Key efficacy results of lifitegrast ophthalmic solution 5.0% across 12-week multicenter randomized controlled trials (ITT population with LOCF)

Study	Symptom endpoint	Sign endpoint
Phase 2	• Visual-related function subscale (secondary, change from baseline to day 84): TE 0.37, nominal *P*=0.0394.	• Primary endpoint of ICSS at day 84 not met. • ICSS (secondary, change from baseline to day 84): TE 0.35, nominal *P*=0.0209.
OPUS-1	• Coprimary endpoint of change from baseline to day 84 on visual-related function subscale not met.	• ICSS (co-primary, change from baseline to day 84): TE 0.24, *P*=0.0007.
OPUS-2	• EDS (VAS; co-primary, change from baseline to day 84): TE 12.61, *P*<0.0001.	• Coprimary endpoint of change from baseline to day 84 in ICSS not met.
OPUS-3	• EDS (VAS; primary, change from baseline to day 84): TE 7.16, *P*=0.0007.	• ICSS (ad hoc, change from baseline to day 84): TE 0.17, nominal *P*=0.0144.

Eye dryness score (EDS; visual analogue scale [VAS]); ICSS, inferior corneal staining score; ITT, intention-to-treat; LOCF, last observation carried forward; TE, treatment effect.

P=0.0007), and OPUS-3 (ad hoc; 0.17, nominal *P*=0.0144). LIF reduced EDS (VAS) versus PBO in OPUS-2 (co-primary; 12.61, *P*<0.0001) and OPUS-3 (primary; 7.16, *P*=0.0007). The OPUS-1 co-primary symptom endpoint of visual-related function subscale, and the OPUS-2 co-primary sign endpoint of ICSS, did not achieve statistical significance. In the pooled safety analysis, total exposure was 415.65 person-years for LIF, and 332.15 person-years for PBO. Adverse events were mostly mild or moderate in severity. There were no serious ocular treatment-emergent adverse events (TEAEs) and withdrawals due to TEAEs were infrequent (LIF, 7.0%; PBO, 2.6%).

Conclusions: LIF improved signs and symptoms of DED in adults with DED and appeared to be well tolerated with no serious ocular TEAEs reported.

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LB0002 48 WEEK COMPLETE REMISSION OF ACTIVE LUPUS NEPHRITIS WITH VOCLOSPORIN

V. Dobronravov [1], M.A. Dooley [2], S.A. Haq [3], I. Adzerikho [4], O. Bugrova [5], D. Isenberg [6], F. Houssiau [7], N. Solomons [8], R. Huizinga [8] on behalf of AURA-LV Study Group. *[1]Pavlov First St. Petersburg State Medical University, St. Petersberg, Russian Federation; [2]UNC, Chapel Hill, United States; [3]Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh; [4]Minsk Regional Clinical Hospital, Minsk, Belarus; [5]Orenburg Regional Clinical Hospital, Orenburg, Russian Federation; [6]University College Hospital, London, United Kingdom; [7]Université catholique de Louvain, Brussels, Belgium; [8]Aurinia Pharmaceuticals, Victoria, Canada*

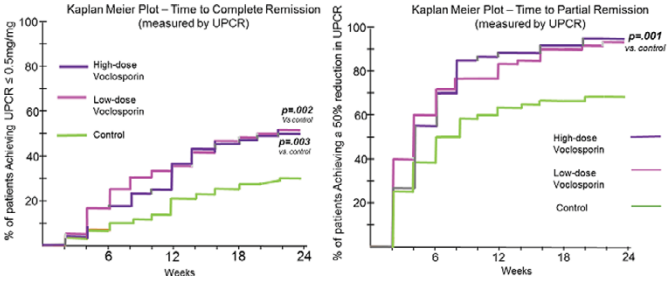
Background: Voclosporin (VCS) is a novel CNI intended for use in the treatment of autoimmune diseases such as lupus nephritis (LN). VCS's unique structure allows for less pharmacokinetic-pharmacodynamic variability and a potentially improved safety profile compared to other CNIs.

Objectives: Achievement of complete remission (CR) as assessed at week 24 (primary objective) and assessment of the efficacy over 48 weeks (secondary objective), with 2 doses of VCS (low dose VCS: 23.7mg BID and high dose VCS: 39.5mg BID) vs. placebo in subjects with active LN.

