

Original Article

A Study on Clinico-radiological Profile of Temporal Arteritis in South Bengal

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Abstract

Background : To study the demographic, clinical and laboratory profile of patients with temporal arteritis.**Materials and Methods :** Seven consecutive confirmed cases of Temporal arteritis attending the neurology clinic of super speciality hospital, Durgapur, West Bengal during August, 2021 to November, 2022 were included in the study. Neurological examination of all patients were done by the same Neurologist. ESR, CRP and USG Doppler were done of all patients along with other required investigations.**Results :** A total of 7 patients fulfilled the criteria for diagnosis of temporal arteritis and included in study. Out of 7 patients, 6 were male and 1 was female. Male female ratio was 6:1. Most common age group was 60-70 years. Mean age of onset was 70 years (range 61-82yrs). All the patients had recent onset of headache. Typical manifestations included new temporal headache (100%), temporal artery tenderness (85.71%) and jaw claudication (14.28%). ESR & CRP were raised in 85.71%. USG Doppler was done in all 7 patients, 6 of them being suggestive of temporal arteritis. All patients responded to steroid therapy and symptomatically improved. All were being follow-up regularly, and no relapse was noted after stopping of steroid therapy.**Conclusion :** Early diagnosis and treatment are required to prevent systemic and ocular complications. Response to steroid therapy was excellent.**Key words :** Temporal Arteritis, Headache Elderly.

Temporal arteritis, also referred to as Giant cell Arteritis is most common granulomatous vasculitis of the median and large size vessels involving the extracranial branch of carotid artery. It is first discovered by Hutchinson in 1890¹. After that more clearly defined by Horton, *et al* in 1932².

Temporal arteritis is more common among North European, annual incidence rate is more than 20 cases per 1,00,000 populations at risk and less common in Mediterranean population³. Incidence in Asian countries is believed to be very low or, with incidence reported in Japan is as low as 1.47 per 100,000⁴.

Classical clinical presentation of temporal arteritis are sudden onset temporal headache, fever, fatigue, jaw claudication, scalp tenderness, polymyalgia rheumatica and visual symptoms. Polymyalgia Rheumatica (PMR) is an inflammatory condition, which is characterized by pain with stiffness of proximal muscles and it is associated with raised ESR

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Editor's Comment :

- Temporal Arteritis is a common treatable cause of headache in elderly population which is underdiagnosed.
- Early Diagnosis can lead to prevention of complications like blindness and stroke.
- Temporal artery Doppler is a sensitive, cheap and widely available non invasive investigation to ascertain the diagnosis.

and CRP⁵. A non-compressible halo sign of a temporal /or axillary artery in USG Doppler may replace the requirement of temporal artery biopsy for the diagnosis of temporal arteritis⁶. Most important complication of temporal arteritis is blindness due to ischemic optic neuropathy, which usually can be prevented by early diagnosis and treatment⁷.

AIMS AND OBJECTIVES

To study the demographic, clinical and laboratory profile of patients with temporal arteritis.

MATERIALS AND METHODS

Seven consecutive confirmed cases of Temporal arteritis attending the neurology clinic of super speciality hospital, Durgapur, West Bengal during August, 2021 to November, 2022 were included in the study. Neurological examination of all patients were done by the same Neurologist. ESR, CRP and

USG Doppler were done of all patients along with other required investigations.

Inclusion Criteria :

Diagnosed cases of temporal arteritis by using ACR/EULAR classification criteria 2022 for Giant Cell Arteritis were included in study.

Exclusion Criteria :

Alternate diagnoses mimicking vasculitis like Takayasu's Arteritis, Polyarteritis Nodosa, Behcet's disease, primary central nervous system vasculitis were excluded.

RESULTS

A total of 7 patients fulfilled the criteria for diagnosis of temporal arteritis and included in study. Out of 7 patients, 6 were male and 01 was female. Male female ratio was 6:1. Most common age group was 60-70 years. Mean age of onset was 70 years (range 61-82 years). All the patients had recent onset of headache. Typical manifestations included new temporal headache (100%), temporal artery tenderness (85.71%) and jaw claudication (14.28%). ESR & CRP were raised in 85.71%. USG Doppler was done in all 7 patients, 6 of them being suggestive of temporal arteritis. All patients responded to steroid therapy and symptomatically improved. All were being follow-up regularly, and no relapse was noted after stopping of steroid therapy (Table 1).

