

- [3] Petty W, Goldsmith S. Resection arthroplasty following infected total hip arthroplasty. *J Bone Joint Surg Am.* 1980;62:889-896.
- [4] Vidal J, Salvan J, Orst G, Marnay T. [Total hip arthroplasty in the presence of sepsis]. *Rev Chir Orthop Reparatrice Appar Mot.* 1988;74:223-231.

Authors: Bradley Schoch, Felix H. Savoie

## QUESTION 7: Is there a role for chronic antibiotic suppression in the management of elbow periprosthetic joint infection (PJI)?

**RECOMMENDATION:** Long-term suppressive antibiotics may be used in the treatment of PJI of the elbow. Consultation with an infectious disease specialist should be considered in the decision to use long-term suppressive antibiotics.

**LEVEL OF EVIDENCE:** Consensus

**DELEGATE VOTE:** Agree: 100%, Disagree: 0%, Abstain: 0% (Unanimous, Strongest Consensus)

### RATIONALE

Treatment strategies for elbow PJI have generally taken four forms; irrigation and debridement with component retention, one-stage exchange arthroplasty, two-stage exchange arthroplasty and resection arthroplasty. Each of these treatment options may be followed by the use of suppressive antibiotics [1].

A systematic review was performed using the terms “elbow arthroplasty AND chronic suppressive antibiotics.” This revealed zero results. A second search using the terms “infected elbow replacement AND suppressive antibiotics” produced no results. A third search using the terms “infected elbow AND chronic suppressive antibiotics” produced zero results.

A fourth search using the terms “chronic suppressive antibiotics AND elbow infection” produced a single result: “Gram-Negative Prosthetic Joint Infection: Outcome of a Debridement, Antibiotics and Implant Retention Approach. A Large Multicentre Study” [1]. In this multi-center study from Spain, there were two elbow PJIs out of 242 PJIs managed with debridement and chronic suppressive antibiotics (the other 240 patients included 150 hip, 85 knee and 5 shoulder). They reported 79% successful outcomes. Ciprofloxacin exhibited a protective effect and chronic renal impairment predicted failure.

A final search with the terms “chronic suppressive antibiotics AND total joint infection” produced 12 results. Only one study (the previously-cited Rodriguez-Pardo article) included elbow replace-

ment patients. Given the lack of evidence specific to PJI of the elbow, the only evidence available is contained in articles related to PJI of other joints. Aboltins et al. published a review citing a 77% success rate using rifampin-based therapy [2]. These two articles provide the most recent evidence in the use of antibiotic suppression in the treatment of PJI of the elbow. There are several other articles, primarily on hip and knee, and two are referenced that provide further evidence in support of suppressive antibiotic therapy [3,4].

In the absence of concrete data and given the complexity of removing well-fixed cemented components of total elbow arthroplasty, we believe suppressive antibiotic therapy may have more of an expanded role in these patients than in PJI affecting other joints.

### REFERENCES

- [1] Rodríguez-Pardo D, Pigrau C, Lora-Tamayo J, Soriano A, del Toro MD, Cobo J, et al. Gram-negative prosthetic joint infection: outcome of a debridement, antibiotics and implant retention approach. A large multicentre study. *Clin Microbiol Infect.* 2014;20:O911-O919. doi:10.1111/1469-0691.12649.
- [2] Aboltins C, Daffy J, Choong P, Stanley P. Current concepts in the management of prosthetic joint infection. *Intern Med J.* 2014;44:834-840. doi:10.1111/imj.12510.
- [3] Rao N, Crossett LS, Sinha RK, Le Frock JL. Long-term suppression of infection in total joint arthroplasty. *Clin Orthop Relat Res.* 2003;55-60. doi:10.1097/01.blo.0000087321.60612.cf.
- [4] Segreti J, Nelson JA, Trenholme GM. Prolonged suppressive antibiotic therapy for infected orthopedic prostheses. *Clin Infect Dis.* 1998;27:711-713.