

A national survey of the usage of gabapentinoid drugs for the management of acute perioperative pain

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Background

Gabapentinoid drugs were developed to mimic the endogenous neurotransmitter gamma-aminobutyric acid (GABA) for the control of seizures. The discovery that gabapentin modulates voltage-gated calcium channels in the central nervous system led to the widespread use of gabapentinoids for the control of chronic pain. There is growing recognition that gabapentinoids may have a role in management of acute surgical pain. The aim of this study was to ascertain current practice of gabapentinoid use in the management of acute perioperative pain.

Design

- Cross sectional internet-based survey¹ of anaesthetists and pain specialist nurses in NHS Trusts across the UK.
- The survey was disseminated to members of the acute pain special-interest sub-group of the British Pain Society in November 2015. The survey consisted of two parts:
 1. Questions about current practice in acute pain units (local protocols and guidelines); and
 2. Questions about current practice of individual practitioners.

Results

- There were 167 respondents from 30 different NHS organisations (76% of respondents were from the South West of England), 43 (26%) were members of their local acute pain teams.

Acute Pain Units

- 23/43 (53.5%) respondents stated that gabapentinoids were part of acute pain protocols or guidelines; of these, 19 (83%) said that gabapentin and 12 (52%) said that pregabalin featured in the guidelines.
- Gabapentinoids were used more frequently as a second-line (breakthrough) drug than as a first-line therapy (21/23 (91%) vs 17/23 (74%).
- Gabapentinoids were used for a perceived opioid-sparing effect (18/23 (78%) and prevention of neuropathic pain (17/23 (74%), rather than for other reasons (5/23 (22%).
- Gabapentin was preferred to pregabalin due to perceived better evidence base and lower cost.
- Gabapentin was most widely used in orthopaedic acute pain protocols/guidelines (Table 1).

Individual practice

- 40/162 (25%) respondents reported prescribing gabapentinoids.
- Gabapentin was most commonly used (33/40 (82.5%) vs 15/40 (37.5%) pregabalin and vs 1/40 (2.5%) enacarbil).
- 27/40 (67.5%) reported using gabapentinoids for an opioid-sparing effect or reduction of neuropathic pain, 17/40 (42.5%) prescribed gabapentinoids for other reasons.

Usage and dosage

- Dosage schedules were varied, including pre-operative, post-operative and rescue prescriptions on wards and in recovery (Table 1).
- Titration of the dose of gabapentin/pregabalin to effect was described with many varied approaches.

Table 1. Use of gabapentinoids in acute pain protocols and guidelines

Adult surgical specialty	Gabapentin	Pregabalin	Don't use	Dosing regimens used
Cardiac	9% (1/11)	0% (0/11)	91% (10/11)	• 300-600mg tds 48 hours
Thoracic	9% (1/11)	0% (0/11)	91% (10/11)	-
Upper GI	8% (1/12)	0% (0/12)	92% (11/12)	-
Lower GI	17% (2/12)	0% (0/12)	83% (10/12)	• 300-600mg tds 48 hours
Hepatobiliary	8% (1/12)	8% (1/12)	83% (10/12)	-
Breast and endocrine	8% (1/12)	0% (0/12)	92% (11/12)	-
Vascular	21% (3/14)	0% (0/14)	79% (11/14)	• 100-300mg nocte day one then bd day two and tds on day 3 - start titration up after day five if needed • Start at 100mg tds and build to 300mg tds • 300-600mg 4 hours pre op
Gynaecology	15% (2/13)	0% (0/13)	85% (11/13)	-
Orthopaedics	55% (11/20)	30% (6/20)	15% (3/20)	• 150mg premed 75mg BD post-op dose reduced in renal impairment or elderly • 300mg gabapentin for 2 weeks routinely. If intolerant or coexisting renal impairment (CKD 3 or 4) would prefer pregabalin • gabapentin 300mg bd for 48 hrs post op (hips and knees) • gabapentin 600mg in recovery for primary arthroplasty • pregabalin as premed, then bd for 2 weeks. Dose dependant on age (from 25-75mg) • 50-150mg bd depending on patient age and renal function • 75 mg preop and twice/day for 2 weeks for joint replacements • 300-600mg tds 3 doses • premed 300-600mg depending on eGFR & other patient factors, post op 300-600mg bd for 72 hours • 150 mg daily • 300mg at night for 2-3 nights post op • 300 mg preop, 300mg nocte x2 • 600mg premed, 600mg 22.00 on op day if tolerated
Urology	8% (1/12)	0% (0/12)	92% (11/12)	-
ENT	8% (1/12)	0% (0/12)	92% (11/12)	-
Maxillofacial	0% (0/11)	0% (0/11)	100% (11/11)	-
Neurosurgery	8% (1/12)	0% (0/12)	92% (11/12)	-
Ophthalmology	8% (1/12)	0% (0/12)	92% (11/12)	-
Plastic surgery	8% (1/12)	0% (0/12)	92% (11/12)	-

Conclusion

- Gabapentin is the most commonly prescribed drug of its class for perioperative management of acute pain.
- Opioid-sparing effects and prevention of neuropathic pain are the two most common indications for its use.
- Gabapentin is most commonly prescribed as a second-line therapy and used in various dosage regimens.

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Reference: https://www.surveymonkey.co.uk/Gabapentinoids_survey