Methods: The double blind placebo controlled AURA study enrolled 265 subjects with active LN in 20 countries. Patients were randomized into 3 arms (placebo, low dose VCS or high dose VCS) in addition to MMF 2g/day and steroids (with rapid tapering). CR was defined as a confirmed urine protein/creatinine ratio (UPCR) of ≤0.5 mg/mg using first morning void and confirmed estimated glomerular filtration rate (eGFR, CKD-EPI equation) ≥60 mL/min/1.73 m^2 or no decrease from baseline in eGFR of ≥20% in the presence of low dose steroids. Partial remission (PR) was defined as a 50% reduction in UPCR. UPCR assessments were made at each visit, together with biomarker data at regular intervals.

Results: We now present the 48 week data showing improved CR rates over the 24 week data. The rate of CR was significantly higher in the low dose VCS compared to the control group (32.6% vs. 19.3%; OR: 2.03, p=0.045) at 24 weeks. It was 27.3% in the high dose VCS group (p=NS). Both doses of voclosporin demonstrated superiority to control using time to CR, PR (50% reduction in proteinuria) and time to PR.

At 48 weeks, 23.9% of patients on the control arm achieved CR comparted to 49.4% low dose (OR: 3.21, p<0.001) and 39.8% high dose (OR: 2.10, p<0.026). Over 92% of subjects experienced at least one adverse event (AE) with the most common two being infections (58% low, 66% high and 55% placebo) and GI disorders (43% low, 52% high and 38% placebo). The overall rate of serious adverse events (SAEs) was numerically higher in both voclosporin groups (28% low, 25% high, 19% placebo) with the nature of SAEs consistent with those observed in patients with highly active LN. Most deaths occurred in the first 2 months and were: low dose (infection3, ARDS2, thrombotic3, cardiac tamponade, pulmonary hemorrhage), high dose (infection, PE) and control (CVA). All were considered unrelated to drug exposure by the investigators. 3 additional deaths occurred in placebo patients after the conclusion of the 48 weeks of treatment.



Conclusions: The AURA-LV study is the first global study demonstrating the beneficial effect of VCS, in combination with MMF and steroids, in the treatment of LN. Remission rate was rapid. VCS treatment resulted in increasing CR and PR seen by week 6 despite rigorous steroid taper (mean steroid dose 4 mg at week 16). Adverse events were higher in the treated patient group with the nature in keeping with immunosuppression. These promising data will be used to plan subsequent studies of voclosporin in LN.

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FRIDAY, 16 JUNE 2017

Axial spondyloarthritis from risk factor to clinical outcomes

OP0238 MEASUREMENT OF SPINAL MOBILITY IN AXIAL SPONDYLOARTHRITIS USING INERTIAL SENSORS: RELIABILITY AND VALIDATION PRELIMINARY RESULTS

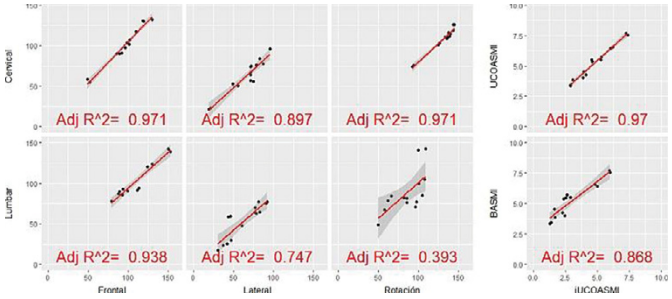
F.J. Mata-Perdigon [1], I.R. Martínez Sanchez [2], J.L. Garrido-Castro [1], C. González-Navas [1], L.M. Fernandez-Ahumada [2], D.A. Gomez [1], V.C. Perez-Guijo [1], P. Font-Ugalde [1], E. Collantes-Estevez [1]. *[1]Maimonides Institute for Biomedical Research of Cordoba; [2]University of Cordoba, Cordoba, Spain*

Background: Axial spondyloarthritis (axSpA) is a chronic rheumatic disease that causes reduction of mobility in the patients' spine. There are several indices to analyze this mobility: BASMI, which lacks precision and sensitivity to change according to different authors, and UCOASMI (1) based on motion capture, which needs extensive resources that limit its practical applicability. Inertial measurement unit sensors (IMU) give, in real time, the 3D orientation of any anatomical place

