## FRI0475 LUNG DAMAGE IN PATIENTS WITH MICROSCOPIC POLYANGIITIS

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**Objectives:** We evaluated the frequency of clinical and CT features of lung damage in patients with microscopic polyangiitis (MPA).
**Methods:** We enrolled 97 patients with MPA, that was diagnosed according to CHCC2012. The median age at disease onset was 50.7±16.6 (M±SEM) years, the median duration of follow-up was 47.6±47.5 (M±SEM) months. 64 (66.0%) patients were ANCA-MPO-positive, 24 patients (24.7%) were ANCA-PR-3-positive, and 9 (9.3%) patients had undifferentiated ANCA. Diffuse alveolar haemorrhage (DAH) was diagnosed by the presence of dyspnea, hemoptysis, anaemia and pulmonary infiltrates on chest CT.
**Results:** Lung damage was diagnosed in 77 (79.4%) patients. 43 (55.8%) patients had pulmonary damage at the disease onset, while 34 (44.2%) patients developed signs of lung involvement within 8.0±4.1 (M±SEM) months. At baseline, the median pulmonary BVAS was 4.[2; 6] The interstitial changes occurred in more than half of cases at the onset of the disease. The most frequent CT-patterns included pulmonary infiltrates (n=49) and ground-glass opacity (n=39) (table 1). DAH developed in 30 (30.9%) patients, among them 15 (15.5%) had DAH at the onset of the disease.
The pulmonary fibrosis was the most common CT-pattern at the end of follow-up (52 patients). Notably, interstitial damages at the onset of disease were associated with the development of fibrotic changes (OR=4.7, 95% CI 1.7–12.9) and bronchiectasis (OR=9.8, 95% CI 1.2–78.3) at the end of follow-up. The median of pulmonary VDI was 1 (0;4) at the end of the follow up.
PR-3-positive group had higher occurrence of consolidations at the end of the follow-up as compared to patients with anti-MPO-antibodies (53.8% versus 16.0%, p=0.023).

| Abnormality | N (%) of cases | |
|---|---|---|
| | At baseline (n=77) | At the end of follow-up (n=47) |
| Interstitial damage | 68 (70.1%) | 18 (18.6%) |
| Infiltrates | 49 (50.5%) | 0 (0%) |
| Ground-glass opacity | 39 (40.2%) | 16 (16.5%) |
| Consolidation | 5 (5.2%) | 8 (8.2%) |
| Bronchial wall thickening | 10 (10.3%) | 18 (18.6%) |
| Bronchiectasis | 4 (4.1%) | 18 (18.6%) |
| Bronchiolitis | 3 (3.1%) | 5 (5.2%) |
| Pleural lesions | 11 (11.3%) | 5 (5.2%) |
| Pleural effusion | 12 (12.4%) | 0 (0%) |
| Pleural thickening | 3 (3.1%) | 5 (5.2%) |
| Pulmonary fibrosis | 14 (14.1%) | 52 (53.6%) |
| Honeycombing | 0 (0.0%) | 4 (4.1%) |
| Atelectasis | 3 (3.1%) | 8 (8.2%) |
| Emphysema | 0 (0.0%) | 13 (13.4%) |
| Pulmonary hypertension | 0 (0.0%) | 7 (7.2%) |

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PR-3-positive group had higher occurrence of consolidations at the end of the follow-up as compared to patients with anti-MPO-antibodies (53.8% versus 16.0%, p=0.023).
**Conclusions:** In patients with MPA, the CT signs of interstitial damage were usually reversible. However, they predicted a higher incidence of lung fibrosis and bronchiectasis at the end of follow-up. DAH occured in one third of patients with MPA.
**Disclosure of Interest:** None declared
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## FRI0476 THE MYRIAD OF NEPHRITIS IN LEVAMISOLE-ADULTERATED COCAINE VASCULOPATHY

