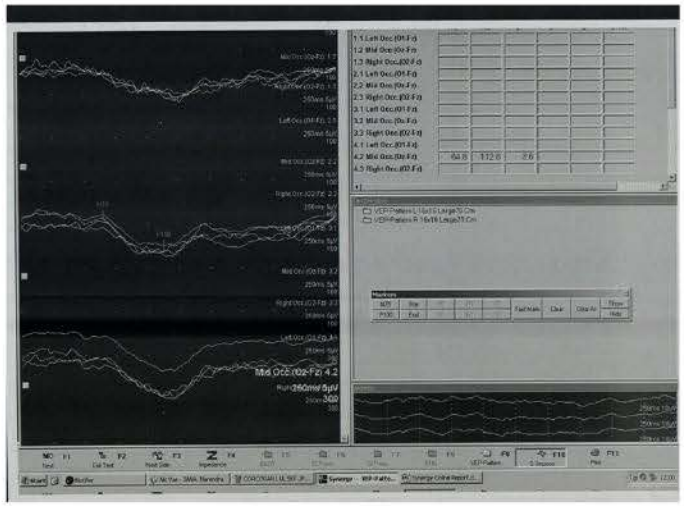
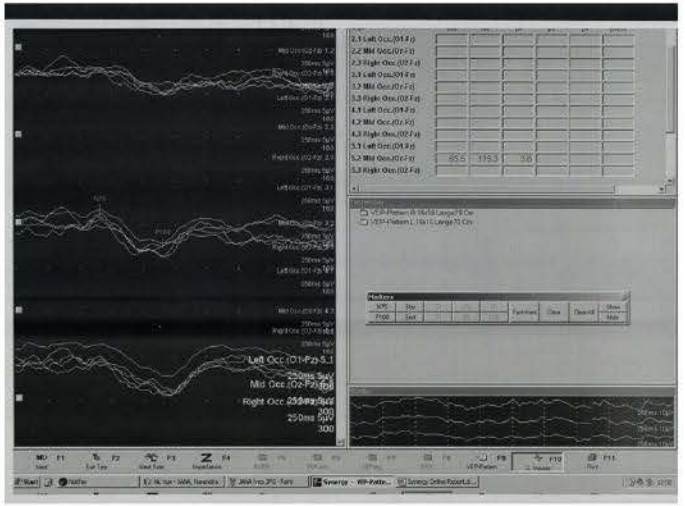
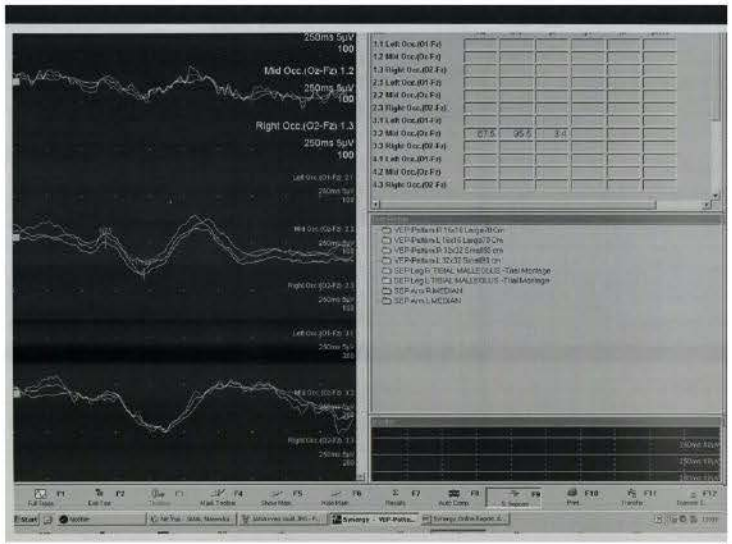
Figure 6 – VEP Test is Substantiated as a Medication Response

