AB0501

THREE CASES OF VERTEBRAL ARTERITIS IDENTIFIED ON FDG-PET IN PATIENTS WITH SUSPECTED GCA AT UNIVERSITY COLLEGE LONDON HOSPITAL (UCLH)

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Background: Giant cell arteritis (GCA) may affect both cranial and extra-cranial vessels; where the latter occurs, it can be termed large-vessel GCA (LV-GCA). Large vessel involvement is common: histological evidence has been seen in 80% of autopsies of patients with known GCA, and imaging studies suggest large vessel involvement in over 80%. LV-GCA is important to diagnose due to the risks of vascular complications such as occlusion and ischaemic stroke. The clinical diagnosis can be challenging, and the American College of Rheumatology (ACR) GCA classification criteria often underperform in cases of LV-GCA¹. F-fluorodeoxyglucose positron emission tomography (FDG-PET) has been found to be useful in the detection of extra-cranial involvement to support the diagnosis of LV-GCA.²

Objectives: To appreciate the variability in presentation of cases of LV-GCA, and to further characterise a subgroup of patients with vertebral arteritis.

To explore the use of FDG-PET imaging in GCA patients in addition to or in place of traditional diagnostic tools (temporal artery ultrasound / biopsy).

Methods: Through evaluation of the new GCA fast-track pathway implemented at UCLH, a subgroup of patients diagnosed with vertebral arteritis was identified. The history and presentation of these patients were analysed.

Results: Three patients were diagnosed with vertebral arteritis. All three were male, Caucasian and aged over 70. All were investigated for GCA due to a history of severe headache (frontal in one, occipital in one, bi-temporal in one) with associated red flag symptoms. Two had a history of jaw claudication and visual disturbances (unilateral visual loss in one, transient diplopia in the other). Both of these patients had positive temporal artery biopsies. The third patient had no ischaemic symptoms but a strong history of prominent polymyalgic features and a positive temporal artery ultrasound. Inflammatory markers were raised in two, and normal in one, of the patients. Only one had systemic symptoms (weight loss). All three proceeded to FDG-PET scans which showed vertebral arteritis and were commenced on immunosuppressive treatment.

Conclusion: The cases discussed illustrate the heterogeneity of the presentation of LV-GCA, and the diagnostic challenge this poses. FDG-PET imaging is useful in confirming extra-cranial involvement and therefore guiding treatment.

References:

- [1] Large-vessel giant cell arteritis: diagnosis, monitoring and management. Matthew J Koster, Eric L Matteson, Kenneth J Warrington. 2018, Rheumatology, Vol. 57, pp. 32-42.
- [2] EULAR recommendations for the use of imaging in large vessel vasculitis in clinical practice. DeJaco C, Ramiro S, Duftner C, et al. 2018, Annals of the Rheumatic Diseases, Vol. 77, pp. 636-643.

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AB0502

EVALUATION OF A NOVEL FAST TRACK PATHWAY FOR GIANT CELL ARTERITIS USING PET IN ADDITION TO TAUS AND TAB FOR EARLY DIAGNOSIS

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Background: Giant Cell Arteritis (GCA) is a common primary systemic vasculitis (1). Its predilection for the temporal artery can result in permanent visual loss if left untreated. Over 25% of patients have involvement of large vessels, such as the aorta, resulting in an increased risk of aneurysm formation and dissection. (3) Diagnosis of GCA is largely clinical and temporal artery biopsy (TAB) has long been the gold standard for diagnosis. In recent years temporal artery ultrasound (TAUS) has emerged as an effective, non-invasive tool to aid diagnosis. Positron-emission tomography (PET) can also be utilised to detect the presence of large vessel involvement but is currently not used in many centres for diagnostic purposes and requires further standardisation and validation (2). The challenge arises from these investigations losing sensitivity in the days following steroid treatment, meaning that rapid access is key to confirm diagnosis.

Objectives: To evaluate the impact of the introduction of a fast track pathway (FTP) on prompt diagnostics and treatment.

To improve our understanding of the use of PET at diagnosis and compare this to the gold standard TAB, and to TAUS, in our institution.

Methods: Cohort 1: 32 patients, all presenting before FTP implementation, identified from outpatient clinics and referrals to the Rheumatology team. Time taken from steroid initiation to TAUS/TAB was extracted from clinical records. Outcomes for this group included number of years on steroid (steroid burden).

Cohort 2: 21 patients all referred after implementation of a new GCA FTP. This group contains all patients referred as query GCA, not just those with positive diagnoses. Time from steroid initiation to TAUS/TAB was recorded. The FTP included the addition of PET imaging within 72 hours.

