

Lidocaine infusion in oncologic patients for chronic pain management post cancer treatment.

A case series



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BACKGROUND

Pain is ubiquitous and often challenging in cancer patients. Pain might be related to cancer itself, treatment and miscellaneous. Lidocaine is a well-known adjuvant in pain management and might be helpful in treatment-related cancer pain.

METHODS

- 1. Clinical data of five patients with non-tumor-related chronic pain were collected.
- 2. We registered gender, age, type of pain, type of cancer, dose of lidocaine, Numeric Pain Intensity (NPI) before and after drug infusion, and the time of pain relief.
- 3. Patients signed informed consent forms and the reports were approved by the hospital committee.

RESULTS

- Most patients (4 out of 5) had musculoskeletal pain secondary to oncologic treatment, one patient had postoperative pain.
- All patients had satisfactory pain relief immediately after lidocaine infusion for a time span ranging from 7 to 30 days, a mean of 18,4 days.
- The average dose of lidocaine used was 3.4 mg/kg, ranging from 3 to 4 mg/kg.

Lidocaine infusion was effective to reduce pain in five patients with pain related to cancer treatment

Patient	Age, Gender	Oncologic diagnosis	Pain diagnosis	NPI Before infusion	NPI After infusion	Lidocaine dosis (mg/kg)	Duration of analgesia on first infusion
1	62, F	Breast invasive ductal carcinoma	Myofascial and articular pain after hormone therapy	6	2	3	20 days
2	58, F	Endometrial carcinoma	Myofascial and articular pain after hormone therapy	9	4	4	20 days
3	62, F	Chronic myeloid leukemia	Musculoskeletal pain after imatinib	8	4	4	7 days
4	42, M	Bone hemangioendothelioma	Postoperative chronic pericatricial pain	5	3	3	30 days
5	61, F	Breast invasive ductal carcinoma	Anastrozole-induced arthralgia and myalgia	6	1	3	15 days

KEY LEARNINGS Lidocaine Infusion

The action mechanisms involves: blocking sodium channels, blocking potassium channels, inhibition of glutamate release, NMDA blockade and regulation of gene expression of inflammatory factors.



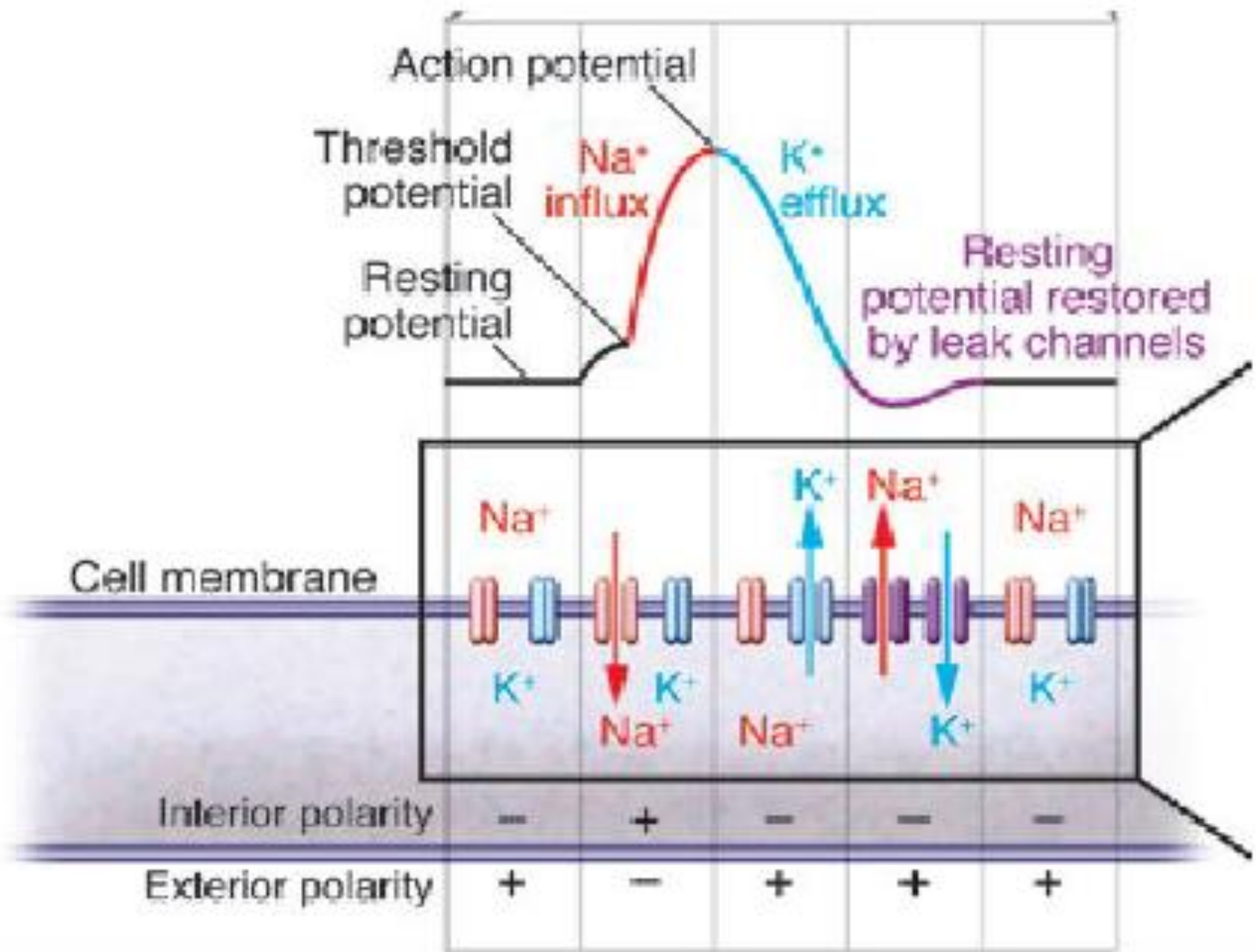
Na⁺ channels blockage might explain the role of lidocaine in neuropathic pain, reducing hyperexcitability and peripheral sensibilization

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DISCUSSION

- Intravenous lidocaine 2% without vasoconstrictor was administered over one hour on an outpatient basis at a dose of 3 to 5 mg/kg using a drug infusion pump.
- Lidocaine infusion may be beneficial in neuropathic and nociplastic pain by decreasing central hyperexcitability and peripheral sensitization.
- These case reports corroborate the current evidence that lidocaine may be an alternative for the management of uncontrolled pain in cancer patients, being an option to reduce opioid consumption and improve quality of life.
- There is still a need for randomized controlled trials to evaluate the role of intravenous lidocaine in pain relief and quality of life in cancer patients with pain caused by cancer treatment.



Lidocaine action on Na⁺ channels, reduces nerve conduction , ultimately decreasing Dorsal Root Ganglion firing

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