MANAGEMENT OF RHEUMATOID ARTHRITIS IN THE PERIOPERATIVE PERIOD

In patients with rheumatoid arthritis (RA) undergoing joint replacement surgery, the clinician is often faced with the potential for medication-related increase in infection or wound-healing complications. Conversely, withholding of antirheumatic agents increases the possibility of an inflammatory disease flare in the vulnerable perioperative period. With growing use of biologic agents and combination disease-modifying antirheumatic-drug (DMARD) therapies in patients with RA, these issues become more complex.

Several authors in recent reviews of perioperative management have made recommendations for appropriate medication adjustments for most DMARDs.[1–3] Less experience and a greater degree of uncertainty exists for management of biologic therapies and leflunomide in the perioperative period.

To compare these published recommendations with recent clinical practice, we conducted a chart review of patients with RA undergoing original joint knee and hip arthroplasty.

A health region medical record search for discharge diagnoses of RA and knee or hip arthroplasty yielded 48 admissions for original joint replacements between January 2006 and March 2010. A chart review was performed using a standardized data collection form that included demographic information, RA therapeutic data, surgical procedure and complications during admission.

There were 33 joint replacements performed on women and 15 on men. Knee replacements made up two-thirds (66.7%) of the procedures and hip replacement one-third (33.3%). A higher proportion of hip replacements were performed in male patients ($p = 0.008$). The mean age of patients was 55.3 years (standard deviation [SD] 14, range 24–79), and the mean duration of hospital stay was 5.5 days (SD 2.0, range 3–11). Individual medication use with pre- and postoperative scheduling adjustments are outlined in Table 1. Most patients ($n = 15$) who had been receiving oral corticosteroids before hospital admission were treated with parenteral corticosteroids perioperatively. During the course of hospital admission, 2 patients experienced perioperative complications. One required transfusion for excess blood loss intraoperatively, a second had wound dehiscence attributed to suture failure on postoperative day one. No other complications were documented during admission.

In this retrospective chart review, we found most patients receiving methotrexate, azathioprine, hydroxychloroquine, suphasalazine and gold had medications continued until surgery or until the week of surgery, with generally rapid resumption postoperatively. This was also true for leflunomide. There is less clinical certainty regarding appropriate management of leflunomide in the perioperative period, owing in large part to the long half-life that has been estimated to be about 2 weeks. Clinical recommendations have been polarized from continuing therapy throughout the perioperative period to undergoing cholestyramine washout preoperatively.[2,3] In this small series, there was little interruption in the therapeutic course of leflunomide, with no adverse complications developing during the hospital stay.

Adjustment of biologic therapies were minimal for patients receiving infliximab every 8 weeks and adalimumab every 2 weeks. There was less consistency for patients treated with weekly etanercept, with a greater number of patients having medication interruptions perioperatively. There has been conflicting outcome experience in patients with RA receiving anti–tumour necrosis factor (TNF) therapy in proximity to orthopedic surgical procedures.[4,5] Recently published recommendations, despite acknowledging the paucity of clinical data, suggest holding anti-TNF agents in the perioperative period for at least 1 dosage cycle before the surgery and not resuming therapy until wound healing has advanced sufficiently to permit suture removal.[1] Others suggest holding biologic agents 4–5 half-lives before surgery;[2] variability based on the nature of the surgical procedure has also been proposed.[3] Implementation of such recommendations particularly for agents with a long cycle or half life would hinge on adequate advance notice of the time of surgery. It has been our experience that after a prolonged period on wait lists for arthroplasty, many patients are given relatively short notice of a surgical date.

Inconsistencies in observed clinical practice and in various published recommendations highlight the need for further

Table 1. Medication adjustments pre- and postoperatively ($n = 48$)

		No. (%) patients			
Medication	No. patients	Continued preoperatively	Held preoperatively [range of days]	Continued postoperatively	Held postoperatively [days after scheduled dose]
Methotrexate	21	17 (81)	4 (19) [3–21]	11 (52)	10 (48) [1–18]
Leflunomide	10	5 (50)	5 (50) [1–5]	5 (50)	5 (50) [1–2]
Sulphasalazine	8	4 (50)	4 (50) [5–7]	2 (25)	2 (50) [1–2]
Hydroxycholorquine	6	6 (100)	0	6 (100)	0
Gold	2	2 (100)	0	1 (50)	1 (50) [7]
Azathioprine	1	1 (100)	0	1 (100)	0
NSAIDs*	26	7 (27)	19 (73) [1–10]	8 (31)	9 (35) [1–5]
Infliximab	3	3 (100)	0	3 (100)	0
Adalimumab	5	5 (100)	0	4 (80)	1 (20) [7]
Etanercept*	7	2 (29)	4 (57) [8–15]	1 (14)	3 (43) [6–42]

NSAID = nonsteroidal anti-inflammatory drug.
*Incomplete perioperative medication data plan documented in the hospital chart.

studies and guidelines in perioperative management of patients with RA. Management of patients with RA undergoing various surgical procedures will continue to be a challenge. It is clear that a greater understanding of the effects of DMARDs and biologic agents on wound healing and perioperative outcomes would be valuable in planning management around elective surgical procedures. Communication between rheumatologists, surgeons and internists involved in preoperative medical assessments would facilitate consistency in management strategies.

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