Evolution in design of integral leg prosthesis leads to improved outcomes

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ARTICLE TO COMMENT

PERSPECTIVE
Developments of surgical attachments for bone-anchored prostheses are slowly but surely winning over the initial disbelief in the orthopedic community. Clearly, this option is becoming accessible to a wide range of individuals with limb loss. [1-18]

Seminal studies have demonstrated that the pioneering procedure relying on screw-type fixation engenders major clinical benefits and acceptable safety. [1-3,19-32] The surgical procedure for press-fit implants, such as the Integral-Leg-Prosthesis (ILP) has been described by Aschoff and his team. Some clinical benefits of press-fit implants have been also established. [4, 6, 33-42]

Here, his team is once again taking a leading role by sharing the progression over 15 years of the rate of deep infections for 69 individuals with transfemoral amputation fitted with three successive refined versions of the ILP.

By definition, a double-blind randomized clinical trial to test the effect of different fixation’s design is difficult. Alternatively, Juhnke and colleagues are reporting the outcomes of action-research study for a cohort of participants.

The first and foremost important outcome of this study is the confirmation that the current design of the ILP and rehabilitation program are altogether leading to an acceptable rate of deep infection and other adverse events (e.g., structural failure of implant, periprosthetic fractures).

This study is also providing a strong insight onto the effect of major phases in redesign of an implant on the risk of infection. This is an important reminder that the development of a successful osseointegrated implant is unlikely to be immediate but the results of a learning curve made of empirical and sequential changes led by a reflective clinical practice.

Clearly, this study provided better understanding of the safety of the ILP surgical and rehabilitation procedure while establishing standards and benchmark data for future studies focusing on design and infection of press-fit implants.

Complementary observations of relationship between infection and cofounders such as loading of the prosthesis and prosthetic components used would be beneficial. [24-32, 43-47] Further definitive evidences of the clinical benefits with the latest design would be valuable, although an increase in health related quality of life and functional outcomes are likely to be confirmed. [1-3, 6, 7, 19, 20, 26, 35, 36, 41, 48-51]
Altogether, the authors are providing compelling evidence that bone-anchored attachments particularly those relying on press-fit implants are an established alternative to socket prostheses.

REFERENCES


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