Results: Cohort 1: 20 (63%) patients had TAB and 3 (9%) had TAUS. The average time from starting steroid to investigation was 5.2 days and 2 days respectively. The average steroid burden in patients with no confirmatory test was 11 years. If patients had just a single diagnostic test this value dropped to 3 years. Cohort 2: 11 (52%) had TAB, 10 (48%) had TAUS and 11 (52%) had PET. In positive GCA diagnoses, time from steroid start to investigations was 7.2 days, 1 day and 3.2 days respectively. In patients with a negative diagnosis the time frames were 13 days, 1 day and 1.7 days respectively. Sensitivity for TAB was 45.5% and TAUS 40%. Specificity for TAB and TAUS was 100%. These results are comparable to similar studies (4). PET sensitivity was 63.6% and specificity 100%.

Table 1. Sensitivity, specificity, predictive values

	TAB	TAUS	PET CT
Sensitivity (%)	45.5	40.0	63.6
Specificity (%)	100	100	100
PPV (%)	100	100	100
NPV (%)	33.3	57.1	55.6

Conclusion: Prompt diagnostics, best facilitated through a FTP, can reduce steroid burden in GCA even if only one confirmatory test is available. Patients with a low clinical suspicion of GCA and negative TAUS or a high clinical suspicion and positive TAUS stand little to gain from TAB. These findings summarise the first 6 months of our GCA FTP. Continued evaluation of PET in our FTP is needed to understand its role in diagnosis, particularly in patients at risk of vascular complications.

References:

- [1] Crowson CS, Matteson EL. Contemporary prevalence estimates for giant cell arteritis and polymyalgia rheumatica 2015. *Semin Arthritis Rheum*. 2017; 47 (2) 253-6
- [2] Camellino D, DeJaco C. Should 18 F FDG PET imaging be used in the diagnosis of GCA? *Nature Reviews Rheumatology* 2019; 15 (7) 388-90
- [3] Nuerninghoff DM et al. Incidence and predictors of large-artery complication (aortic aneurysm, aortic dissection, and/or large artery stenosis) in patients with giant cell arteritis: a population-based study over 50 years. *Arthritis Rheum* 2003; 48:3522-3531
- [4] Luqmani, R. et al. The Role of Ultrasound Compared to Biopsy of Temporal Arteries in the Diagnosis and Treatment of Giant Cell Arteritis (TABUL): A Diagnostic Accuracy and Cost-Effectiveness Study. *Health Technol Assess* 2016; 20 (90) 1-238

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AB0503

USE OF BIOLOGICAL THERAPY IN A COHORT OF PATIENTS WITH TAKAYASU ARTERITIS IN A THIRD LEVEL HOSPITAL.

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Background: Takayasu arteritis is a granulomatous vasculitis that affects large vessels, specially aorta and its main ramifications. It is a rare disease with an incidence between 0.3 and 1.2 per million inhabitants in Europe. It is more common in women (80%) and it usually occurs before age 40.

Objectives: Describe the characteristics and the use of biological therapy in a cohort of patients with Takayasu arteritis in our Hospital.

Methods: Retrospective descriptive study of patients diagnosed with Takayasu arteritis treated in the Rheumatology and Internal Medicine service in our hospital during 2019. Data have been obtained by reviewing medical records.

Results: 39 patients with takayasu arteritis were included, 33 women (84.4%) and 6 men, with an average age of 48 ± 12 years. About treatment, 35 patients received glucocorticoid treatment, of these, 23 patients (65.7%) received treatment with DMARDs. Methotrexate (47.8%) and Cyclophosphamide (43.5%) are the most used. 12.8% (5) of patients received treatment with biological therapy 2 patients received treatment with Rituximab (already retired) and 3 patients maintained the treatment with Tocilizumab. (The characteristics of the patients are in table 1). About the course of disease, 47.8% of patients have achieved clinical remission, 43.6% have a chronic course, and only 3 patients have presented relapse of disease.

Conclusion: The results of our study are consistent with what is published in the lit-

PATIENT	GENDER	AGE	DIAGNOSIS DATE	BIOLOGICAL THERAPY	START DATE	ADVERSE EFFECTS	RETIRED	TREATMENT TIME	PREVIOUS TREATMENT	COURSE OF DISEASE
1	female	48	2015	Tocilizumab	2018	No	No	13	Corticosteroids, Methotrexate	Chronic
2	female	54	2017	Tocilizumab	2019	Mild AE	No	9	Corticosteroids, Methotrexate	Chronic
3	female	69	2018	Tocilizumab	2018	No	No	18	Corticosteroids, Methotrexate	Chronic
4	female	47	2010	Rituximab	2011	No	Yes	36	Corticosteroids, Cyclophosphamide, Mycophenolate	Chronic
5	male	26	2006	Rituximab	2007	No	Si	48	Corticosteroids	Remission

erature. The average age of presentation is higher than in other series (48 ± 12 years), this is because all patients are European and Caucasian. There is still not much experience on biological treatment in patients diagnosed with sarcoidosis, however the