In the case of multimorbid patients, the already difficult and complex clinical picture of “periodontitis” is even more intensified. WE looks into what dentists need to consider and what alternatives exist.

Numerous age-associated systemic diseases interact with periodontal disease, particularly diseases of the respiratory tract, rheumatic diseases, cardiovascular diseases, arteriosclerosis, diabetes mellitus, strokes and gastritis. On the one hand, these clinical pictures can promote the development of periodontitis and, on the other hand, they can influence therapy. The dentist must therefore consider the close interaction from both sides:

In many cases, it’s necessary for the dentist to work with other specialists in order to better weigh up possible associations with other diseases.

1. General diseases and systemic conditions impact the risk of periodontitis, or rather its therapy and prevention.
2. Oral pathogenic bacteria, their metabolic products and inflammation mediators can enter the circulation, become systemically effective and increase the risk of general diseases.

Periodontitis affects health

The following examples show how periodontitis influence general health:

- Patients with periodontitis have an increased risk of stroke or coronary heart disease. The dentist should therefore inform the patient about the potential association between periodontal disease and cardiovascular problems and tell them that special care is advisable1.
- The risk of pneumonia in periodontitis patients is significantly reduced by thorough daily oral hygiene2. The dentist should be aware of these facts and actively encourage the patient to maintain good oral hygiene.
- Patients with diabetes mellitus have a significantly higher risk of periodontitis3, 4. The reason for this is that the periodontal disease is strained due to the increased blood sugar level and the resulting angi-
opathy. In addition, it is not so capable of regeneration. If the blood sugar level is well adjusted, periodontitis can be treated more successfully. It is advisable to consult with your GP or diabetologist regarding this issue. In addition, the dentist should admit the patient to a fine-meshed recall system and carry out regular professional tooth cleaning.

**Therapeutic approaches for periodontitis**

Dental teams are responsible for periodontitis prevention and therapy in multimorbid patients – and this goes beyond oral health. Periodontitis is considered as a chronic, multifactorial disease and therefore requires long-term care. The primary goal of the treatment is to reduce the bacterial load. The dentist should treat the infection and aim to reduce the depth of the periodontal pockets to a value of <3.5 mm. Particularly when it comes to multimorbid patients, the dentist should carefully weigh up each surgical intervention and only consider it in the event of severe damage. The additional strain on the patient and the influences or side effects of any medication (e.g., anticoagulants) should be taken into consideration. In many cases, it’s necessary for the dentist to work with other specialists in order to better weigh up possible associations with other diseases. The general rule here is always “as much as necessary, as little as possible”.

The focus should always be on preventive dental care. For example, the indication-appropriate and early application of local adjuvant antibiotics in combination with scaling and root planning could avoid periodontal surgery, which is particularly straining for multimorbid patients. The use of local antibiotics (e.g., Ligosan Slow Release by Kulzer) can achieve a positive therapeutic effect as a supplementary therapeutic agent, as they have a targeted and gentle effect.

References


DO YOU HAVE FURTHER QUESTIONS?

If you want to learn more about periodontitis therapy with a local antibiotic, we are happy to assist you. Please contact us via we@kulzer-dental.com and one of our experts will get back to you.
INTRAORAL REPAIRS OF A LITHIUM DISILICATE INLAY

STEP-BY-STEP GUIDE

In everyday dentistry, there is often no time to break new ground – so dentists, like everyone else, adhere to proven methods. Dr Stefano Daniele, a dentist based in Milan, Italy, explains step-by-step how the intraoral repair of a partial restoration can be performed using iBOND Universal.

1. First, the cavity was prepared for the partial restorations. Before the impression was taken, I had already treated tooth 16 and 17 with an immediate dentine sealing, followed by a composite core build-up.

2. In the next step, I made the partial restorations with the help of lithium disilicate. The ceramic was conditioned extraorally. It was etched with 5% hydrofluoric acid for 20 seconds, followed by silanisation.
These are the partial restorations one week after the adhesive cementation.

Unfortunately, after three years, the palatal wall of tooth 16 fractured. I therefore applied a rubber dam for isolation.

