



EFORT 2013: 7,500 orthopaedic specialists gather in Istanbul

Bone cancer: endoprotheses save legs, growing prostheses for children

Bone tumours often require major operations in which substantial parts of an extremity must be removed. That used to mean amputation. Today, the arm or leg can often be saved thanks not least to improved implantable prostheses. "Growing" prostheses for children have considerably improved the possibilities for treating young cancer patients according to experts reporting at the EFORT Congress in Istanbul.

Istanbul, 5 June 2013 – The on-going advances in endoprostheses have steadily improved the results of operations conducted to treat bone cancer. These prostheses are required because malignant tumours grow more frequently in the vicinity of large joints, which then have to be removed entirely or at least partially during surgery along with the tumour. "The trend from amputations to interventions that preserve the extremities occurred more than 30 years ago. Since then, amputations in connection with tumours near the knee have been pushed back to less than 10 %. The most suitable method of surgery depends largely on the extent of the bone area being removed and the remaining functionality of the extremity being preserved," said Prof Dr Reinhard Windhager (Medical University/General Hospital Vienna) speaking at the 14th Congress of the European Federation of National Associations of Orthopaedics and Traumatology (EFORT) in Istanbul. About 7,500 experts are discussing current developments in their field at this congress.

Prof Windhager went on to explain that reconstruction following cancer operations cannot be compared with joint replacement due to osteoarthritis, for example, because the defect arising from the operation is much greater and therefore raises other problems, pertaining not least to the design of the joint prostheses that can be used. Another factor complicating the situation is the limited experience with these cases. Primary malignant bone tumours are fortunately rare occurrences so the number of patients is correspondingly small.

Postoperative infections pose a major problem

Data was recently published and made available that allows the advantages and disadvantages of various systems to be assessed and the attainable results to be estimated. A multicentre review, in which Prof Windhager participated, analysed data from 2,174 patients who received endoprostheses following cancer operations. From this body of data, the researchers identified cases in which problems occurred with the prostheses and then analysed these problems in greater depth. Altogether, the study discerned 534 cases with complications. Infections turned out to be the most frequent cause. Prof Windhager: "Infections are a major problem following the implantation of large prostheses. The situation is exacerbated by the condition of many patients, whose immune system is often additionally impaired by chemotherapy." Regardless of further advances in prostheses technology, there continue to be patients for which one must also resort to bone transplants in order to limit the damage that occurs during an oncological operation.

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Good long-time results for 'growing' prostheses

Cancer operations in children pose a special challenge. They have a higher incidence of bone cancer than adults do, but their chance of being completely cured is also very good nowadays. Ideally, implanted prostheses in patients who are still growing should grow along with the individual. "One can lengthen these prostheses repeatedly using a magnet, i.e. through the skin. No new operation is required," said Prof Windhager, who played an instrumental part in developing "growing prostheses". Since the 1980s, a total of 71 patients have received these types of growing prostheses at the Vienna General Hospital. Prof Windhager and his group recently published the good long-time results. The issue of what happens to the extendible prostheses once the patient is fully grown has not yet been fully clarified. However, in light of the great stress and strain on these mechanical systems, one usually opts to implant a new prosthesis of fixed size that allows the patients to lead a largely normal life for several decades to come.

About EFORT

The European Federation of National Associations of Orthopaedics and Traumatology (EFORT) is the umbrella organisation linking Europe's national orthopaedic societies. EFORT was founded in 1991 in the Italian Marentino. Today it has 42 national member societies from 43 member countries and six associate scientific members.

EFORT is a non-profit organisation. The participating societies aim at promoting the exchange of scientific knowledge and experience in the prevention and treatment of diseases and injuries of the musculoskeletal system. EFORT organises European congresses, seminars, courses, forums and conferences. It also initiates and supports basic and clinical research.

Sources: EFORT Symposium: Status of the art: lower limb reconstruction in orthopaedic oncology; Henderson ER et al. Failure mode classification for tumour endoprostheses: retrospective review of five institutions and a literature review. J Bone Joint Surg Am. 2011 Mar 2; 93(5):418-29; Schinhan M et al. Growing prostheses for reconstruction of lower limb defects in children. Oper Orthop Traumatol. 2012 Jul; 24(3):235-45