

A Joint Medical and Surgical Multidisciplinary Trigeminal Neuralgia Service Eleven-year Evaluation

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Background

Trigeminal Neuralgia (TN)

- an episodic severe neuralgic pain resulting in significant impact on quality of life.
- can be managed both medically and surgically.

Aim

- To review all patients who attended a joint neurosurgeon and physician Multi-Disciplinary Team (MDT) clinic over a 11-year period
- To determine what treatments they underwent and their outcomes.

Methods

Using electronic health records, data was transferred to an excel spreadsheet to analyse:

- patient demographics, referrer details, duration of TN, and drugs used at the time of referral
- pain status and drugs used: prior to the MDT, at the time of MDT, and at the last visit to the service
- the type and total number of surgical procedures patients underwent. Surgical complications were classified according to the Ibanez model.

Results

337 patients attending the MDT between 2008-2019 were analysed of which:

- 49 had previous surgery and were analysed separately.
- Of the remaining, 53% opted to have surgery following the MDT.
- At the last reported visit 55% of patients who opted to have surgery were pain free and off drugs, compared to 15% of medically managed patients. Surgical complications were mostly attributable to numbness and in the majority of cases this was temporary.

Conclusions

- The MDT clinic offers an opportunity for shared decision making with patients deciding on their personal care pathway.
- In this cohort 53% of patients opted for surgery, and subsequently had better pain control and less drug therapy.

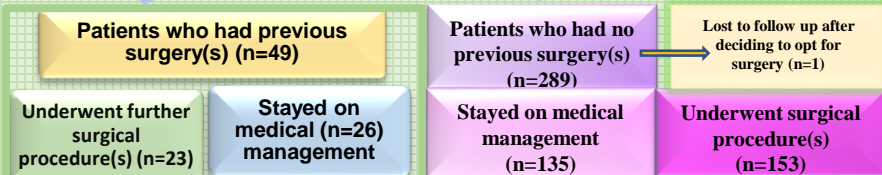


Fig 1. Flow diagram of patient selection TN = trig. neuralgia, GPN = glossopharyngeal neuralgia, SUNA= short unilateral neuralgiform pain with autonomic symptoms, SUNCT= short unilateral neuralgiform pain with conjunctival redness and tearing, MS= Multiple Sclerosis

	1st visit	MDT clinic	Final follow up	p
n	135	135	118	
drug (%) <0.001				
No drugs	4 (3)	18 (13)	26 (22)	
Monotherapy	103 (76)	84 (62)	71 (60)	
Polytherapy	28 (21)	33 (24)	21 (18)	
CBZ = Y (%)	55 (41)	32 (24)	22 (19)	<0.001
OXC = Y (%)	58 (43)	63 (47)	50 (42)	0.8
GAB = Y (%)	8 (6)	6 (4)	4 (3)	0.7
LAM = Y (%)	16 (12)	32 (24)	26 (22)	0.05
PHE = Y (%)	0 (0)	0 (0)	0 (0)	NA
BAC = Y (%)	5 (4)	2 (2)	2 (2)	0.41
LID = Y (%)	3 (2)	2 (2)	5 (4)	0.37
Other drug = Y (%)	16 (12)	15 (11)	2 (2)	<0.001
pain (%) <0.001				
Pain free off drugs	0 (0.0)		18 (15)	
Pain free with drugs	6 (4)		10 (9)	
Mild pain	15 (11)		51 (43)	
Moderate pain	21 (16)		25 (21)	
Severe pain	93 (69)		14 (12)	