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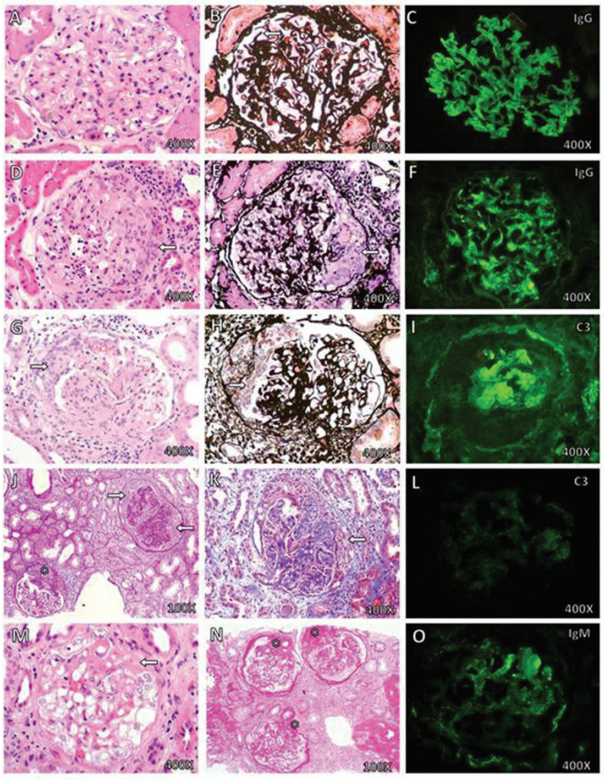
**Background:** Up to 88% of cocaine is tainted with levamisole, an anthelmintic withdrawn from the market due to toxicity. Since 2010 levamisole-adulterated cocaine vasculopathy (LACIV) patients, characterised by retiform purpura, ear necrosis, multisystemic compromise and positivity for multiple autoantibodies, have been reported. Renal involvement is the most serious and heterogeneous manifestation.
**Objectives:** To describe the renal involvement of patients with LACIV.
**Methods:** We describe the renal manifestations of 30 patients with LACIV evaluated from December 2010 to May 2017.
**Results:** All patients were mestizo, median age of 31 (IQR 27–38), male:female ratio 5:1, time from symptoms to diagnosis 12 months (IQR 6–24). Nephritis found in 57%, creatinine elevation in 40%, median 1.85 mg/dl (IQR 1.2–4.0), 70% had proteinuria, median 3184 mg/day (IQR 552–5100), 58% in nephrotic-range; 88% had hematuria and 41% pyuria and cilindruria. Biopsy was performed in 7 patients (41%), showing immune complex mediated extracapillary glomerulonephritis (29%), membranous glomerulonephritis (29%), pauci-immune proliferative glomerulonephritis (14%), focal and segmental glomerulosclerosis (14%) and C3 mediated extracapillary glomerulonephritis (14%) (image). Three patients (10%) developed end-stage kidney disease.
**Image: A. Membranous glomerulonephritis:** HE: glomerular thickened capillary walls, mild mesangial cellularity increase. **B.** GMS: capillary wall thickening and spikes (arrow). **C.** DIF: strong and diffuse IgG deposits on capillary walls. **D. Immune complex mediated Extracapillary Focal Necrotizing Glomerulonephritis:** HE: endocapillary proliferation, epithelial crescent (arrow). **E.** GMS: capillary wall rupture next to the crescent (arrow). **F.** DIF: Mesangial strong and diffuse IgG deposits. **G. C3 mediated extracapillary glomerulonephritis:** HE: glomerular capillary narrowing, epithelial crescent (arrow). **H.** GMS: normal capillary networks, epithelial crescent (arrow). **I.** DIF: C3 strong and diffuse positivity. **J. Pauci-immune proliferative glomerulonephritis:** PAS: epithelial crescents (arrows and asterisk). **K.** Trichrome: epithelial crescent (arrow). **L.** DIF for C3: weak deposits on capillary tuft. Non-immune complexes. **M. Focal and segmental glomerulosclerosis:** HE: segmental sclerosing lesions (arrow). **N.** PAS: segmental sclerosing lesions (asterisks). **O.** DIF for IgM: nonspecific positivity on a sclerotic segment.




