



NHS
Manchester University
NHS Foundation Trust

Ophthalmological Outcomes in Patients Referred for and Proving Positive on Temporal Artery Biopsies for Temporal Arteritis

S.LIM DCT1 OMFS

A.HASAN SPR OMFS


R.M.GRAHAM CONSULTANT OMFS

NORTH MANCHESTER GENERAL HOSPITAL

Objective

To assess the ophthalmological outcomes that are both associated with and seem to be as a consequence of a positive diagnosis of temporal arteritis.

Introduction

- Temporal arteritis is a form of **vasculitis**
 - Commonly affects patients above 50 years old
 - It is considered as an **ophthalmic emergency** due to the risk of progressive and permanent damage
 - Disrupt vision by causing **ischaemia** of either **afferent** or **efferent** visual pathway
- 

Method



Data collection of ophthalmological outcomes of patients, from hospital records, who had temporal artery biopsies performed by 1 single surgeon.



We assessed if ophthalmological criteria were met via reported/identified visual/eye changes and what the association with temporal arteritis seems to be.

Results

Of the 124 patients , 36% presented with visual symptoms



Only 10% (12) of the 124 patients had biopsy-proven temporal arteritis

5 of them had ophthalmic manifestations

- 2 were diagnosed with anterior ischaemic optic neuropathy (AION)

Ophthalmological outcomes

NEGATIVE BIOPSY

Intermittent loss of vision: 8

Diplopia: 3

Blurred vision: 22

Eye pain: 11

Temporal field loss: 1

Reduced visual acuity: 1

Other visual disturbances such as bilateral eye flashing, seeing coloured dots, vision turned grey/green, bilateral eye flashing, lacy curtain over vision: 6

POSITIVE BIOPSY

Sudden vision loss: 1

Permanent vision loss: 1

Diplopia: 1

Blurred vision: 3

Eye pain: 0

Effect of corticosteroid

NEGATIVE BIOPSY

Occasional blurred vision: 3	Persistent diplopia: 3
Persistent blurriness: 1	Persistent eye pain: 1
Eye pain settled completely with steroid: 1	Eye pain developed after steroid dose reduction: 1

POSITIVE BIOPSY

Patients who were diagnosed with AION

- Vision unchanged- no deterioration
- Visual acuity improved but still slight blurriness (no new visual disturbance)

Visual disturbance and brief loss of vision: 1

Discussion

Less than two-thirds of patients with biopsy proven temporal arteritis develop ocular symptoms and up to 8% suffer permanent visual loss.

Blurred vision (in 25% of patients), diplopia (in 8%), sudden visual loss (in 8%) and permanent visual loss (in 8%) were the four visual symptoms described by patients before GCA diagnosis.

Patients with visual symptoms but negative biopsy--> might be due to other factors such as diabetes, MS, cataract

Primary goal of corticosteroid therapy: to protect the uninvolved eye

Conclusion

Prognosis for visual improvement in temporal arteritis remains poor.

Patients who presented with visual symptoms should be referred to ophthalmology urgently for an objective assessment and follow up.

Corticosteroid therapy remains the treatment for prevention of visual loss.

References

- Hayreh SS, Podhajsky PA, Zimmerman B. Ocular manifestations of giant cell arteritis. *Am J Ophthalmol*. 1998 Apr;125(4):509-20. doi: 10.1016/s0002-9394(99)80192-5. PMID: 9559737.
- WAGENER HP, HOLLENHORST RW. The ocular lesions of temporal arteritis. *Trans Am Ophthalmol Soc*. 1957-1958;55:249-69; discussion 269-73. PMID: 13556820; PMCID: PMC1312674.
- WHITFIELD AG, BATEMAN M, COOKE WT. TEMPORAL ARTERITIS. *Br J Ophthalmol*. 1963 Sep;47(9):555-66. doi: 10.1136/bjo.47.9.555. PMID: 14189726; PMCID: PMC505848.
- Ivana Vodopivec, Joseph F Rizzo, III, Ophthalmic manifestations of giant cell arteritis, *Rheumatology*, Volume 57, Issue suppl_2, February 2018, Pages ii63–ii72, <https://doi.org/10.1093/rheumatology/kex428>
- Chen JJ, Leavitt JA, Fang C, Crowson CS, Matteson EL, Warrington KJ. Evaluating the Incidence of Arteritic Ischemic Optic Neuropathy and Other Causes of Vision Loss from Giant Cell Arteritis. *Ophthalmology*. 2016 Sep;123(9):1999-2003. doi: 10.1016/j.ophtha.2016.05.008. Epub 2016 Jun 11. PMID: 27297405; PMCID: PMC4995137
- Caselli RJ, Hunder GG, Whisnant JP. Neurologic disease in biopsy-proven giant cell (temporal) arteritis. *Neurology*. 1988 Mar;38(3):352–359
- Cid MC, Font C, Oristrell J, et al. Association between strong inflammatory response and low risk of developing visual loss and other cranial ischemic complications in giant cell (temporal) arteritis. *Arthritis Rheum*. 1998 Jan;41(1):26–32
- Font C, Cid MC, Coll-Vinent B, Lopez-Soto A, Grau JM. Clinical features in patients with permanent visual loss due to biopsy-proven giant cell arteritis. *Br J Rheumatol*. 1997 Feb;36(2):251–254
- Gonzalez-Gay MA, Garcia-Porrúa C, Llorca J, et al. Visual manifestations of giant cell arteritis. Trends and clinical spectrum in 161 patients. *Medicine (Baltimore)* 2000 Sep;79(5):283–292
- Kermani TA, Schmidt J, Crowson CS, et al. Utility of erythrocyte sedimentation rate and C-reactive protein for the diagnosis of giant cell arteritis. *Semin Arthritis Rheum*. 2012 Jun;41(6):866–871
- Liu GT, Glaser JS, Schatz NJ, Smith JL. Visual morbidity in giant cell arteritis. Clinical characteristics and prognosis for vision. *Ophthalmology*. 1994 Nov;101(11):1779-85. doi: 10.1016/s0161-6420(94)31102-x. PMID: 7800356.
- Dumont A, Lecannuet A, Boutemy J, Maigné G, Martin-Silva N, Deshayes S, Audemard-Verger A, Sultan A, Planchard G, Aouba A, de Boysson H. Characteristics and outcomes of patients with ophthalmologic involvement in giant-cell arteritis: A case-control study. *Semin Arthritis Rheum*. 2020 Apr;50(2):335-341. doi: 10.1016/j.semarthrit.2019.09.008. PMID: 32192630.
- Danesh-Meyer H, Savino PJ, Gamble GG. Poor prognosis of visual outcome after visual loss from giant cell arteritis. *Ophthalmology*. 2005 Jun;112(6):1098-103. doi: 10.1016/j.ophtha.2005.01.036. PMID: 15885780.