	MVD (%)	SRS (%)	GLYC (%)	RFT (%)	p
N	93	15	28	17	
No of MDT (%)					0.445
1	84 (90)	11 (73)	22 (79)	14 (82)	
2+	9 (10)	4 (27)	6 (21)	3 (18)	
Drug at first visit (%) 0.513					
Monotherapy	47 (51)	9 (60)	13 (46)	6 (35)	
No drugs	9 (10)	3 (20)	2 (7)	2 (12)	
Polytherapy	37 (40)	3 (20)	13 (46)	9 (53)	
Length of follow up in years (mean (SD))	2.53 (3)	4.09 (3)	4 (3)	3(2)	0.017
Number reporting any complication	42 (45)	3 (20)	11 (39)	16 (94)	
pain (%) <0.001					
Pain free off drugs	64 (72)	2 (14)	10 (39)	8 (50)	
Pain free on drugs	8 (9)	5 (36)	7 (27)	0 (0)	
Mild pain	6 (7)	2 (14)	5 (19)	3 (19)	
Moderate pain	6 (7)	3 (21)	1 (4)	1 (6)	
Severe pain	5 (6)	2 (14)	3 (12)	4 (25)	
diagnosis = TN (%)	82 (88)	13 (87)	27 (96)	17 (100)	0.275
MS (%)	0 (0)	1 (7)	3 (11)	3 (18)	0.003
MDT to surgery in years (mean (SD))	0.67 (1)	2 (3)	1.4 (2)	1(2)	0.014
repeat surgery same	5	0	2	5	
repeat surgery other	7	5	7	0	

Surgical procedure	Number of Complications (%)	Type of deficit
1 st MVD	41/93 (44%)	
Grade 1a (no treatment and no drugs)	23t 5p	1 t numbness: 8 mild, 1 moderate, 1 severe, 1 hemi numbness (lat. Pontine stroke) 4 p numbness: mild; 4 t hearing: 3 not directly related to surgery 1 p hearing: haematoma 2 t blurry vision/diplopia: 1 no ocular pathology, 1 SCA injury 3 t headache/incision tenderness 3 t miscellaneous: 1 t back pain after lumbar drain: CSF leak repair 1 t speech/ facial weakness: physio /speech therapy 1 fall without trauma
Grade 1b (treatment with drugs)	7	5 pulmonary/UTI infections: antibiotics 1 wound infection: antibiotics 1 aseptic meningitis/leptomeningitis: steroids
Grade 2a Invasive treatment without GA	12	10 CSF leaks: lumbar drain only 1 Swallowing difficulty: NG tube; 1 bladder catheterisation
Grade 2b invasive under GA	7	2 CSF leaks: mastoid repack 4 CSF& wound infections: wound revision & lumbar drain 1 wound infection: cleaned out mastoid area under GA
1 st RFT	16/17 (94%)	
Grade 1a (no drugs)	9t 10p	6 t numbness: mild 8 p numbness: 4 mild, 4 moderate; 1 p reduced sensation 1 t dry eye, earache, pulling sensation in a jaw (in addition to hemi facial numbness) 1 t difficulty opening closing mouth (Osteoarthritis, muscular pain) 1 t headache; 1 p hearing (not related)
1 st Glycerol	13/28 (46%)	
Grade 1a (no drugs)	5t 8p	3 t numbness: mild; 6 p numbness: 2 mild, 3 moderate, 1 severe; 1 t swelling (around injection area); 1 t dry mouth, hyperesthesia; 2 p anaesthesia cornea
1 st SRS	3/15 (20%)	
Grade 1a (no drugs)	2p 1t	2 p numbness: 1 mild, 1 moderate 1 t severe pain

Table 1 Details of medically managed patients. CBZ = carbamazepine, OXC = oxcarbazepine, GAB = gabapentin, LAM = lamotrigine, PHE = phenytoin, BAC = baclofen, LID = lidocaine
Table 2 Results of surgical procedures. MVD= Microvascular decompression, SRS= Stereotactic radiosurgery, GLYC= Glycerol rhizotomy, RFT = Radiofrequency Thermocoagulation
Table 3 Complications after first Surgery T= transient P= permanent ;CSF= Cerebrospinal fluid leak, SCA= superior cerebellar artery, UTI= urinary tract infection, NG =nasogastric tube, MVD= Microvascular decompression, RFT= Radiofrequency Thermocoagulation, GLYC= Glycerol rhizotomy, SRS= Stereotactic radiosurgery