CORRESPONDENCE

The Therapy of Spinal Metastases

by PD Dr. med. Karl-Stefan Delank, Prof. Dr. med. Clemens Wendtner, PD Dr. med. Hans Theodor Eich, Prof. Dr. med. Peer Eysel in volume 5/2011

Computed Tomography Was Omitted

Unfortunately, the section on imaging diagnostics of spinal metastases did not mention computed tomography, which is an essential procedure in this context. Detailed imaging of the compact bones is required especially in order to ascertain bone stability or pathological fractures that have already occurred. Computed tomography is superior not only to radiography but also to magnetic resonance scanning in this context (1, 2). Assessment of the compact bones is also important in preinterventional planning of the minimally invasive procedures mentioned in the article—for example, vertebroplasty (3). And we should not forget about clear advantages in everyday clinical practice owing to the uncomplicated and rapid way in which CT is performed. It enables us, for example, to examine an anguished patient within only a few minutes. No contraindications exist, such as pacemakers in the setting of magnetic resonance imaging. Furthermore, we wish to mention the option of post-myelography-CT after intrathecal administration of contrast medium, which, compared with myelography, allows more precise assessment of the anatomical environment of the spinal canal.

DOI: 10.3238/arztebl.2011.0356a

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Dr. med. Johannes Gossner
Abteilung für Klinische Radiologie, Evangelisches Krankenhaus Göttingen-Weende
johannesgossner@gmx.de

Conflict of interest statement
The author declares that no conflict of interest exists.

Incidence of Jaw Necrosis Is Markedly Higher

The authors mention "osteonecrosis of the jaw" among the side effects of bisphosphonates, which is said to develop in up to 1% of patients. This figure is not supported by any literature reference and contradicts the available epidemiological data. The incidence of jaw necrosis in cancer patients who are receiving intravenous bisphosphonate therapy is notably higher and reaches up to double-figure percentages (1). In osteoporosis patients taking oral bisphosphonates, the prevalence is 0.1%, and 0.2% after 4 years of treatment (2).

The correlation described in the article, of "mechanical injury through dental procedures," is also an inadmissible conclusion from the fact that some two thirds of patients with bisphosphonate induced osteonecrosis of the jaw had had teeth extracted according to their history; a fact that was established in retrospective data collections. Although there are indications that changing (peri-)operative procedures for necessary extractions may reduce the risk of jaw necrosis in patients taking bisphosphonates, but about one third of jaw necroses develop spontaneously, without external factors (3).

In my opinion it would have been important to provide information about prevention in the article; this entails in particular the early detection of any lesions. Examination and treatment by an oral and maxillofacial surgeon or competent dentist before and during therapy with bisphosphonates would make sense. The interdisciplinary S3 guideline for the diagnostic evaluation, therapy, and aftercare of breast cancer has pointed out this important aspect since 2008 (http://www.awmf.org/fileadmin/user_upload/Leitlinien/032_D_Krebsgesellschaft/Gynaekologie/032–045e_S3_Diagnosis_Treatment_and_Follow_up_Care_of_Breast_Cancer_04–2008_12–2010.pdf).

DOI: 10.3238/arztebl.2011.0356b

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Dr. med. Dr. med. dent. Mario Hakim Abu-Id
Zentrum für Mund-Kiefer-Gesichtschirurgie und Zahnheilkunde Dresden
info@mkg-dresden.com

Conflict of interest statement
Dr Hakim Abu-Id has been reimbursed for conference attendance fees and received travel and hotel expenses from Roche. Furthermore, he has received honoraria for speaking from Roche, MIP, Novartis, and Noble Biocare.

Nuclear Medicine Offers Therapeutic Options for Multiple Bone Metastases

The authors rightly point out the importance of interdisciplinary cooperation when dealing with patients with bone metastases (1). Independently of the fact that even a solitary bone metastasis means palliative care, surgical therapy and radiotherapy are oncologically useful only in patients with few metastases (<3). For the large number of patients with multiple bone metastases, medication treatment is the only option (including antibody therapy and receptor therapy). Such patients often complain of pain caused by the metastases, which can be alleviated only by administering highly potent analgesia (with all its side effects) or not at all. Percutaneous radiotherapy with symptomatic intent is highly effective but in a scenario of multiple metastases its applicability is limited because of the response rates and potential side effects (bone marrow function) (2). In this setting, radionuclide therapy is the treatment of choice, which has been tried and tested for decades. Every standard nuclear-medical practice is able to provide this treatment cost-efficiently in ambulant care and on a short notice. It is equally as effective as percutaneous radiotherapy (response rate 65–80%) and has few side effects compared with medical treatment (3). If required it can be repeated. Its effects last for at least 3 months, mostly for longer than 6 months (2, 3), and it reduces the need for analgesia (including the side effects). The indication should be defined considering earlier (or planned) therapies. We agree that good interdisciplinary collaboration, as requested by the authors (1), is the best basis from which to deploy this therapy in a targeted and effective fashion.

