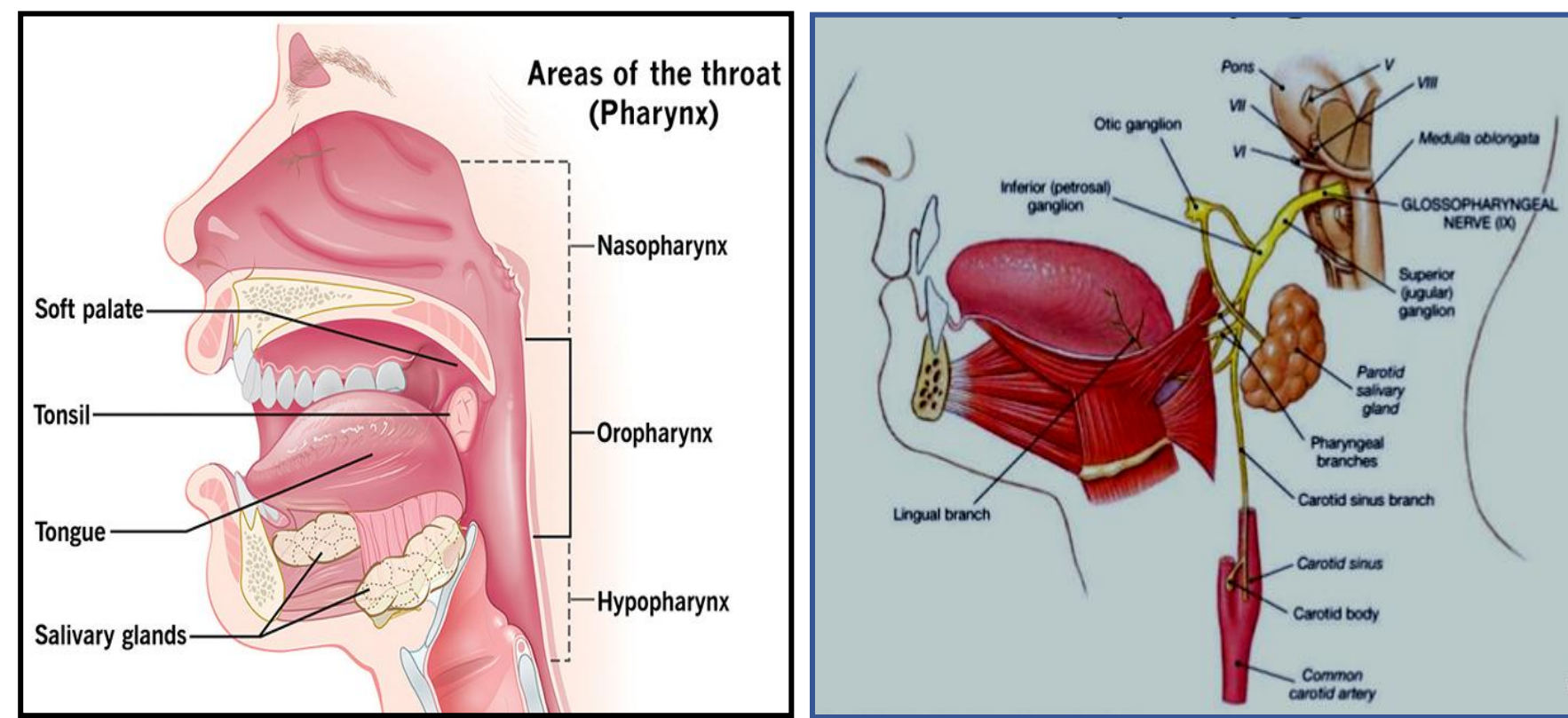


INTRODUCTION

Oral cancer is the eighth most common cancer worldwide. It is more common in males than females due to smoking and tobacco chewing habits. Total number of deaths from oral cancer have been estimated 8.5 million people every year. Many times pain is the initial symptom leading to the diagnosis of cancer. Oral cancer pain management is difficult by simple analgesics due to its dynamic nature.

