



Neuropathic pain in patients with cancer attended by a PPC unit

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Introduction: neuropathic pain in pediatric cancer



International Association for the Study of Pain

IASP

Working together for pain relief

“Pain arising as a direct consequence of a lesion or disease affecting the somatosensory system”

Chronic pain

Surgery

Tumor

Chemotherapy

Radiotherapy



NP is difficult to recognize and assess in pediatric patients

In end of life care in patients with cancer, different conditions might produce/increase NP

Evidence regarding NP in pediatric patients is still scarce

Introduction: NP treatment in pediatric patients

In adults treatment is based on evidence-based consensus:

- First line → TCA, SNRIs, gabapentinoids
- Second line → tramadol, methadone, topical agents, other opioids

	Gabapentinoids			Tricyclic Antidepressants			Methadone	
First Line Therapy		<u>Pediatric</u>	<u>Adult</u>		<u>Pediatric</u>	<u>Adult</u>	<u>Pediatric</u>	
	Gabapentin (mg/kg/day)	30	50-70	Nortriptyline (mg/kg/day)	0.35-0.4	2-3	*Methadone 0.06-32.7 (mg/kg/day)	
	Pregabalin (mg/kg/day)	5	9-12	Amitriptyline (mg/kg/day)	0.35-0.4	2-3		
Second Line Therapy	Ketamine			Lidocaine			Strong Opioids	
	*Ketamine (mg/kg/hr)	<u>Pediatric</u>		5% Lidocaine Patch	<u>Pediatric</u>	<u>Adult</u>	Variable dosing regimens	
		0.05-0.6		Lidocaine Infusion (mg/kg/hr)	0.84			

Figure 1.
NP in Pediatric Oncology - A Clinical Decision Algorithm
*Recommended for inpatient setting only

Aims

1

Describe the prevalence of NP in a cohort of patients with cancer attended by a pediatric palliative unit.

2

Describe the characteristics of NP in this cohort.

3

Describe the treatments used in this patients.

Methods (I)



Retrospective review of clinical records.

Patients → patients with cancer attended by the PPCU of Madrid.

Period of time → January 2010- december 2019.

Onset → PPCU of Madrid.

Interdisciplinary team.

Hospitalization and home-based care programs.

Oncall assistance 24 hours/day, 365 days/year.

Methods (II)

Neuropathic pain was considered present if:

- Neuropathic pain was diagnosed
- Mixed pain was diagnosed
- Neuropathic pain descriptors were used in the literal evaluation of pain (“burning”, “tingling”, “puncturing” ...)

Neuropathic pain was classified as pure or mixed pain.

Results (I): general characteristics

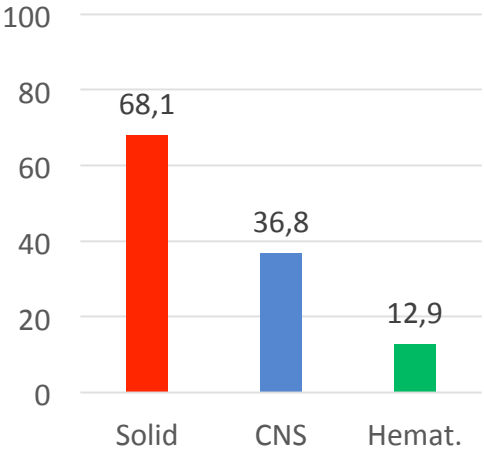
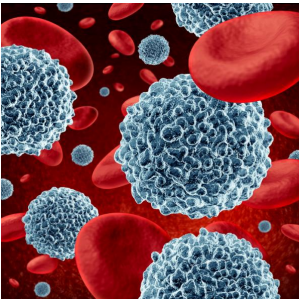
171 patients with cancer attended by the PPCU → 78 (45,6%) with NP

♂ 58,4% ♀ 41,6

Median age at inclusión: 10,8 years (IQR: 6,2-15,2)

Median time of follow-up: 1,6 month (IQR: 0,7-4,7)

