

Guest editorial

Consensus document on prosthetic joint infections

Since the start of the modern era of prosthetic surgery, prosthetic joint infections (PJIs) have been a predominant and most feared complication. Reduction of PJI has been described as a success story, with the infection rate declining from 10% at the beginning of the 1970s to around 1% a couple of decades later (Lidgren 2001, SHPR 2011, SKAR 2013).

Concerns are, however, being raised because the Scandinavian arthroplasty registers are now reporting an increase in revision rates due to infection (Dale et al. 2012, SHPR 2011, SKAR 2013). This has caused the Swedish Orthopaedic Society, in association with the patient insurance organization LÖF, to take action in a national program covering all clinics with the aim of cutting down PJI by half (<http://www.patientforsakring.se/PRISS.html>). Prior to a one-day visit by a well-prepared interdisciplinary team, a unit would answer standard questions about its routines regarding important aspects of prophylactic measures. A report on courses of action to be taken had to be delivered by each unit within 6 months—based on critical comments from the visiting group. The effects of the project are now being evaluated.

Globally, there is great variation in how PJIs are prevented and managed. Some of the preventive routines used are supported by good evidence from well-conducted studies, but there is limited information on how well the routines are adhered to in daily practice. In a recent study from the ISOC Group, covering 17 leading hospitals together performing more than 50,000 joint implants a year, there were clear discrepancies between the available evidence on the one hand and what was regarded by the participating hospitals to be important for prevention of PJI on the other (Ricciardi et al. 2013).

Under the leadership of Dr Javad Parvizi of the Rothman Institute in Philadelphia and Dr Thorsten Gehrke of the ENDO Clinic in Germany, it was decided to start working groups to collect information on prevention and treatment of PJI, prior to a 2-day international consensus meeting in Philadelphia at the end of July 2013. Fifteen groups covered topics that ranged from comorbidities, skin preparation, perioperative antibiotics, and operative environment to the diagnosis of PJI, antibiotic treatment, one-change vs. two-stage exchange arthroplasty, and prevention of late prosthetic infections. The working groups were composed of 400 experts from 51 countries who—over 10 months—summarized, evaluated, and commented on more than 3,500 relevant publications. After

making a synthesis of the literature and of the comments received, a preliminary draft was ready for the more than 300 delegates who attended a face-to-face meeting in Philadelphia. The document was discussed during day 1 and several changes were made. A voting process on every one of the 207 consensus statements was then conducted on day 2, by electronic voting. There was a unanimous vote (100% agreement) for one question (controlling OR traffic), 202 questions received strong consensus (66–99% agreement), two questions had weak consensus (60–65%), and only two questions did not achieve any consensus (less than 60%).

After the meeting, the document was again edited and is now available at <http://www.msis-na.org/international-consensus/>. Of the experts who contributed to the final document more than 150 were from the USA, and 19 came from the Nordic countries and the Netherlands.

It is quite clear that there is valuable information on PJI in the extensive document, which will serve as a reference and a source of knowledge for orthopaedic surgeons worldwide. It can be seen as a starting point for a global collaboration and discussion that will hopefully accelerate measures to change the present dangerous situation with an increasing number of PJIs and emerging antibiotic resistance.

A general comment on the “consensus” process in Philadelphia was that it did not allow any deeper discussions because of the time limitation. Due to the extensiveness of the final draft and the fact that late changes were made, it was difficult for the delegates to evaluate in detail the evidence behind each of the 207 consensus statements that were voted on. Thus, the consensus statements can only be seen as expert opinion, and it is important to emphasize the fundamental difference between expert opinion and clinical guidelines.

The working groups have identified a number of possible topics for future research, such as preoperative decolonization, new methods for culture and microbial identification, new resorbable carriers containing antibiotics for prevention and treatment of prosthetic joint infections, randomized studies to determine the outcome of one-stage versus two-stage procedures, and determining the ultimate timing of re-implantation.

Our advice to all orthopedic surgeons working with joint implants is to start reading the over 300-page document that is available at <http://www.msis-na.org/international-consensus/>.

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