DOI: 10.3238/arztebl.2011.0357a

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PD Dr. med. Klaus Zöphel
Prof. Dr. med. Jörg Kotzerke
Klinik und Poliklinik für Nuklearmedizin
Universitätsklinikum Carl Gustav Carus
der Technischen Universität Dresden
klaus.zoephel@uniklinikum-dresden.de

Prof. Dr. med. Carl-Martin Kirsch
für die Arbeitsgemeinschaft Therapie der Deutschen Gesellschaft für Nuklearmedizin (DGN)
Klinik für Nuklearmedizin
Universitätsklinikum des Saarlandes
Homburg/Saar, Germany

Conflict of interest statement
PD (an unsalaried university lecturer or teacher in German speaking countries who is remunerated directly by students' fees) Zöphel has received honoraria for speaking from Genzyme GmbH. Professor Kotzerke has received honoraria for conducting clinical studies from Pharmacia, Bayer Schering Health Care. Professor Kirsch declares that no conflict of interest exists.

Additional Remarks

Analysis of serum concentrations of calcium should be one of the standard investigations in patients with spinal metastases, because it is important to identify potentially life threatening hypercalcemia in patients with bone metastases (1). In unknown primary tumors, electrophoresis may provide an indication of the underlying tumor pathology, and in men, a PSA test should be performed. Further to several routine parameters we also always do a full blood count. This helps to diagnose a leukoerythroblastic picture, which would indicate prognostically poor bone marrow carcinoses that would require intensive systemic therapy. In hormone sensitive breast cancers, polychemotherapy to induce rapid remission should be preferred to endocrine therapy in such cases.

- The authors did not mention the importance of computed tomography in spinal metastases; this is particularly useful for imaging the bony structures of the spine in detail and enables planning local therapeutic measures (2).
- It should be mentioned that szintigraphy of the skeleton is of no importance in multiple myeloma, because even extensive bone manifestations usually appear normal on the image (3), as long as no fractures have occurred.
- In medical analgesia for spinal metastases, I would further add that non-steroidal anti-inflammatory drugs (NSAIDs) are of great importance for the pain caused by bone metastases, which is also true for the combination of NSAIDs and opioids (4). The authors rightly pointed out the importance and differential indication of coanalgesics in the context of medical analgesia.

DOI: 10.3238/arztebl.2011.0357b

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Prof. Dr. med. Ernst Späth-Schwalbe
Vivantes Klinikum Spandau, Klinik für Hämatologie, Onkologie, Gastroenterologie und Palliativmedizin Berlin
ernst.spaeth-schwalbe@vivantes.de

Conflict of interest statement
The author declares that no conflict of interest exists.

In Reply:

The many constructive readers' letters, which cannot all be reproduced here, emphasize again the importance of treating spinal metastases in everyday clinical practice.

Computed tomography undoubtedly provides information about the bony structures, as mentioned by Professor Späth-Schwalbe and Dr Gossner. However, from an orthopedic perspective, magnetic resonance imaging allows for better differentiation of inflammatory processes and a more precise exposure of soft tissues in the spinal canal. So as not to have to obtain two tomograms, it is therefore MRI that is recommended in routine clinical practice. Whether the so called "involvement of the posterior edge" mentioned above is a contraindication for kyphoplasty is currently still the subject of controversial discussion in the literature (1). In case of doubt, CT will certainly allow a better estimate of the surgical risk. Adding useful laboratory investigations (serum calcium, electrophoresis, PSA, differential blood count) in skeletal metastases is important, as is the mention of the negative szintigram in multiple myeloma; we did not include these in our article for reasons of space.

For the same reasons we did not include any great detail about the importance of dentists helping to prevent jaw osteonecrosis in patients taking bisphosphonates. With regard to the frequency of osteonecrosis, we wish to mention that in our experience, especially of hematological oncology, the maximum incidence is strictly in single figures. The cited study, which was recently published in the Lancet (2), investigated the use of zolendronic acid versus clodronic acid in multiple myeloma and describes the frequency of jaw osteonecrosis in a region of <1% up to a maximum of 4%.

Radionuclide therapy, as mentioned by the colleagues from Dresden, is a good treatment option in patients with diffuse bone metastases for the treatment of metastasis related pain and should indeed not be forgotten.

DOI: 10.3238/arztebl.2011.0358

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Prof. Dr. med. Karl-Stefan Delank
Universitätsklinikum Halle (Saale)
Klinik für Orthopädie und Physikalische Medizin Halle
stefan.delank@uk-halle.de

Conflict of interest statement
The author declares that no conflict of interest exists.