} No statistical difference in NP



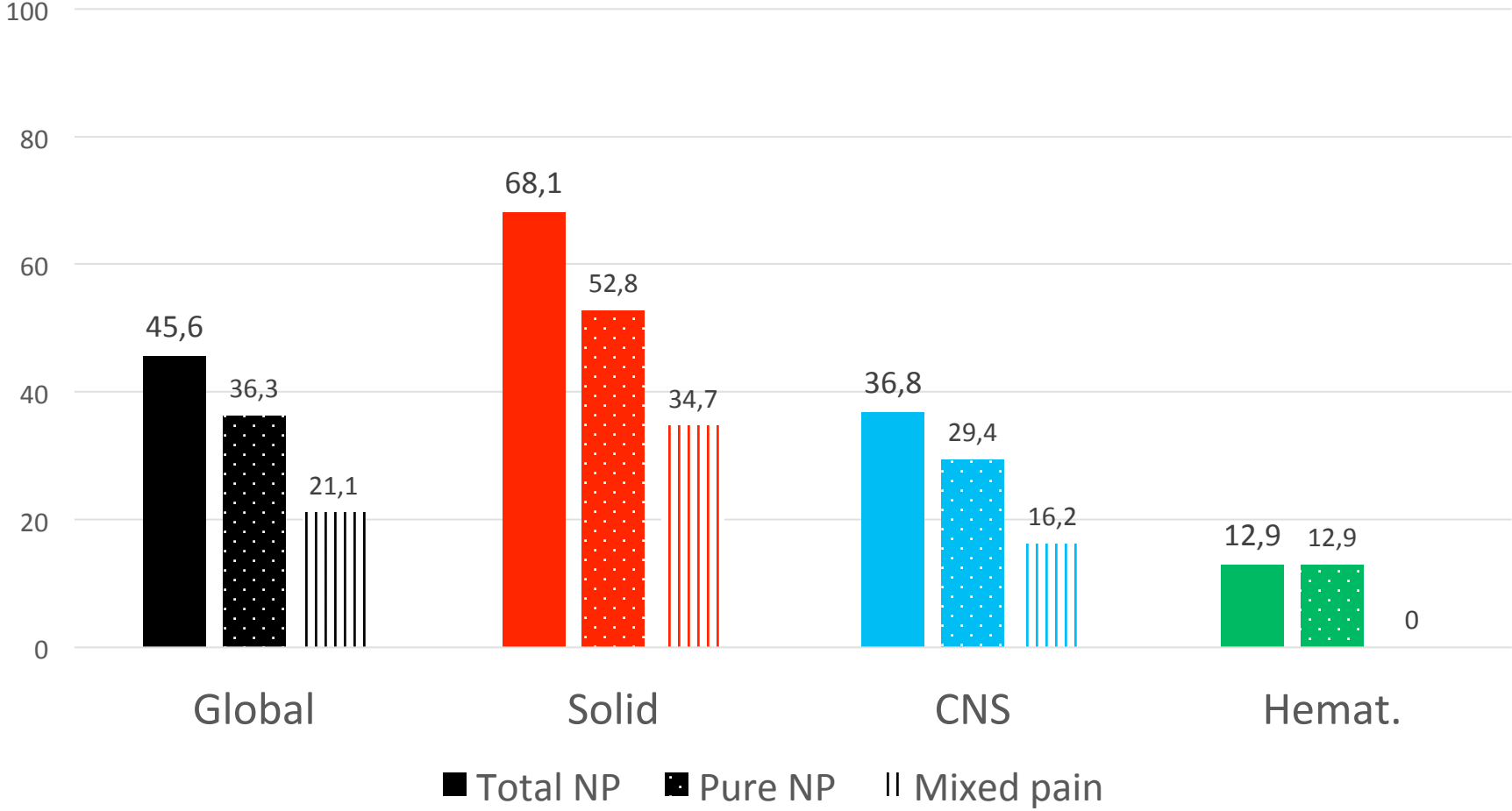
Statistical difference amongst the three groups

