

A Service Evaluation of Radiofrequency Ablation on Trigeminal Neuralgia in Cardiff

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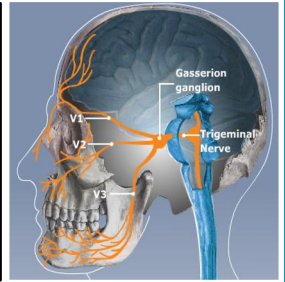
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Background

The extreme pain associated with trigeminal neuralgia (TGN) has been likened to a lightning bolt striking the face, and with low success rates and high recurrence rates the condition has become known as the suicide disease¹. The association between MS and TGN is that 6% of patients with MS develop secondary TGN and 15% of patients experience symptoms of TGN before a diagnosis of Multiple Sclerosis (MS)². TGN is usually treated with Carbamazepine or Oxcarbazepine.

Radiofrequency ablation (RFA) is a neurosurgical percutaneous procedure associated with 98% of patients reporting pain relief post treatment. Only 20% of patients experienced pain within 12 months after the treatment, the lowest recurrence rate among other percutaneous procedures³. This study is a service evaluation to characterise the usefulness of RFA within the tertiary Pain Service in Cardiff.



Method

56 patients from across Wales that had received RFA for symptomatic TGN were identified in the pain database kept by the pain department in the University Hospital of Wales. Patients were contacted and asked about their pain, co-morbidities, drug history, their experiences with RFA and if they were keen on receiving the treatment in a local setting.

Results

	Number of patients	Average age	Number of patients contacted	Keen on local services
Males	28	74.22	9	7
Females	28	69.23	20	15
Total	56	71.34	29	22

Figure 1: Table illustrating the population characteristics. Although 56 patients were identified from the database, only 29 patients could be contacted within the time allocation of the Student Selected Component (SSC). Of the patients contacted 76%, were keen on local services offered for RFA.

Percentage of patients in each category

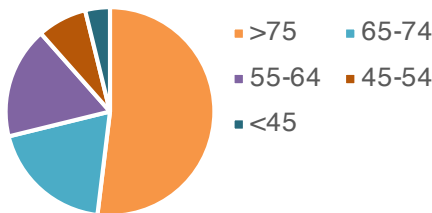


Figure 2: Pie chart showing the breakdown of ages of patients receiving RFA. The average age is slightly higher suggested in the literature⁴.

Pain scores pre RFA were on average 9.73, and scores post RFA were on average 1.32. These values are statistically significant (Wilcoxon Signed Ranked T-test: $p < 0.05$) showing the importance of RFA as a technique in the management of these complex patients.

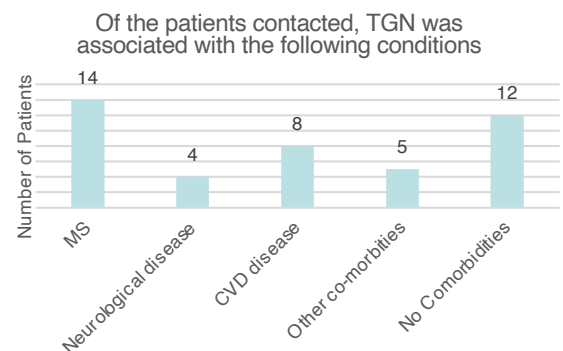


Figure 3: Graph showing MS to be the most common medical condition amongst those patients participating in the study. This is higher than suggested in the literature².

Information from pain database illustrating number of RFA procedures

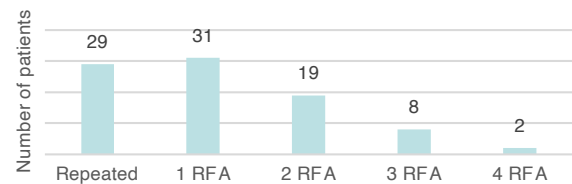


Figure 4: Graph showing the number of patients that had repeated RFA procedures.

Discussion

In this study 25% of patients have an existing diagnosis of MS, which is in contrast to other studies suggesting closer to 15%². It is likely that the longer the patient has MS, the more likely they are in developing TGN and as the population sample is older this figure would be consistently higher.

A total of 95 procedures were carried out and 52% of patients had received repeated RFA procedures which illustrates a demand for the service across Wales. The results show that the overall time between RFA procedures for all patients was 57.68 weeks. Considering these results, it would be expected that around 56 RFA procedures would be carried out each year if a local service was established. In response to this demand, the first TGN RFA training list in Cardiff was undertaken in September 2021.

Carbamazepine is first line medical therapy as suggested by NICE guidelines with 69% of patients in the study either on Carbamazepine or Oxcarbazepine. The results in this study showed that 73% of patients were on painkillers such as Gabapentin and Pregabalin, however these medicines alongside Oxcarbazepine are not first line therapy in TGN.

Summary

- TGN is prevalent in older age groups and appears to have a stronger association with MS with men and women equally affected compared to published groups
- When other forms of therapy failed RFA showed statistically significant pain relief
- Patients previously treated in Cardiff were keen for the continuance of a local service if possible

References

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