Abstracts Accepted for Publication

HPR measuring health (development and measurement properties of PROs, tests, devices) —

AB1195-HPR PSORIATIC ARTHRITIS PATIENTS INITIATED ON APREMILAST: A RETROSPECTIVE ANALYSIS OF PATIENT OUTCOMES FROM A WEST LONDON TEACHING HOSPITAL

C. Astbury. Pharmacy, Imperial College NHS Healthcare Trust, London, United Kingdom

Background: Apremilast is an oral phosphodiesterase 4 (PDE-4) inhibitor that reduces disease activity in psoriatic arthritis (PsA) by modulating the expression of inflammatory cytokines. In December 2015, apremilast received a negative National Institute of Clinical Excellence (NICE) appraisal for its use in PsA, owing to a lack of robust evidence on its long-term impact on patient outcomes and efficacy in improving radiographic progression (TA372). The role of the drug in the PsA treatment pathway remains uncertain. We present a retrospective analysis of the use of apremilast in 14 patients with PsA within our hospital trust.

Methods: Pharmacy funding applications and medication dispensing records were used to identify suitable patients. All patients commenced on apremilast at Imperial College NHS Healthcare Trust (ICHT) for PsA were included in the analysis.

Results: A total of 14 patients were initiated on apremilast between June 2015 and September 2016 (table1). Of these patients 9 (64%) achieved an adequate response to treatment, defined by NICE as an improvement in at least 2 of the 4 PsA response criteria (PsARC) scores, with no worsening in any of the four criteria. Of the 5 patients not achieving response, 3 patients discontinued treatment prior to assessment due to intolerable side effects, whilst 2 further patients didn't achieve the appropriate therapeutic response (primary failure). From the 9 patients that achieved an adequate response only 5 are currently taking therapy, with intolerable side effects causing discontinuation in a further 4. This gives an overall discontinuation rate of 65% (9 out of 14). In the 5 patients remaining on therapy, one patient needed to reduce the drug dose due to side effects, whilst one continued treatment despite tolerable side effects. Of our 14 patients only 3 remained on treatment in the absence of any side effects. The most common side effects causing discontinuation were nausea and vomiting (3 patients, 21%) and mood changes (2 patients, 14%).

Table 1. Patient demographics for all PsA patients initiated on apremilast (n=14). Median time to stopping treatment 4 months.									
Duration (years)	Erosive	Age	Sex	Psoriasis	Previous treatment	Concomitant csDMARD	Duration of treatment (months)	Side effects	
					2x csDMARDs	bDMARDs			
1	4	N	34	M	Y	Y	Nil	14	Continues N+V but tolerable
2	13	Y	55	F	Y	Y	SSC / HCQ	7	Stopped - primary failure
3	6	N	37	M	N	Y	LEF	4	Stopped - N+V + hangover feeling
4	3	N	42	F	Y	Y	SSZ	2	Responded but Stopped - N+V
5	12	Y	49	F	Y	Y	HCQ / Pred	9	Responded but Stopped - Mood changes
6	22	Y	59	F	Y	Y	MTX / SSC	6	Responded but Stopped - mood changes
7	9	Y	58	F	Y	Y	MTX	16	Continues
8	8	Y	62	F	Y	Y	MTX	14	Continues
9	7	N	62	F	Y	Y	SSZ	14	Continues - dose reduced
10	11	N	75	F	Y	Y	MTX	1	Stopped - shingles
11	10	N	56	F	Y	Y	MTX / SSZ	11	Continues
12	10	Y	77	F	N	Y	LEF / Pred	1	Stopped - nausea
13	26	Y	44	F	N	Y	MTX	6	Stopped - primary failure
14	17	N	41	M	Y	N	Nil	2	Responded but Stopped - Dizziness

Conclusions: Apremilast was poorly tolerated in our population with only 3 patients continuing the drug with response and without ongoing side effects. Discontinuation rates within ICHT were found to be much higher than those in the original trial data (65% versus 15%). Patients who have continued the medication and tolerated side effects, however have shown a good response to treatment.

