The Role of the Rheumatology Nurse in
PERIOPERATIVE CARE

June 1, 2016

When facing surgery, patients with rheumatic diseases often receive conflicting advice from multiple disciplines. They may not understand that their situation differs from the general population; patients need to understand *why* and *how* having an autoimmune inflammatory disease can affect their perioperative course and surgical outcomes. Rheumatology nurses can be a valuable liaison between multiple disciplines to synthesize information and give the patient clear guidance in order to improve outcomes, decrease adverse events, and increase patient satisfaction.

Comprehensive nursing management of the rheumatology patient undergoing surgery includes, but is not limited to these aspects of perioperative care:

- **Optimization of vaccines prior to surgery**, especially if surgery is scheduled during influenza season.
- **Fatigue management**: patients need to have resources for their post-operative care in place before they have surgery. They should be told that the combination of surgery and their disease may put them at higher risk for profound fatigue. The rheumatology team should perform a psychosocial assessment for every patient before surgery to make sure they will have adequate help for activities of daily living once they go home. In addition, the possibility of a rehab facility and/or formal home services should be explored with the patient and caregivers (if appropriate); setting this up before surgery – rather than discovering they are unable to care for themselves after they get home -- will ensure a better environment for healing and hopefully lead to improved outcomes.
- **Flare interventions**: to avoid frustration and needless pain/suffering, patients should be instructed to contact their rheumatology provider in the event of a flare during the perioperative period. Depending on its nature and severity, a flare may necessitate delaying surgery or altering the post-operative plan. However, patients also need to have realistic expectations of their pain levels after surgery. Pain related to intubation, prolonged anesthesia and surgery itself is different from flare pain and needs to be treated differently.
- **Increased risk of infection** (disease state): patients with autoimmune inflammatory diseases should be educated that they are at higher risk for infection compared to the general population, regardless if they are undergoing surgery or not. They should be educated about the signs and symptoms of infection and told that the threshold for treating may be lower in their case.
• Education of cortisol related complications: any rheumatology patient on daily prednisone should be educated about stress-dosing and the harms of sudden discontinuation of their prednisone. They should be informed that they may need to specifically ask their surgical team about this topic.

• Medication education including when/if to start and stop. There are differing schools of thought on this topic. One perspective is that biologic and non-biologic DMARDs increase the risk of infection after surgery and should be held. Within this perspective there are no clear guidelines about how long immunosuppressants should be held. The other perspective is that biologic and non-biologic DMARDs decrease the risk of systemic inflammation after surgery and should be continued through the perioperative period. It is the role of the rheumatology nurse to explain these different perspectives to patients and, if necessary, to the surgical team so that a consensus can be reached that will ensure the best outcome for the patient.

USEFUL REFERENCES:

- den Broeder AA, Creemers MC, Fransen J, et al. Risk factors for surgical site infections and other complications in elective surgery in patients with rheumatoid arthritis with special attention for anti-tumor necrosis factor: a large retrospective study. J Rheumatol. 2007;34(4):689-695. This is a study of 768 RA patients who underwent elective orthopedic surgery (a total of 1219 procedures). There were 3 arms in this retrospective study: not on anti-TNF; on anti-TNF alpha that was stopped for surgery; on anti-TNF alpha that was not stopped for surgery. The authors found that perioperative use of anti-TNF alpha medications was not significantly associated with surgical site infections.

- Wendling D, Balblanc JC, Brousse A, et al. Surgery in patients receiving anti-tumour necrosis factor alpha treatment in rheumatoid arthritis: an observational study on 50 surgical procedures. Ann Rheum Dis. 2005;64(9):1378-1379. This is an observational study of 50 patients with classic RA who had orthopedic surgery. All of the patients were on an anti-TNF alpha medication before surgery. In 18 patients the anti-TNF alpha was held; in the other 32 patients it was continued. There was no increased incidence of adverse events in the patients who continued their biologic.

- Goodman SM, Paget S. Perioperative drug safety in patients with rheumatoid arthritis. Rheum Dis Clin North Am. 2012;38(4):747-759. In this excellent and thorough review the authors explain the immunologic effects of biologic and nonbiologic DMARDs and give specific recommendations for perioperative management. They do recommend holding certain biologics but also point out that some patient populations (those with diabetes or cardiac disease, for example) warrant more concern for infection than others.

- Goh L, Jewell T, Laversuch C, Samanta A. Should anti-TNF therapy be discontinued in rheumatoid arthritis patients undergoing elective orthopaedic surgery? A systematic review of the evidence. Rheumatol Int. 2012;32(1):5-13. This is another thorough review that emphasizes the risks of relapse in patients for whom anti-TNFs are held for too long after surgery. They recommend that anti-TNFs be reinstated “promptly” after surgery to avoid the risk of RA flare.

- Mabille C, et al. Should anti-TNF alpha treatment of RA be stopped before orthopedic surgery? 2014 ACR/ARHP Annual Meeting. This meta-analysis of 14 studies that reported the infection outcomes of orthopedic surgery in RA patients showed that while patients on anti-TNF therapy were more likely to experience infection after surgery, stopping the anti-TNF did not decrease the infection rates. The authors concluded that stopping anti-TNF treatment in these patients would not improve outcomes in terms of infections and would expose patients to a greater risk of RA flare.