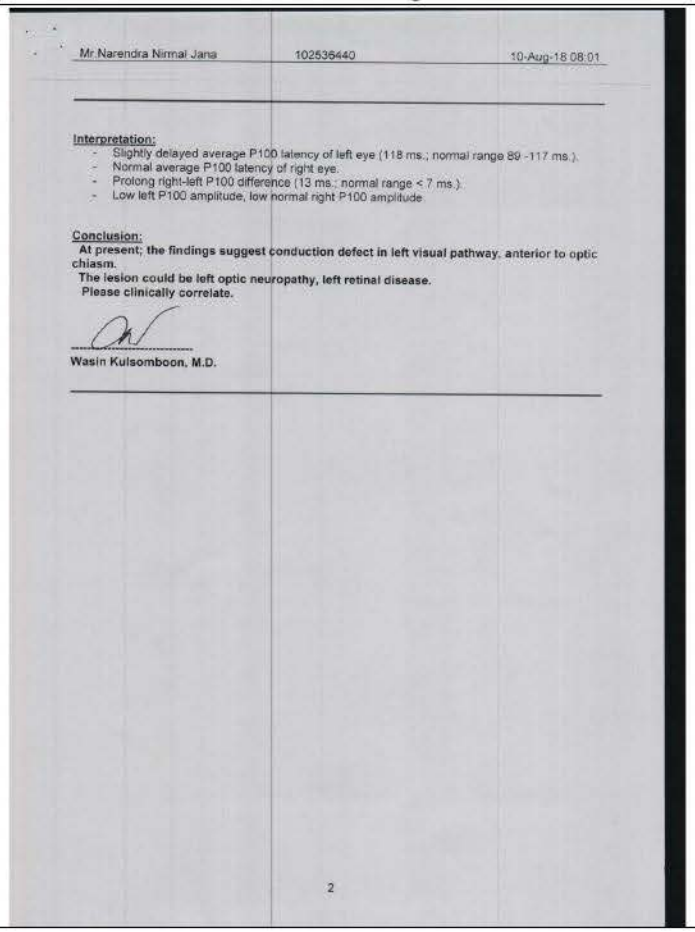
The VEP test from UCLH (shown below) was preceded by 3 VEP tests in different medical settings and an ophthalmology test to check the prevalence of optic neuropathy in the optic (nerve) disk. All former VEPs show latency in either one eye or both eyes.







There may be reduced amplitude but there is no latency demonstrated in the UCLH waveform.
The clinical significance in this test would be medication response and indicates the effectiveness of Rituximab in secondary progressive MS. Rituximab was given in July for the third time shortly before Dr. Trip's August appointment.
The UCLH test data also fits Dr. Trip's statement in his appointments that "VEPs/SEPs aren't used to describe latency, though useful [since latency changes often due to vacillations in inflammation]. They are used to determine damage (lesions) from former inflammatory periods."
The reports form the former VEPs are given below:



Mr Narendra Nirmal Jana 102536440 10-Aug-18 08:01

Interpretation:
- Slightly delayed average P100 latency of left eye (118 ms.; normal range 89 -117 ms.).
- Normal average P100 latency of right eye.
- Protong right-left P100 difference (13 ms.; normal range < 7 ms.).
- Low left P100 amplitude, low normal right P100 amplitude

Conclusion:
At present; the findings suggest conduction defect in left visual pathway, anterior to optic chiasm.
The lesion could be left optic neuropathy, left retinal disease.
Please clinically correlate.

Wasin Kulsomboon, M.D.

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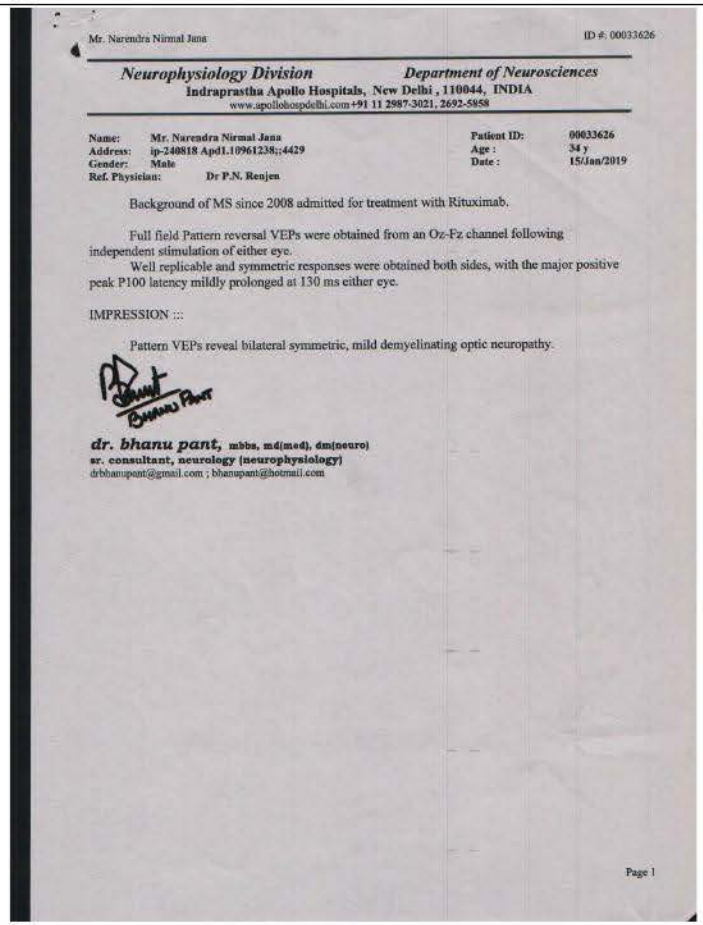

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Name: Mr. Narendra Nirmal Jana **Patient ID:** 00033626
Address: ip-240818 Apd1.10961238;;4429 **Age :** 34 y
Gender: Male **Date :** 15/Jan/2019
Ref. Physician: Dr P.N. Renjen

Background of MS since 2008 admitted for treatment with Rituximab.