**Conclusions:** Although skin manifestations are the most characteristic and prevalent features in LIVEN, renal involvement is frequent, clinically and histologically heterogeneous, and potentially serious. The great heterogeneity on the histopathological findings suggests the participation of different physio-pathological mechanisms, establishing renal biopsy as necessary to identify the type of nephropathy and thus, optimal guidance of therapy.

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## FRI0477 IMMUNOGENICITY OF INFLIXIMAB AMONG PATIENTS WITH BEHCET'S SYNDROME: A CONTROLLED STUDY

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**Background:** Immunogenicity of anti-TNFs has been recognised as an important problem that may cause loss of efficacy and adverse events such as infusion reactions. Anti-TNFs are being increasingly used among patients with Behçet's syndrome (BS).
**Objectives:** We aimed to investigate the prevalence of anti-drug antibodies against infliximab (IFX) in patients with BS together with controls.
**Methods:** We collected serum samples from 66 consecutive BS patients (51 M, 15 F and mean age 37±9 years) who were treated with IFX. IFX was used for eye involvement in 43, vascular involvement in 12, nervous system involvement in 8 and arthritis in 2 patients. Additionally, 53 ankylosing spondylitis (AS), 25 Crohn's disease (CD) and 27 rheumatoid arthritis (RA) patients, and 31 healthy subjects were included as controls. We included patients who had received at least 4 cycles of IFX. Samples were collected just before an infusion, stored at $-80^{o}$ C until analysis, and serum IFX trough levels and anti-IFX antibodies were measured by ELISA at the same time. We used a cut-off value of 1 μg/mL for serum IFX trough level, extrapolating from RA studies. After serum sampling, we continued to follow up patients.
**Results:** Anti-IFX antibodies were detected in 4 (6%) BS, 5 (18.5%) RA, 3 (12%) CD, and 1 (%2) AS patient, and in none of the healthy subjects. The mean number of IFX cycles was 19±14 in BS, 21±13 in RA, 19±21 in CD, and 33±18 in AS patients. Allergic reactions had occurred in 9 (14%) BS, 6 (22%) RA, 5 (20%) CD, and 4 (7.5%) AS patients. 3/6 RA patients and 3/5 CD patients who had experienced an allergic reaction had anti-IFX antibodies whereas none of BS and AS patients did.
The median serum IFX trough level was significantly lower in patients with anti-IFX antibodies compared to those without antibodies (2.32 (IQR: 0.6–3.6) vs 3.35 (IQR: 1.63–5.6; p=0.019). The serum IFX trough level was lower than the cut off value in 6/13 patients with anti-IFX antibodies and in 25/158 without anti-IFX antibodies (46% vs 16%; p=0.015).
We were able to get samples before at least 2 consecutive infusions in 27 BS patients and the presence of anti-IFX antibodies was consistent across the samples in all of these patients. We were able to get samples before the infusion and at week 2 in 5 BS patients. Serum IFX level was below 1 μg/mL before IFX and above 1 μg/mL at week 2 in all of these 5 patients.
During a median follow up of 1.5 years, 2/4 BS patients with anti-IFX antibodies had flares. Among the 62 patients without anti-IFX antibodies, 49 are still on IFX and IFX was stopped due to remission in 12 and due to infusion reaction in one patient. Overall, 5 infusion reactions occurred during the follow up (4 without anti-IFX antibodies and 1 with anti-IFX antibodies; 6.5% vs 25%).
**Conclusions:** Immunogenicity does not seem to be an important problem in BS patients treated with IFX. The frequency of anti-IFX antibodies was lower than RA and CD patients. This might be related to concomitant immunosuppressive and corticosteroid use among BS patients. The presence of anti-IFX antibodies may not be associated with efficacy loss in BS. However, longer follow-up is needed to make that statement as BS has a relapsing-remitting course.
**Disclosure of Interest:** None declared
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## FRI0478 OCCURRENCE OF GENUINE VASCULITIS IN PATIENTS WITH EOSINOPHILIC GRANULOMATOSIS WITH POLYANGIITIS