References:

[1] Drugs and therapeutics bulletin. Apremilast for psoriasis and psoriatic arthritis. British Medical Journal , 2015: 105–108.

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[3] National Institute for Health and Care Excellence. Apremilast for treating active psoriatic arthritis (TA372). 2015. <https://www.nice.org.uk/guidance/ta372/resources/apremilast-for-treating-active-psoriatic-arthritis-82602785881285>.

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AB1196-HPR A COMPARISON OF PATIENT PREFERENCE AND USABILITY BETWEEN TWO ELECTRONIC GONIOMETRIC GLOVES IN THE MEASUREMENT OF JOINT MOVEMENT IN PATIENTS WITH RHEUMATOID ARTHRITIS

D. Small¹, P.V. Gardiner¹, J. Connolly², J. Condell², K. Curran², A. O'Neill¹, R. Friel¹. ¹Rheumatology, WHSCT; ²School of Computing, Ulster University, Londonderry, United Kingdom

Background: Patients with Rheumatoid arthritis suffer from pain, stiffness and reduced mobility of their finger joints. Instrumented electronic goniometric gloves have been developed which can enable dynamic measurements to be made with accuracy and efficiency [1]. This technology could be employed in assessing patients with rheumatoid arthritis and could also be used as an aid to rehabilitation. However, pain and swelling in the joints might limit the applicability of these measurement devices as to date they have not been tested in this patient group.

Objectives: The purpose of this pilot study was to establish the usability of two different electronic gloves in patients with mild to moderate Rheumatoid arthritis. We wished to establish if patients experienced difficulty donning or doffing either glove or if carrying out a series of measurements with the gloves on caused a change in pain and stiffness. We also investigated differences in the usability and preference between the two Datagloves.

Methods: We compared a commercially available electronic glove (the 5DT dataglove 14 Ultra) with a bespoke IMU based electronic glove produced to our specifications by Tyndall National Institute, University College Cork (Figure). We developed a programming interface for both devices to facilitate calibration and detailed evaluation of joint movement. Nine patients with mild to moderate rheumatoid arthritis who were experiencing significant but not severe pain and early morning stiffness in their hands were recruited. After calibration, the patients worked through a protocol of finger flexion and extension movements, which were repeated for each glove and again to test repeatability. The patients completed questionnaires before and after using the gloves on their pain and stiffness levels and at the end of the session on glove donning and doffing usability and preference between the two gloves.

Results: All nine patients were able to don and doff the IMU glove without any difficulty compared to 4/9 for the 5DT glove. Seven of 9 patients expressed a preference for the IMU glove. In 2/9 patients, joint stiffness increased after using the gloves and 4/9 patients reported an increase in pain. Seven out of nine patients were not able to complete the fourth set of movement tests because of discomfort.

Table of Change in Stiffness and Pain after glove use and subject glove preference

Subject	Hand stiffness		Change in stiffness (VAS)	Hand pain		Change in pain (VAS)	Preferred Glove IMU or 5DT
	Pre study (VAS)	Post study (VAS)		Pre study (VAS)	Post study (VAS)		
S1	15	22	NC	27	33	NC	IMU
S2	59	40	-	51	73	+++	IMU
S3	65	61	NC	71	79	NC	IMU
S4	28	28	NC	11	15	NC	5DT
S5	0	44	+++	0	49	+++	IMU
S6	26	77	+++	15	82	+++	IMU
S7	36	34	NC	16	33	+	IMU
S8	0	0	NC	0	0	NC	IMU
S9	25	15	NC	9	19	NC	5DT

+ >10mm increase in VAS; - >10mm decrease in VAS, NC <10mm change in VAS.

Conclusions: Electrogoniometric gloves are usable in patients with rheumatoid