Interview with Markus Tröltzsch and Matthias Tröltzsch, maxillofacial surgeons in Ansbach, Germany

How much medicine does dentistry need?

Medicine and dentistry must be more closely meshed—say two young oral and maxillofacial surgeons from Ansbach, Germany. Not enough general medical knowledge is present in our dental practices today—and conversely, general practitioners and medical specialists know too little about dental medicine. Dr Dr Markus Tröltzsch and PD Dr Dr Matthias Tröltzsch are two of the three authors of a reference volume entitled *Medizin in der täglichen zahnärztlichen Praxis* ("Medicine in Daily Dental Practice"). In a number of free-standing chapters, their book presents fundamental facts about cardiovascular disease, diabetes mellitus, bisphosphonates and oncological topics. By popular demand we again include this interview for the second time in *EDI Journal*.

Oral and maxillofacial surgeons like you are physicians as well as dentists. As far as I know, the two fields were kept apart very carefully for the longest time in medical and dental school. Has this changed at all at our universities today?

Matthias T.: Things are no different at university medical and dental schools today, in that maxillofacial surgery is implemented as a link between general and dental medicine. Collaboration between the two is intense, and oral and maxillofacial surgery is the link. At universities and at the largest hospitals, maxillofacial surgery defines itself primarily as a medical speciality, related as it is to traumatology and to otorhinolaryngology and head and neck surgery. This establishes a certain distance from dental medicine, e.g. prosthodontics and restorative dentistry. This is also the case in emergency medical services. As far as student education is concerned, the 1970s and 1980s saw the option to study medicine and dentistry in parallel. Later, when we received our dental and medical education, pursuing two courses of study in parallel was an absolute no-go, and if you tried anyway, one department would terminate your enrolment. The principle was clear: one thing at a time. If the university or department was generous, well, then maybe they would let you take an extraneous course or two. But the older we got, the more difficult this became—that probably also had something to do with the allocation of funds.

Then there was a time, in the early 2010s, when universities such as Freiburg, Munich and Heidelberg let you study medicine and dentistry in parallel—and aggressively promoted this option. Some students earned a double degree when they were no older than 26,

which was truly revolutionary. But that development was rolled back. But today, once again, only one degree program can be completed at a time.

How would you describe the importance of general medicine in current dental practice?

Markus T.: We see it is growing again. Partly on account of the prevailing demographics, and also because of the forensic complications that can arise if we disregard general medical expertise. Moreover, we have seen that an interdisciplinary approach can be quite helpful in some—not so few—areas. Take headache relief and treatment, for example. Here we have a close overlap between dentistry and neurology. Or take the cluster of periodontitis, diabetology and cardiology. A condition that is coming back into focus right now is Lyme disease. Not all that rarely, patients will arrive at the practice presenting with diffuse facial swellings, and then it turns out that the problem is actually Lyme disease. Regarding your question, I believe that the trend will continue as people are getting older and therefore sicker, meaning that there will be more drug interactions to consider. We will see more and more patients whose underlying medical condition has an impact on their dental treatment. Take patients on bisphosphonates. How can I still do a periodontal treatment or professional tooth cleaning for them at all? These are questions we increasingly face.

Together with your colleague Philipp Kaufmann, you have authored a reference work to describe the role of general medicine in daily dental practice. What was your starting point?

Markus T.: We actually started from point zero. The term "reference work" sums it up quite well, because it describes how the book is structured. It is not a book you would expect to read from cover to cover;

Dr Dr Markus Tröltzsch

PD Dr Dr Matthias Tröltzsch

rather, it features dedicated chapters that address various issues facing dentists. If, for example, I have a patient with dementia, kidney disease or diabetes, I can turn to the corresponding chapter and receive a relatively brief overview of all the relevant medical information on the topic—covering the theory and providing advice for the dental practice, structured to match a given condition. There are sections on anatomy and pharmacology presenting the tools we need on our everyday practice—in terms of theoretical insights, but also application-specific information for the respective condition.

Various reviewers have praised your book for this very reason. What was the driving force behind your writing this book?

Markus T.: Dentistry has a problem. Because of the constraints of the curriculum and because of the rigid semester term structure, it is almost impossible for dental students to imbibe all of the medical knowledge they will need in real life. Accordingly, our inten-

tion was to write a standard practical work for the dental practice, providing quick access to clinical conditions in a way that makes the information relevant for practising dentists.

Is there something you would you like to add from a scientific angle?

Matthias T.: Dentists who have enough knowledge to discern what is scientifically relevant, this will always be greatly appreciated. There is an unwritten law in medicine: You only see what you know. So if you have never seen a condition or problem before, you probably will not notice when confronted with it. This is as true of the dental practice as it is of larger clinics. The person in the field it is not always the person who has the most professional experience. I know this is a sad thing to say, but the reality is that it is mostly relative newcomers who work the front lines in our clinics. There are people with a lot of experience who supervise the procedures, but before they can make their voices heard, they first have to actually see the patient. It is simply crucial to establish certain diagnoses right away in order to provide relief for the patient while evaluating the situation scientifically and establishing correlations.

Markus T.: This applies to dental as well as to medical professionals. We have the same problem the other way round—not enough dental knowledge within medicine. We had started offering "Dentistry for physicians" courses for our local colleagues just before the COVID-19 pandemic. Next spring, we plan to revive that topic.

Hardly any doctors see their patients more frequently than dentists do. Naturally, their focus is on their patients' mouth, jaws and face. So what diseases beyond their immediate area of expertise can, or could, dentists detect at an early stage?