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**Background:** Many patients with eosinophilic granulomatosis with polyangiitis (EGPA) lack a "vasculitic" phenotype and/or are ANCA negative. Recently, the Groupe d'Etudes et de Recherche sur les Maladies Orphelines Pulmonaires developed a revised nomenclature for EGPA and proposed to differentiate it from hypereosinophilic asthma with systemic (nonvasculitic) manifestations (HASM).
**Objectives:** To evaluate the occurrence of genuine polyangiitis and HASM in a cohort of patients with EGPA.
**Methods:** We retrospectively studied the medical records of patients with EGPA that fulfilled the classification criteria of the American College of Rheumatology. Patients with genuine vasculitis were identified by at least one of the following criteria:[1] definite vasculitis feature as defined: biopsy-proven necrotizing vasculitis of any organ, biopsy-proven necrotizing glomerulonephritis or crescentic glomerulonephritis, alveolar haemorrhage, palpable purpura, myocardial infarction due to proven coronary arteritis;[2] strong surrogate of vasculitis as defined: haematuria associated with red casts or ≥10% dysmorphic erythrocytes, or haematuria and 2 +proteinuria on urinalysis related to the systemic disease; and any organ manifestation other than ENT or bronchopulmonary manifestation associated with leukocytoclastic capillaritis and/or eosinophilic infiltration of the arterial wall;[3] mononeuritis multiplex;[4] ANCA with at least one extra-thoracic non-ENTmanifestation of disease.
**Results:** We followed 68 patients with EGPA for a mean ±SD of 6.3±6.5 years (587.7 patient-years). There were 19 males and 49 females. Their mean ±SD age was 49.5±13.8 years. In 18 patients (26.5%) with EGPA diagnosis was revised in favour of HASM using the new criteria (table 1). Notably, 19 of 50 patients (38%) with genuine polyangiitis were ANCA-negative but have histological evidence or clinical signs (rapidly progressive glomerulonephritis in 1, mononeuritis multiplex 7, palpable purpura in 5) of definite vasculitis. The majority of patients in both groups were females of similar age at disease onset. The occurrence of constitutional symptoms, except myalgia, nasal involvement, cardiovascular and pulmonary manifestations did not differ between patients with genuine polyangiitis and HASM. However, patients with EGPA usually required more intensive immunosuppressive treatment, including cyclophosphamide, while monotherapy with moderate to high dose corticosteroids was adequate for the majority of patients with HASM.
Table 1 Clinical and demographic characteristics of patients with genuine EGPA and HASM