In oropharyngeal carcinoma 70% of patients complain of pain and discomfort in their throat which increases in intensity by swallowing, talking, and chewing leading to difficulty in deglutition and poor quality of life. The pain is mainly transmitted by glossopharyngeal nerve and increases in intensity with the progression of disease and may radiate to the head, neck and ear. Therefore, intervention of glossopharyngeal nerve has the potential of benefitting a major bulk of these patients.



Pulsed radiofrequency ablation (PRFA) is a minimally invasive procedure which has been used successfully in a variety of chronic and neuropathic pain conditions. PRFA applies short pulses of radiofrequency to the neural tissue and produces neuromodulatory type of effect on synaptic transmission & pain signalling with minimal tissue damage.

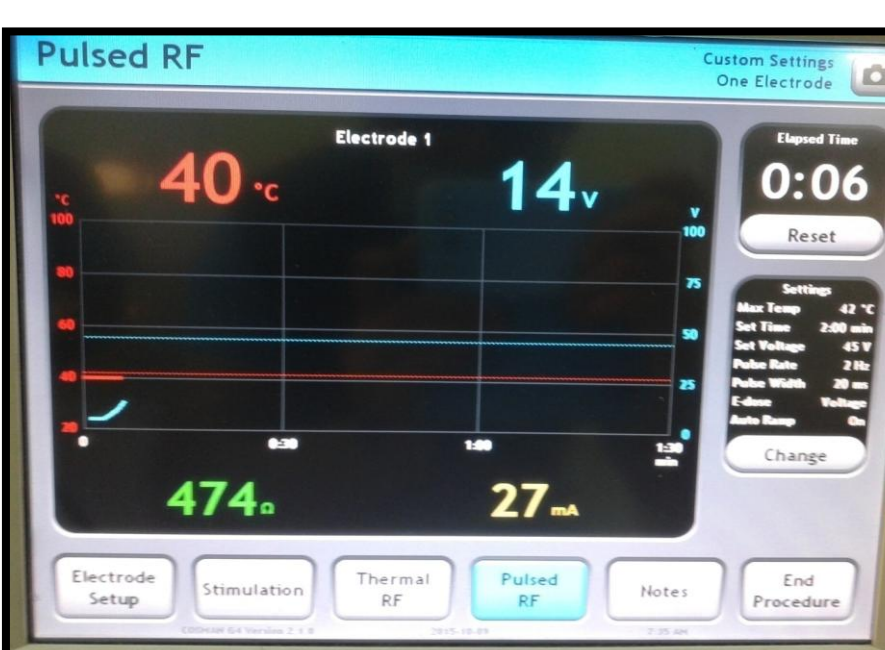
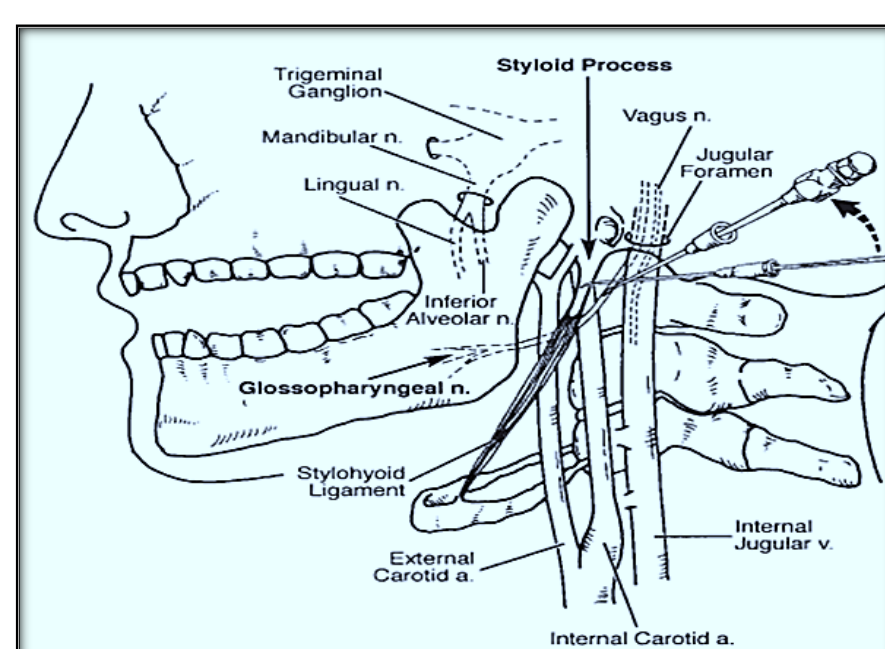
AIM