Abstract OP0238 – Table 1

	Cervical			Lumbar			Indexes		
	Frontal	Lateral	Rotation	Frontal	Lateral	Rotation	iUCOASMI	UCOASMI	BASMI
Test	104.7 (19.7)	60.9 (17.0)	111.3 (19.0)	112.5 (25.6)	62.5 (18.3)	89.2 (26.3)	4.9 (1.2)	4.7 (1.6)	2.6 (1.4)
Retest	108.1 (20.9) β	63.5 (18.7) α	110.2 (19.0) β	113.5 (25.3) β	64.3 (18.5) β	88.3 (23.0) β	5.0 (1.3) α	–	–
2 Days	104.6 (18.9) γ	62.0 (18.3) α	111.9 (16.1) γ	112.5 (25.6) β	61.7 (18.8) β	88.9 (23.8) γ	5.0 (1.2) β	4.9 (1.5) α	2.7 (1.4) β

of the patient. It could be a sensitive, flexible and cheap technology, useful for assessing mobility in AxSpa, but validation studies are needed.
Objectives: To assess reliability and validity of inertial sensors for measuring spinal mobility in patients with axSpA.
Methods: 14 subjects: 7 patients with axSpA (5 male and 2 female, age 51.4±6.7 years, evolution time 25.4±11.3 years, 85.7% B27 positive) and a control group of 7 healthy individuals matched in gender and age were recruited. Cervical and lumbar movements were evaluated using 3 IMU sensors (located at forehead, D3 and L4) and a 3D motion capture system synchronously. A test/retest was performed at 5 minutes in the same day with the IMUs and in two days with both systems. Measurements of metrology, BASMI and UCOASMI indices were obtained. An index, iUCOASMI, was calculated using the same measurements used for UCOASMI, but obtained by inertial sensors.
Results: Table shows mean values (SD) for each range of movement expressed in degrees. BASMI, UCOASMI and iUCOASMI indexes are also included. Intraclass correlation coefficient (ICC) is indicated as α: >0.98 – Excellent, β: 0.95–0.98 – Very good and γ: 0.7–0.95 – Good, δ: <0.7 – Bad. RMSE error was less than 10° for all measures. There was good correlation ($p<0.01$) between iUCOASMI with BASFI, BASG, UCOASMI and BASMI. Graph shows results of linear regression between measures obtained with both system (for example: cervical frontal flexion obtained by motion capture and IMUs have a R^2 of 0.97) and between iUCOASMI with UCOASMI and BASMI.



Conclusions: The IMU system measured range of movement, showing good ICC both in the same day and in the two days test/retest. The iUCOASMI, has also shown an excellent correlation with UCOASMI, and with BASMI. Therefore, these kind of systems, based on IMU, may be useful for analyzing spinal mobility in patients with axSpA in a more accurate and reliable way compared with conventional metrology, and more flexible and cheap than other advanced systems, improving their practical applicability.
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OP0239 HISTOLOGICAL FEATURES OF JOINT AND COLONIC INFLAMMATION IN INFLAMMATORY BOWEL DISEASE PATIENTS TREATED WITH ANTI-TNF

S. Alivernini[1], D. Pugliese[2], B. Tolusso[1], L. Petricca[1], L. Bui[3], L. Guidi[2], G.L. Rapaccini[2], F. Federico[3], G. Ferraccioli[1], A. Armuzzi[2], E. Gremese[1].
[1]Institute of Rheumatology; [2]Ibd Unit; [3]Institute of Pathology, Catholic University of the Sacred Heart, Rome, Italy

Background: New onset of joint inflammation in patients under anti-TNF-alpha for inflammatory bowel disease (IBD) has been previously described. However, histological characterization of synovial and bowel compartments has not been reported so far.
Objectives: Aim of the study was to evaluate the histological characteristics of paired synovial (ST) and colonic tissues in IBD patients under TNF-alpha blockers.
Methods: Consecutive IBD patients without history of co-existing joint involvement who developed peripheral arthritis under TNF-alpha blockers, were prospectively enrolled. Each patient underwent rheumatological evaluation and ultrasound (US) assessment (using Gray scale for synovial hyperthrophy and Power Doppler Signal) of the affected joints. Each patient underwent US guided ST biopsy of the knee, following a standardized procedure[1] and colonoscopy with mucosal biopsies. Each ST and colonic paired sample was stained through immunohistochemistry (IHC) for CD68, CD21, CD20, CD3 and CD117[2]. H&E staining was performed for Paneth cells identification. Clinical and immunological parameters [Anti-citrullinated peptides antibodies (ACPA), IgM-Rheumatoid Factor (RF) and IgA-RF respectively] were collected for each patient.
Results: 10 patients with IBD [46.0±9.7 years old, 13.2±9.9 years of disease duration, 2.5±1.6 years of TNF-alpha blockers exposure, 6 with Crohn's Disease and 4 with Ulcerative Colitis respectively] were studied. All patients were negative for ACPA, IgM-RF or IgA-RF and 4 patients were under Methorexate therapy. 5 (50.0%) patients showed endoscopic and histologically proven inflammation of colonic mucosa. Moreover, IHC revealed that 6 (60.0%) patients had diffuse and 4 (40.0%) had follicular synovitis, respectively. In particular, there was a direct correlation between $CD68^+$, $CD21^+$, $CD3^+$, $CD20^+$ and $CD117^+$ cells distribution in paired ST and gut tissues in the whole cohort ($p<0.05$). No significant differences in terms of disease duration (p=0.48), TNF-alpha blockers exposure time (p=0.29), ESR (p=0.26) and CRP (p=0.91) values were found comparing patients with follicular and diffuse synovitis respectively.
Conclusions: Our findings suggest that patients with IBD may develop histologically proven synovitis during TNF-alpha treatment, showing similar histological features in terms of $CD68^+$, $CD21^+$, $CD20^+$, $CD3^+$ and $CD117^+$ cells between synovial and colonic compartments. Molecular mechanisms triggered by TNF-alpha blockers leading to joint inflammation have to be clarified.
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Disclosure of Interest: None declared
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OP0240 HOW STRONG ARE THE ASSOCIATIONS OF SPONDYLOARTHRITIS-RELATED COMORBIDITIES WITH ANKYLOSING SPONDYLITIS, PSORIATIC ARTHRITIS AND UNDIFFERENTIATED SPONDYLOARTHRITIS? A REGISTER-BASED STUDY FROM SWEDEN