I then roughened the fractured tooth and lithium disilicate surfaces using a coarse diamond bur.
Afterwards, I etched and cleaned the tooth and the lithium disilicate surfaces using phosphoric acid (iBOND Etch 35 Gel), and rinsed them with water.

I then silanised the lithium disilicate surfaces with iBOND Ceramic Primer. When doing so, it is important not to touch the dentine surface with the primer. The primer was air-dried after 20 seconds.

In the next step, I applied iBOND Universal to the tooth surface and the lithium disilicate. After 20 seconds of active application, the adhesive was air-dried until the adhesive layer no longer moved. The adhesive was then light-cured for 10 seconds.

Finally, I built up the fractured palatal tooth wall in three increments using Venus Pearl. The restorations were then finished and polished.
Giving people security until the end of their lives – that is the maxim of the Johannes Hospice in Münster, Germany. In order that this socially important work can continue to exist, people like dentist Jürgen Karsch need to be involved. Together with Kulzer and his colleagues, he has supported the hospice for many years by donating scrap gold.
When Jürgen Karsch comes home from work, there are usually some emails from the Münster Dental Association waiting for him. As a board member, he coordinates scrap gold collection and collects the donation boxes from participating dentists. For 18 years now, all proceeds from the donations have gone directly to St.-Antonii-Erzbruderschaft, a confraternity which uses them to co-finance the work of the Johannes Hospice in Münster.

Over the years, around 680,000 euros have been raised. “It was important for us to support a regional organisation with the donation,” reports Karsch. The Johannes Hospice provides a dignified environment for people at the end of their lives. The patient and their relatives are currently professionally accompanied by 40 main employees and around 50 volunteers. “We would like to continue enabling this important work. So, our donations are mainly used to cover personnel costs.” Since 2014, Kulzer has supported the initiative, which is led by the Münster Dentists’ Association, and has ensured the professional recycling of scrap gold and gold jewellery in a refinery.

Why donating scrap gold makes sense
Scrap gold is a by-product of every dental practice. For patients, scrap gold only brings in minimal revenue because, especially in the case of small quantities of gold, exact determination of the alloy is complex and cost-intensive. “This is why most patients are willing to donate,” reports Karsch. At present approximately 28 practices in and around Münster are involved in the action.

Getting the ball rolling
There are lots of ways dentists around the world can support good causes – whether it is by donating scrap gold, offering free treatment for those in need or providing dental equipment in developing countries. The first point of contact should be a local dentist association or group. Speaking from experience, Jürgen Karsch says: “Anyone who is having fun and looking for a good cause to support will motivate others and find people to join them. Even small sums of money can help local non-profits. You just have to take the first step and get the ball rolling.”

JÜRGEN KARSCH
committed dentist and board member of the Münster Dental Association and the St.-Antonii Erzbruderschaft in Münster

YOU ALSO SUPPORT A LOCAL (NON-PROFIT) ORGANISATION?
We would be happy to learn more about your voluntary commitment. We are always looking for exciting stories to tell. You would benefit from worldwide attention for your project. Simply send us an e-mail to we@kulzer-dental.com
A PREVIEW OF THE NEXT EDITION

CHANGE IN PAEDIATRIC DENTISTRY

What are the latest findings in caries management? How are different types of dental trauma treated? And what is the current status of research into the treatment of children with molar incisor hypomineralisation? In the next issue of WE (Edition #3), we look at the current challenges in paediatric dentistry – including best practices, interviews and Dos & Don’ts.

Times have changed: Today, the drill is not always necessary to treat dental caries. New methods dry out caries or reverse the decalcification process. Discover the various techniques for selective caries removal at a glance.

More and more children suffer from molar incisor hypomineralisation – by 2015, around 878 million children worldwide were affected. We explore the causes and treatment options.

More than half of all children suffer from dental trauma: How are injuries treated, with or without tooth loss? What can be done if the dentin layer is affected? Learn about the different treatment methods available, including practical examples.

GOT ANY IDEAS?

If you have specific ideas and questions about pediatric dentistry, please write to our expert Dr Natalie Nöller, trainer and dentist at Kulzer: natalie.noeller@kulzer-dental.com