The aim of this study was to determine the efficacy and safety of PRFA of glossopharyngeal nerve for pain palliation in patients with advanced oropharyngeal tumours.

METHODS

In this prospective, paired-comparison study, 50 adult patients having oropharyngeal carcinoma suffering from moderate to severe pain recalcitrant to conventional pain medications (WHO ladder II) or having dose-limiting side effects were included. Patients having coagulopathies, or unsuitable injection site due to the presence of enlarged lymph node or skin infection were excluded.

After written informed consent, the PRFA of glossopharyngeal nerve was performed with 22-G 10-cm RFA needle under all aseptic precautions and vital parameters monitoring. After confirming the needle position by fluoroscopy, 3 cycles of 120 seconds were performed at a constant temperature of 38-42°C. Any complication during or post procedure was recorded and managed accordingly.



Fluoroscopic image

Pulse radiofrequency

OBSERVATIONS & RESULTS

The patients were followed-up weekly for one month and then monthly to assess reduction in their pain intensity and improvement in quality of life. The adequacy of pain relief was assessed on the Numeric Rating Scale (NRS, 0-10). Any complication like dysesthesia, muscle weakness, hematoma, cranial nerve paralysis and any neurological deficit was recorded and treated accordingly.

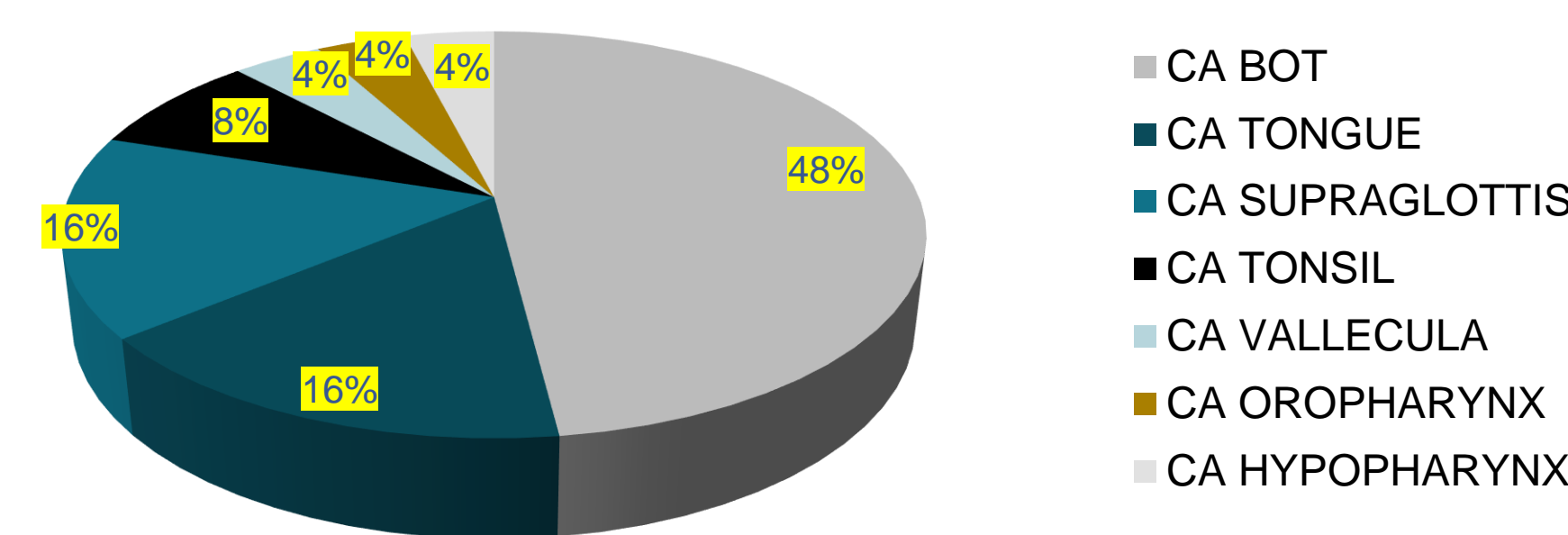
Demographic Data

The age of the patients ranges from 45-65 years. Male patients were more than female. Right side tumours were more common. Most of the patients complained of moderate to severe pain of more than 3 months duration.

Variables	Data
Age (yr), mean ± SD	53.75 ± 10.16
Weight (kg), mean ± SD	59.16 ± 10.45
Gender (M:F), n	39 : 11
Duration of pain (months)	4.78 ± 5.14
Side of pain (Right : Left)	31: 19
Intensity of pain (NRS)	8.12 ± 2.03