DISCUSSION

Temporal arteritis exclusively occurs in elderly person over age of 50 years. It's pathophysiology is still not very clear. However old age, genetic factors^{8,9} and environmental factors^{10,11} may have the role in etiology. Both cellular and humoral immune system

have been involved in pathogenesis¹². Activated T cells produce interferon gamma, which seems to have a major role in the pathogenesis and clinical manifestations¹³.

The 2022 American College of Rheumatology/EULAR GCA Classification Criteria has been validated to use in clinical research¹⁴. In old revised ACR Criteria, TAB (temporal biopsy) results were required, which is an invasive intervention for patient and may give false negative result in case of patchy involvement of artery. In recent 2022 ACR/EULAR GCA Classification Criteria, presence of either definitive vasculitis on temporal artery biopsy or halo sign on temporal artery ultrasound is required. Halo sign is defined by the presence of an homogenous, hypoechoic wall thickening on ultrasound. New criteria incorporate modern imaging techniques and have excellent specificity and sensitivity¹⁴.

2022 American College of Rheumatology/ Eular Classification Criteria for Giant Cell Arteritis¹⁴ :

(1) Absolute Requirement- age ≥ 50 years at time of diagnosis

(2) Additional clinical criteria-

Morning stiffness in shoulders/neck	+2
Sudden visual loss	+3
Jaw or tongue claudication	+2
New temporal headache	+2
Scalp tenderness	+2
Abnormal examination of temporal artery (absent or diminished pulse, tenderness or hard cord like appearance)	+2

(3) Laboratory, imaging, and biopsy criteria-

Maximum ESR ≥ 50 mm/hour or maximum CRP ≥ 10 mg/litre	+3
Positive temporal artery biopsy or halo sign on temporal artery ultrasound	+5
Bilateral axillary involvement (luminal damage-stenosis, occlusion, or aneurysm)	+2
FDG-PET activity throughout aorta (Abnormal fluorodeoxyglucose(FDG) uptake)	+2

Some of the score of 10 items, if present. A score of ≥ 6 points is needed for the classification of Giant Cell Arteritis/Temporal Arteritis

Reported age in most of the published series from different zones of world is above 70 years, the mean age of our present study was 70 years, which was similar to case reports from India¹⁵⁻¹⁸. Most case series have reported either female predominance or no gender variation^{15,16,19-21}. But in our study shows male predominance. Six patients out of 7 were male. The actual variation of this variation is not known, but may be due to difference in health seeking behaviour among gender.

Headache is reported at about 87% of patients in temporal arteritis²⁰. In our study all patients have

Table 1 — Clinical and Investigation findings of the cases

Age (year)	Sex (M/F)	New Temporal head-ache	Temporal Artery Tender-ness	JAW Claudi-cation	ESR	CRP	USG Dop-pler	Comor-bidity
68	F	+	+	-	^	^	+	HTN/CAD
82	M	+	-	-	^	^	+	HTN/Ca Prostate with metastasis
72	M	+	+	-	^	^	+	HTN
61	M	+	+	-	N	N	+	HTN
61	M	+	+	-	^	^	+	HTN
70	M	+	+	-	^	^	+	HTN/DM
76	M	+	+	+	^	^	Normal	DM

presented with headache (100%). Jaw claudication reported in study from south India is about 22.22%²². While in our study only one patient out of 7 (14.28%) had presented with jaw claudication. Characteristics inflammatory markers (ESR & CRP) are often elevated in temporal arteritis. Maximum ESR ≥ 50 mm/hour or maximum CRP ≥ 10 mg/litre, values prior to initiation of treatment for vasculitis¹⁴, are considered as raised. ESR & CRP may be normal in 4% cases of confirmed cases of temporal arteritis²³. In our study 1 patient out of 7 had normal ESR & CRP. These were raised (85.71%) in other 6 patients.

Temporal artery tenderness was noted in 6 out of 7 patient (85.71%) in our study, while it is reported at about 70.6% in some other studies²⁴. In previous series reported from Japan, USG Doppler finding demonstrating halo sign is about 83%²⁵. In our study USG Doppler was positive (halo sign) in 85.71% patients. Steroid therapy is effective in symptomatic relief (100%) and relapse is noted in 11.7% cases²⁴. In our study steroid therapy was given to all patient and all responded to the therapy (100%) and no relapse was reported.

CONCLUSION

Temporal Arteritis is a common treatable cause of headache in elderly population which is underdiagnosed. Early Diagnosis can lead to prevention of complications like blindness and stroke.

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