Markus T.: There is no simple answer to that. Very many conditions can be associated with mouth, jaw or facial symptoms due to a patient's deteriorating general health. Lymphomas are an example in kind. In 25 per cent of cases, the initial manifestation of a lymphoma will be some swelling above the clavicles, and patients will not infrequently consult a dentist—who, however, will not find any dentogenic cause. The situation is aggravated if a dentogenic cause is present but did not trigger the lymphoma. That makes it difficult to differentiate.

Actually, your question basically covers the entire range of what contributes to general health—or disease. We already mentioned diabetology, cardiology, nephrology—all of which might present with milder symptoms if co-treated by a dentist. These overlaps are immense and well beyond the scope of this interview to try to answer them in full.

Matthias T.: Dentists must see themselves as specialists for oral medicine and be perceived as such, and not as dentists who "merely" address supragingival phenomena. In Europe, this development is still in its infancy; the US has already progressed beyond this point. The best example is sleep medicine—the guideline discussions here not only include ENT specialists, but also dentists on a regular basis. We still have a lot of work to do in Europe to ensure that physicians perceive dentistry as an independent, vital and important field. I think it is also important that dentists embrace this role.

In addition to anatomy and physiology, your book also addresses pharmacology. How important is, or should be, a knowledge of drug actions within dental care?

Matthias T.: In dental school, pharmacology is a minuscule niche. There are maybe one or two pharmacological classes during the entire programme. That is not enough for such a complex topic. The courses we teach start with the very basics. How do drugs work in general, in tablet form, intravenously, in terms of quantity, etc.? We find that certain agents are prescribed because they are the ones the prescribing dentist or physician at one time learned or read about. Many are also unaware that medication levels must depend on body weight and that there is no one-size-fits-all dosage. Especially when it comes to antibiotics, our problem today is that as we talk a lot about viruses, bacteria are becoming increasingly resistant. We have quite a dangerous wave of resistances ahead of us, which researchers are not moving fast enough to catch up with. We are reaching the limits of antibiotic therapy. Many pathogens have become resistant to all antibiotics because those antibiotics have been overprescribed, and improperly prescribed. The key phrase here is "antibiotic stewardship". We have to understand exactly why we prescribe what, and for how long, and for which indication, otherwise we will fail. This is just one example, but maybe the most succinct one. Analgesics, for example, which we use and prescribe daily, are particularly relevant within dentistry. We need to know all about the entire range of active ingredients.

Can you give specific examples of diseases and medications that have a direct impact on oral health? What do dentists need to consider?

Matthias T.: We—hopefully—all know about anything to do with bone metabolism and antiresorptives by now. Particularly great uncertainty prevails in the case of antirheumatic agents. Rheumatology now uses many new drugs—biologics, antibodies, low-molecular-weight substances. It is hard to keep up with them, even if you are sufficiently interested.

Another area is psychopharmaceuticals, for patients with depressions for example. There are interactions between the classic antidepressants, the serotonin reuptake inhibitors, and bone metabolism. There are interactions between gastrointestinal drugs and bone metabolism.

Markus T.: And you can also go one step further and look at analgesic drugs. When we prescribe a pain medication, it will quite often be ibuprofen. Hardly anyone knows that in patient who take low doses of aspirin as part of a cardiological treatment, the aspirin effect will disappear in the presence of ibuprofen. If we want to keep both drugs effective, we must administer them at separate times.

Early in the pandemic, you had described the management of COVID-19 for the dental team. Where does your knowledge of infection control come from?

Markus T.: We were out early in getting up to speed because we saw the coronavirus wave in the making. In February 2020, we were still in Chicago talking to with Italian friends—while the first wave was already underway in Italy. We noticed that there is already a lot of evidence available going back to the SARS epidemic. The first wave of SARS was in 2003. SARS is also a Corona virus, so we were able to rely on the science that already existed.

In an interview at the beginning of the pandemic, you, Markus, talked about the dentist being the medical specialist for the oral cavity. In your opinion, should dentistry move closer to medicine? And how can that be accomplished?

Markus T.: Both sides must make an effort to close the gap between them. So how did we end up with a situation where oral medicine is excluded from much of the rest of medicine? I think the reason lies in their different historical developments. Medical subjects had achieved university status as early as 1280, while dentistry may once have been an academic subject, but most of the time it was practiced at fairgrounds and the like. Antipathies of class and status have existed for a long time. And since we are all creatures of habit, it takes us a long time to break down our mental barriers. There is also another aspect: medicine in the oral cavity is quite different from medicine in the abdominal cavity, to cite one example. We have completely different organelles moving around, and therefore we need very specific knowledge and very special skills—which is only positive, I think. We have our own disease patterns in the oral cavity that are not always like those in the rest of the body. As people are living longer and want to maintain a certain quality of life, we are getting to the point where what happens in the mouth can affect the entire body—and vice versa. Dentistry must develop in the direction of specialist oral medicine—but without neglecting its artisanal roots.

How important do you think general medicine should be in every dental practice?

Markus T.: What will our patients look like in 2030—assuming we still have a healthcare system that is comparable to today's? It is hard to predict where we will stand in 20 years, and political environments can change rapidly. If we look at what is happening in the UK with the National Health Service (NHS), or at similar developments in Sweden, we have to realise that the structure of the healthcare system has a significant impact on patient care. If the system in Germany holds up, that is, if it can sustain the level of care we have today, then the main question will be how to treat patients with co-morbidities and special medical needs in the dental practice.

A general medical screening will increasingly be required—of course not trying to cover the entire medical but looking at those the areas where we know critical conditions may exist; in my opinion, these will in future be part of the admission screening. Of course, we will not be able to do this within current budgets. The dental practice must be economically viable.

Thank you two very much for this interesting interview.

This interview on video

If you want to watch Anita Wuttke's whole interview with the Tröltzsch brothers, you can do so here. The video in German language is available on the BDIZ EDI YouTube channel: https://youtu.be/rTCTTQL8Hxc