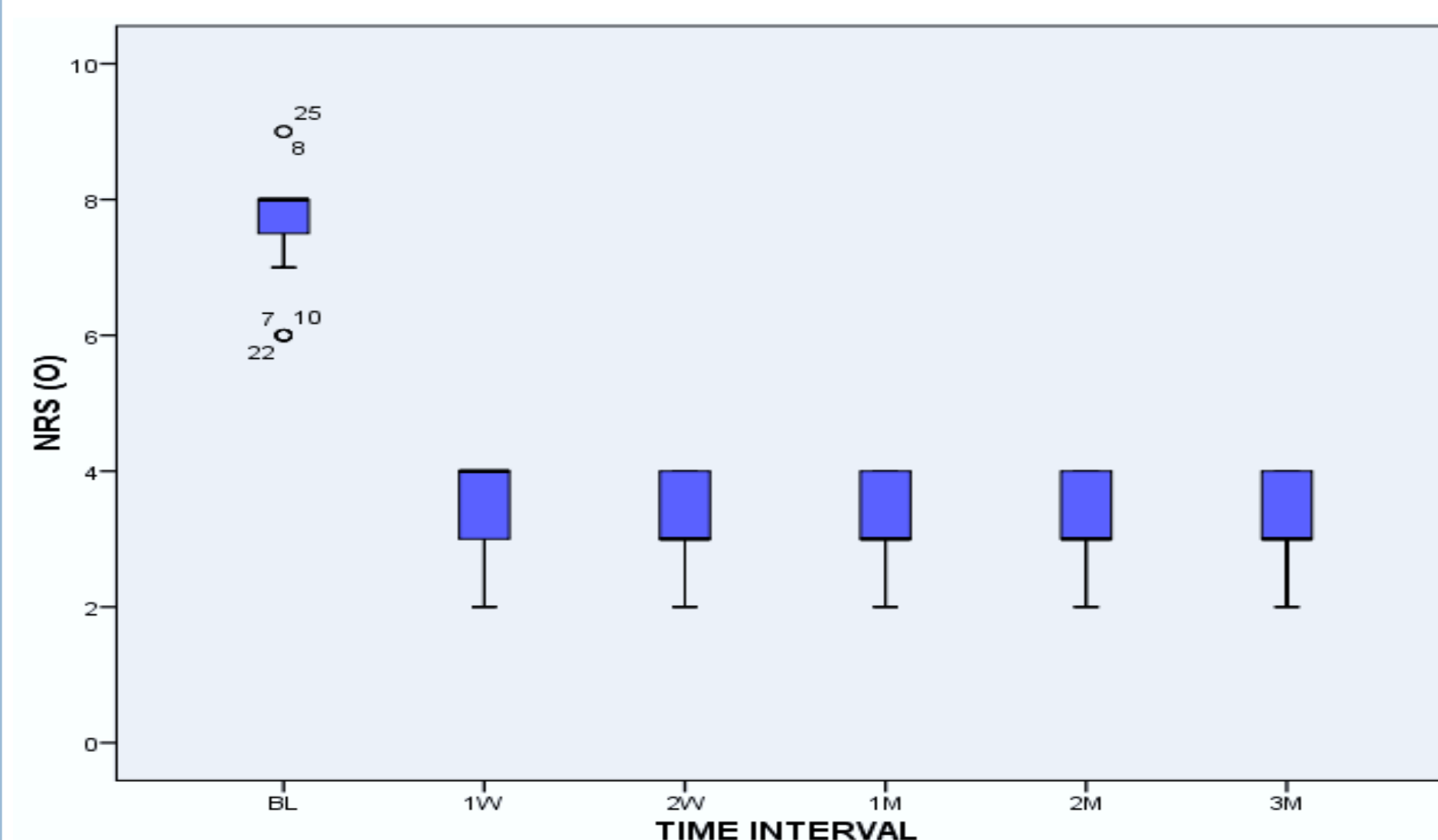
Type of Cancer

Carcinoma base of tongue was the most common cancer among all.