K. Bengtsson[1], H. Forsblad-d'Elia[1,2], E. Lie[1], E. Klingberg[1], M. Dehlin[1], S. Exarchou[3], U. Lindström[1], J. Askling[4], L.T. Jacobsson[1]. *[1]Department of Rheumatology and Inflammation Research, Institute of Medicine, Sahlgrenska Academy at University of Gothenburg, Göteborg; [2]Departments of Public Health and Clinical Medicine, Rheumatology, Umeå; [3]Section of Rheumatology, Department of Clinical Sciences, Malmö, Lund University, Malmö; [4]Clinical Epidemiology Unit and Rheumatology Unit, Department of Medicine Solna, Karolinska Institutet, Stockholm, Sweden*

Background: Spondyloarthritis (SpA), including ankylosing spondylitis (AS), psoriatic arthritis (PsA) and undifferentiated SpA (uSpA), is a cluster of rheumatic diseases with some common genetic risk factors. These genetic risk factors are likely to result in associations of varying degree with SpA-related comorbidities such as inflammatory bowel disease (IBD), psoriasis and anterior uveitis. There

Abstract OP0240 – Table 1. Prevalence (%) and corresponding Prevalence Ratio (PR) of SpA-related comorbidities in AS, PsA and uSpA

	AS cases n (%)	PR (95% CI) (AS: GP)	PsA cases n (%)	PR (95% CI) (PsA: GP)	uSpA cases n (%)	PR (95% CI) (uSpA: GP)
Females, n (%)	*1217 (31.3)*		*4772 (54.8)*		*1503 (56.4)*	
Age, mean ±SD	*51.1±12.7*		*53.9±13.5*		*46.1±12.8*	
IBD	350 (9.0)	9.3 (7.7–11.2)	180 (2.1)	1.9 (1.6–2.3)	139 (5.2)	5.2 (4.1–6.6)
– Crohn's disease	170 (4.4)	11.6 (8.7–15.4)	78 (0.9)	2.2 (1.7–2.9)	62 (2.3)	6.5 (4.4–9.6)
– Ulcerative colitis	180 (4.6)	7.8 (6.2–10.0)	102 (1.2)	1.8 (1.4–2.3)	77 (2.9)	4.4 (3.3–6.1)
Anterior uveitis	819 (21.1)	44.8 (35.7–56.3)	145 (1.7)	3.8 (3.1–4.8)	351 (13.2)	32.4 (24.1–43.6)
Psoriasis	85 (2.2)	2.7 (2.0–3.5)	NA	NA	78 (2.9)	3.2 (2.4–4.3)
AV block	39 (1.0)	5.8 (3.6–9.4)	30 (0.3)	1.6 (1.0–2.4)	13 (0.5)	4.6 (2.1–10.0)
Aortic regurgitation*	55 (1.4)	4.7 (3.2–6.9)	41 (0.5)	1.7 (1.2–2.4)	11 (0.4)	3.0 (1.4–6.4)

AV, atrioventricular; NA, not applicable. *Aortic regurgitation includes both ICD codes for aortic regurgitation and procedure codes for aortic valve surgery.