| | All, n=68 | HASM, n=18 | EGPA, n=50 | p |
|---|---|---|---|---|
| Age at diagnosis, years | 49,5 (36; 56) | 50 (35; 55) | 49,0 (37; 57) | 0,91 |
| Females, n (%) | 49 (72,1) | 17 (94,4) | 32 (64,0) | 0,014 |
| Follow up, months | 52,5 (22; 89) | 57 (33; 92) | 49,0 (19; 83) | 0,44 |
| Asthma, n (%) | 64 (94,1) | 16 (88,9) | 48 (96,0) | 0,28 |
| Chronic rhinosinusitis, n (%) | 56 (82,4) | 14 (77,8) | 42 (84,0) | 0,72 |
| Nasal polyposis, n (%) | 28 (41,2) | 6 (33,3) | 22 (44,0) | 0,58 |
| *General manifestation* | | | | |
| Fever >38°, n (%) | 49 (72,0) | 11 (61,1) | 38 (76,0) | 0,24 |
| Weight loss, n (%) | 19 (27,9) | 5 (27,8) | 14 (28,0) | 1,00 |
| Myalgia, n (%) | 32 (47,1) | 4 (22,2) | 28 (56,0) | 0,026 |
| Arthralgia, n (%) | 40 (58,8) | 13 (72,2) | 27 (54,0) | 0,26 |
| Arthritis, n (%) | 17 (25,0) | 4 (22,2) | 13 (26,0) | 1,00 |
| *Definite vasculitis features* | | | | |
| Alveolar hemorrhage, n (%) | 1 (1,5) | 0 | 1 (2,0) | 1,00 |
| Purpura, n (%) | 13 (19,1) | 0 | 13 (26,0) | 0,015 |
| *Strong vasculitis surrogates* | | | | |
| Haematuria, n (%) | 11 (16,2) | 1 (5,6) | 10 (20,0) | 0,26 |
| *Other features of polyangiitis* | | | | |
| Mononeuritis multiplex, n (%) | 19 (27,9) | 0 | 16 (38,0) | 0,001 |
| ANCA, n (%) | 31 (45,6) | 0 | 31 (62,0) | <0,0001 |
| *Cardiac and vascular manifestations* | | | | |
| Pericarditis (echocardiography and/or CT), n (%) | 11 (16,2) | 2 (11,1) | 9 (18,0) | 0,71 |
| Myocarditis, n (%) | 9 (13,2) | 1 (5,6) | 8 (16,0) | 0,43 |
| Venous thrombo-embolism, n (%) | 7 (10,3) | 0 | 7 (14,0) | 0,18 |
| *Renal manifestation* | | | | |
| Renal disease, n (%) | 6 (10,3) | 0 | 6 (12,0) | 0,18 |
| Proteinuria, n (%) | 4 (5,9) | 0 | 4 (8,5) | 0,30 |
| Urinary syndrome, n (%) | 14 (20,6) | 0 | 14 (28,0) | 0,014 |
| The increase in creatinine, n (%) | 5 (7,4) | 0 | 5 (10) | 0,31 |
| Other glomerulonephritis, n (%) | 3 (4,4) | 0 | 3 (6,0) | 0,56 |
| *Neurologic manifestations* | | | | |
| Peripheral neuropathy, n (%) | 50 (73,5) | 8 (44,4) | 42 (84,0) | 0,004 |
| *Cutaneous manifestations* | | | | |
| Livedo, n (%) | 3 (4,4) | 1 (5,6) | 2 (4,0) | 1,00 |
| Urticaria, n (%) | 7 (10,3) | 3 (16,7) | 4 (8,0) | 0,37 |
| Erythema, n (%) | 12 (17,7) | 3 (16,7) | 9 (18,0) | 1,00 |
| Papules, n (%) | 6 (8,8) | 2 (11,1) | 4 (8,0) | 0,65 |
| *Gastro-intestinal manifestations* | | | | |
| Eosinophilic gastroenteritis, n (%) | 5 (7,4) | 1 (5,6) | 4 (8,0) | 1,00 |
| Abdominal pain, n (%) | 6 (8,8) | 0 | 6 (12,0) | 0,18 |
| *Other manifestations* | | | | |
| Lung infiltrates, n (%) | 35 (51,5) | 12 (66,7) | 23 (46,0) | 0,17 |
| Pleural effusion, n (%) | 6 (8,8) | 1 (5,6) | 5 (10,0) | 1,00 |
| Perforation of the nasal septum, n (%) | 5 (7,4) | 0 | 5 (10,0) | 0,31 |

**Conclusions:** At least a quarter of patients with EGPA classified according to the ACR criteria do not have genuine polyangiitis. The revised criteria of EGPA and HASM may have a significant value for choosing treatment options.
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