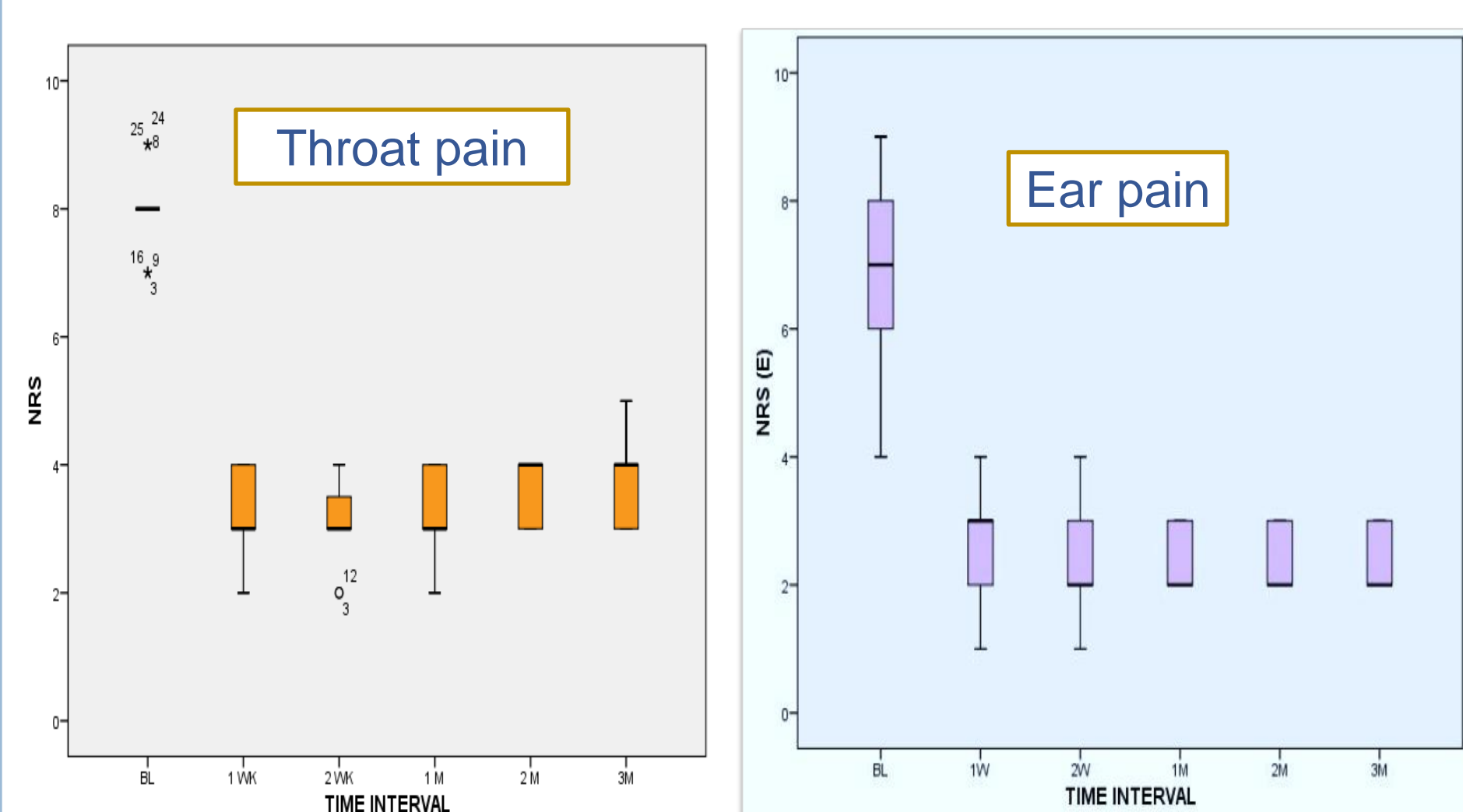
Change in overall pain intensity

Effective pain relief was considered as >50% reduction in the pain intensity from baseline. There was significant reduction (p<0.001) in their overall pain intensity after the procedure.



Reduction in throat pain & earache

Total 48/50 patients complained of throat pain with difficulty in deglutition. In 38/50 patients the pain was radiating to the ear while in 20/50 patients the pain was radiating to the mandible and neck. 16/50 patients complained of headache. There was significant reduction in the throat pain and odynophagia as well as the intensity of ear pain after the procedure.