Full field Pattern reversal VEPs were obtained from an Oz-Fz channel following independent stimulation of either eye.

Well replicable and symmetric responses were obtained both sides, with the major positive peak P100 latency mildly prolonged at 130 ms either eye.

IMPRESSION :::

Pattern VEPs reveal bilateral symmetric, mild demyelinating optic neuropathy.

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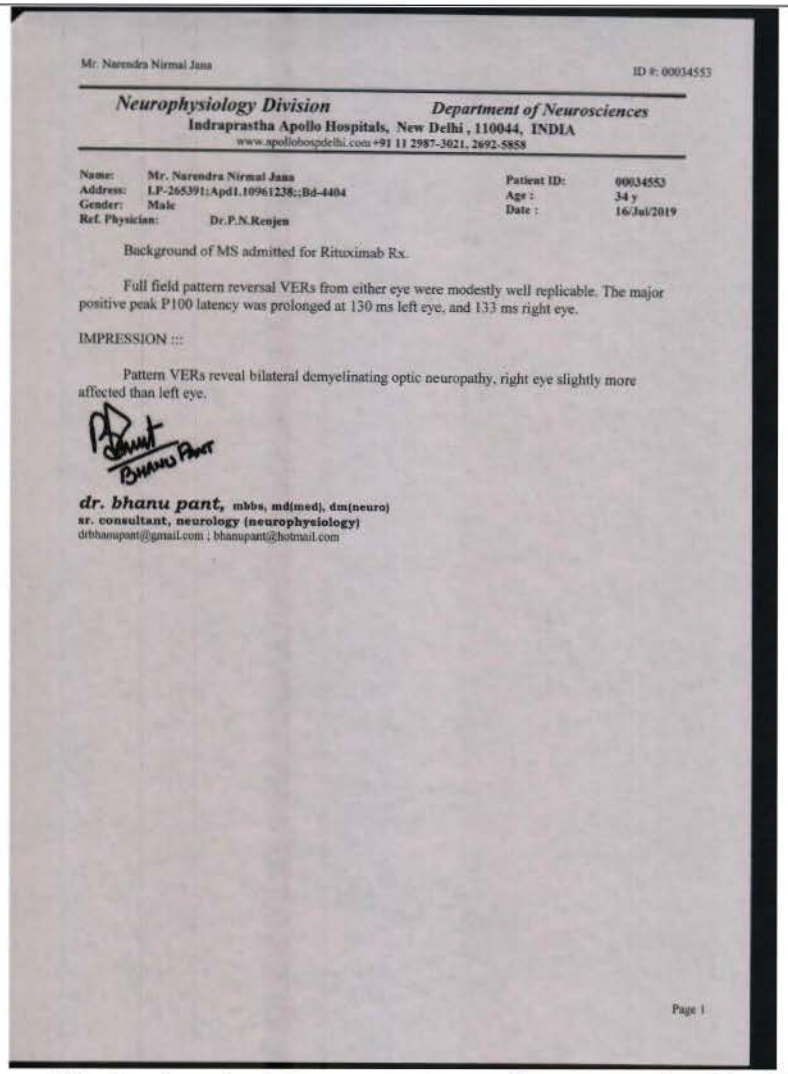

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Gender: Male
Ref. Physician: Dr.P.N.Renjen
Patient ID: 00034553
Age : 34 y
Date : 16/Jul/2019

Background of MS admitted for Rituximab Rx.

Full field pattern reversal VERs from either eye were modestly well replicable. The major positive peak P100 latency was prolonged at 130 ms left eye, and 133 ms right eye.

IMPRESSION :::

Pattern VERs reveal bilateral demyelinating optic neuropathy, right eye slightly more affected than left eye.

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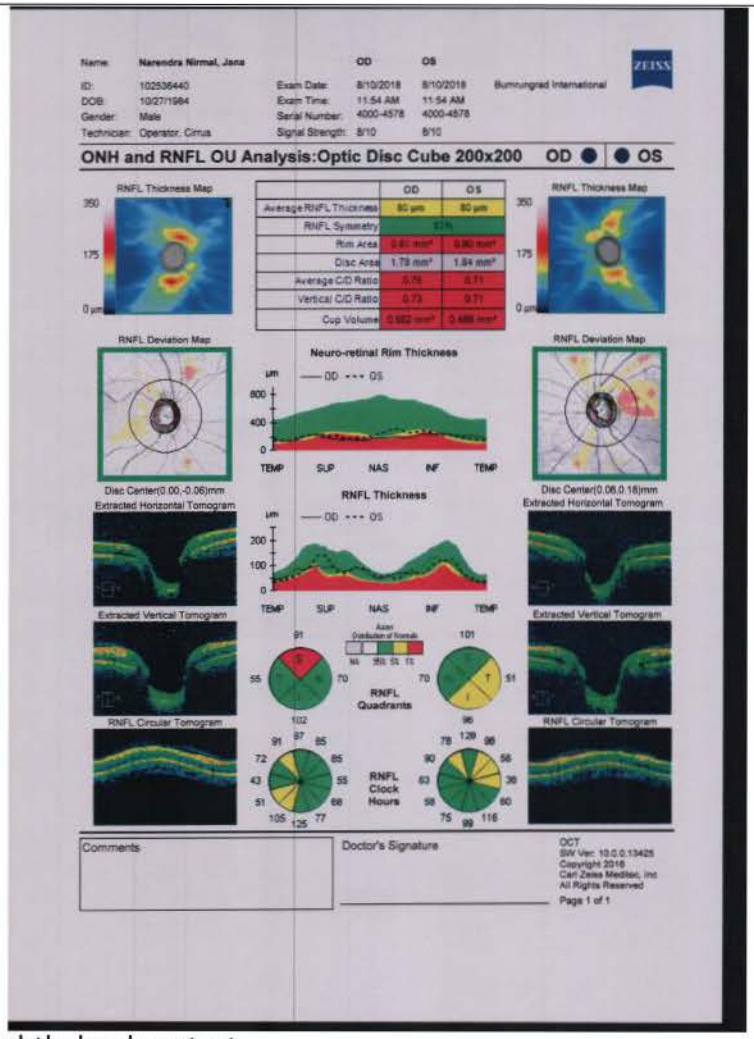

Name: Narendra Nirmal, Jana OD OS
ID: 102536440 Exam Date: 8/10/2018 8/10/2018 Bumrungrad International
DOB: 10/27/1984 Exam Time: 11:54 AM 11:54 AM
Gender: Male Serial Number: 4000-4578 4000-4578
Technician: Operator, Cirrus Signal Strength: 8/10 8/10

ONH and RNFL OU Analysis:Optic Disc Cube 200x200 OD ● ● OS

RNFL Thickness Map

	OD	OS
Average RNFL Thickness	80 µm	80 µm
RNFL Symmetry	81%	
Rim Area	0.81 mm²	0.90 mm²
Disc Area	1.78 mm²	1.84 mm²
Average C/D Ratio	0.76	0.71
Vertical C/D Ratio	0.73	0.71
Cup Volume	0.552 mm³	0.488 mm³

RNFL Deviation Map
Neuro-retinal Rim Thickness
Disc Center(0.00,-0.06)mm
Extracted Horizontal Tomogram
RNFL Thickness
Extracted Vertical Tomogram
RNFL Quadrants
RNFL Circular Tomogram
RNFL Clock Hours

Comments Doctor's Signature

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SW Ver: 10.0.0.13425
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Ophthalmology test.

The ophthalmology test demonstrates optic neuropathy. Machine ophthalmology tests are statistically and mathematically based, Dr. Trip's statements aren't.

On examination he looked well. He read 15 out of 17 Ishihara plates correctly with both eyes. Pupil responses were normal. He had a fairly symmetrical constriction of visual fields in both eyes but this followed a cylindrical pattern. Optic discs were not unequivocally pale. Eye movements were full with no INO. On testing facial sensation he reported that pinprick was reduced on the left side of the face. Facial power was normal. In the upper limbs there was initially a delayed shoulder shrug on the left which was not reproduced. Tone was normal. Power was grade 5 throughout. Coordination was normal although slower on the left and reflexes were just present and symmetrical. The only sensory deficit was reduced pin prick affecting the fingers of the left hand. In the lower limbs, tone, power and coordination were normal. Reflexes were just present with reinforcement and plantar responses bilaterally flexor. Sensory examination was normal. His gait was entirely normal.

Dr. Trips statement that the “optic disks were not unequivocally pale” is completely negated along with most of his other statements.

As far as optic neuropathy due to MS is concerned, its undoubted and repeatedly demonstrated from recorded clinical data.