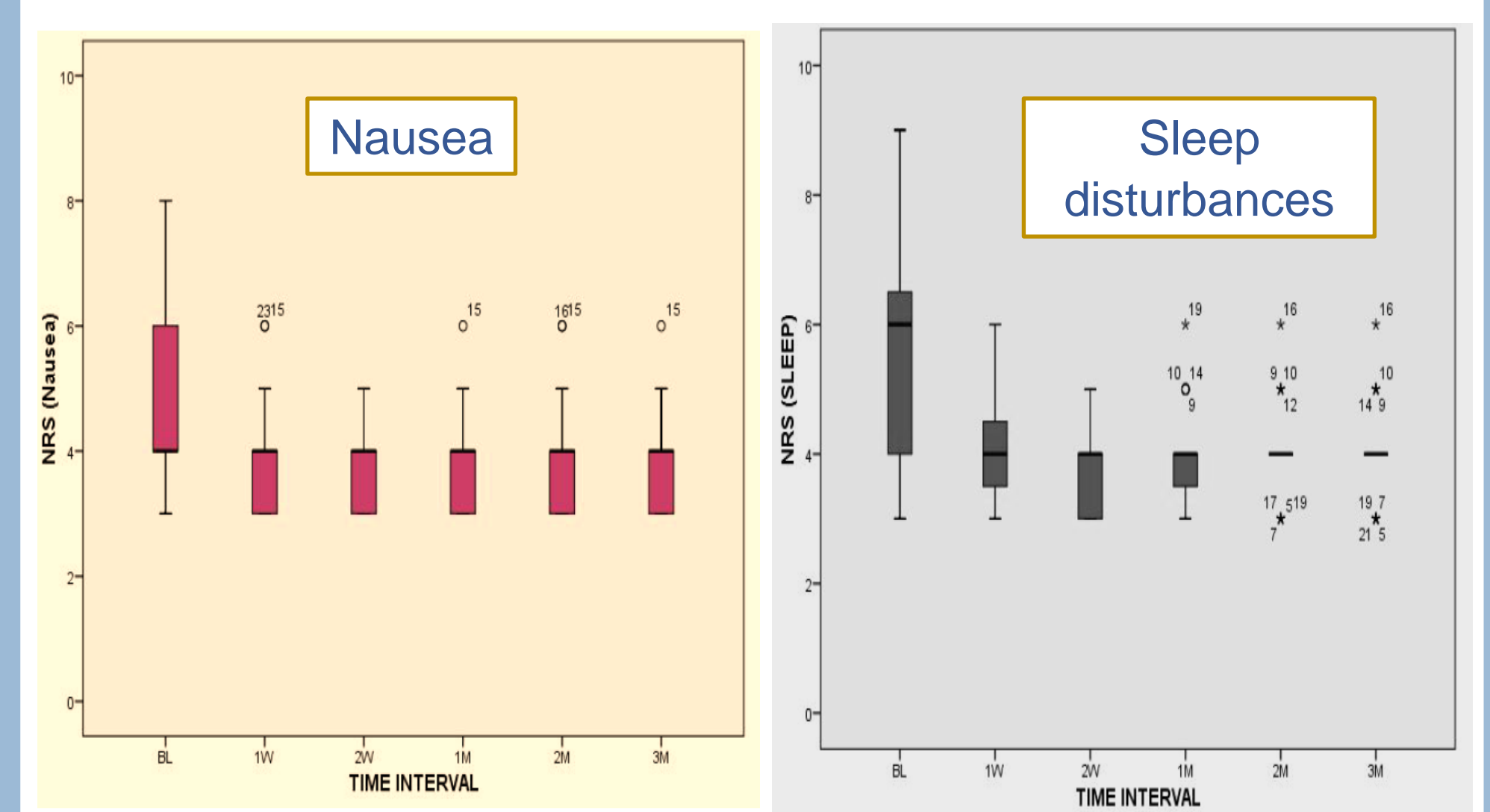


Quality of Life (QOL)

The improvement in the quality of life of the patients was assessed by using EORTC (European Organisation for Research and Treatment of Cancer) quality of life questionnaire (QLQ-C30). PRFA significantly (p<0.001) improved overall quality of life of the patients including general, physical, psychological, and social health.

Parameters	Pretreatment QOL	Posttreatment QOL	Improvement in QOL (%)
General health	15.5± 4.33	11.12±3.54	15.75
Physical health	30.5±7.28	22.6±6.54	14.21
Psychological health	13.4±3.88	10.4±3.96	12.20
Social health	11.09±3.11	8.77±3.46	19.33
Overall health	3.03±.96	5.16±.89	29.85

Reduction in Nausea & Sleep disturbances



Follow up

Patients were followed up for one year after the procedure. Six patients died due to advancement of the disease, 2 patients underwent repeat procedure after 5 months and 7 patients lost follow up after 6 months.

The overall efficacy of procedure was 92% and the duration of effective pain relief was approximately 5-8 months. No major procedure related adverse effect was observed.

Variables

Variables	Data
Total no. of procedures	50
Duration of procedures (min)	27.54±8.78
Patients with effective pain relief	46 (92%)
Duration of pain relief (months)	7.8±2.6
Reduction in opioid consumption	60-80%
Patients satisfaction score (0-5)	4 (3-5)

CONCLUSION

PRFA of glossopharyngeal nerve is a safe and effective procedure for the management of severe pain secondary to oropharyngeal carcinoma.

PRFA, not only reduces the site-specific pain, but also causes reduction in odynophagia, radiating earache, nausea - vomiting and sleep disturbances leading to overall improvement in quality of life of the patients.

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