Solid cancer
42,1%

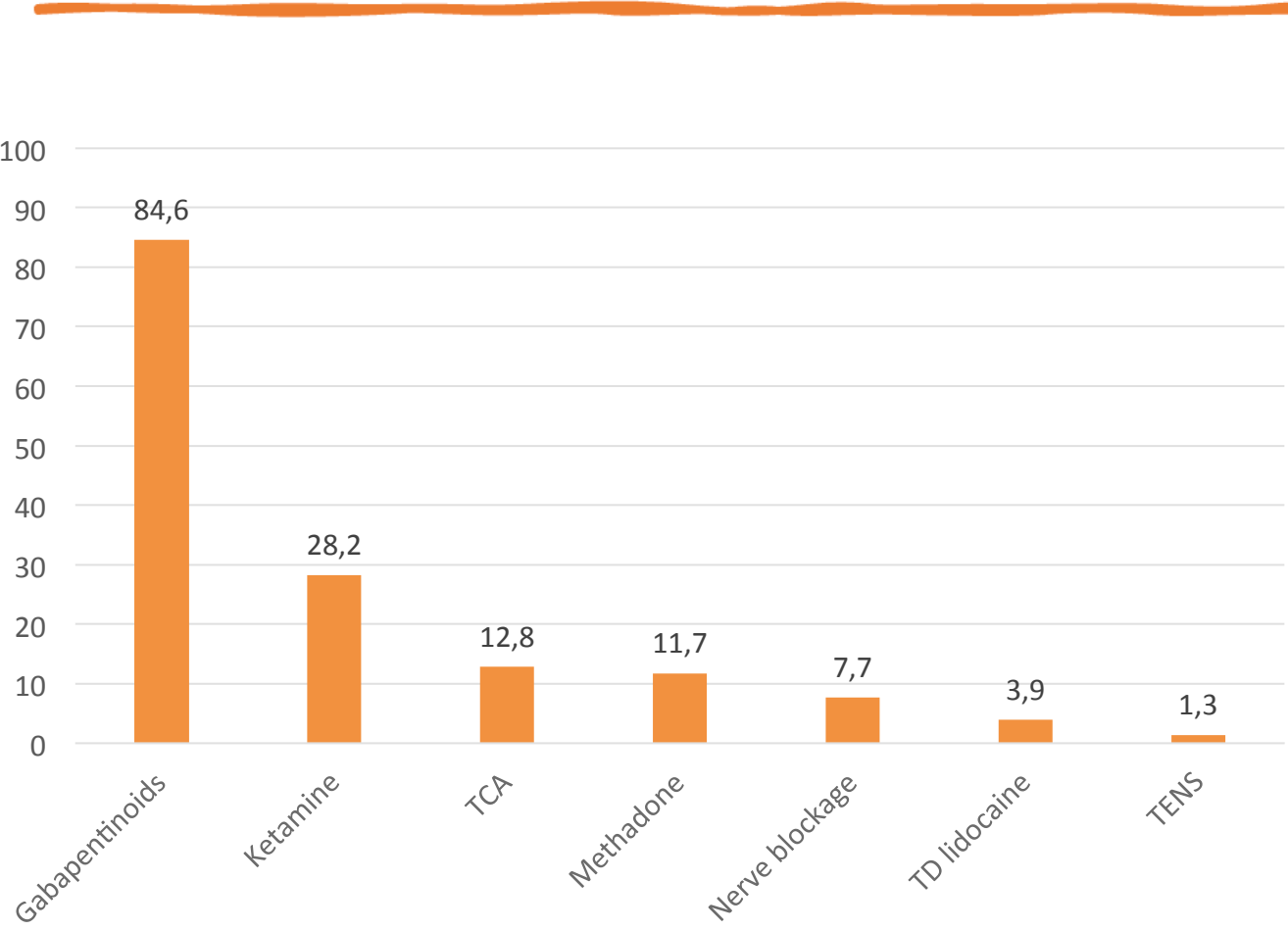
CNS cancer
39,8%

Hemat. cancer
18,1%

Results (II): patterns of NP



Results (III): treatments used in NP



	%	95% CI
Gabapentinoids	84,6	76,4-92,8
Ketamine	28,2	18,0-38,4
TCA	12,8	5,2-20,4
Methadone	11,7	4,3-19,1
Nerve block	7,7	1,7-13,7
TD lidocaine	3,9	0-8,2
TENS	1,3	0-3,8

Use of palliative sedation in patients with NP

Patients characteristics	Type of NP pain	Treatments used	Time onset of SP before death (days)	Drug used
Male 17 y Osteosarcoma	Pure neuropathic pain	Continuos iv opioids, gabapentinoids, corticoids	<1	
Male 9 y Osteosarcoma	Mixed pain	Continuos iv opioids, gabapentinoids, corticoids	<1	Midazolam Haloperidol
Female 12 y Ewing's sarcoma	Mixed pain	Continuos iv opioids, TCA	2	Midazolam Propofol
Male 11 y Neuroblastoma	Mixed pain	Continuos iv opioids, contionuos iv ketamine	8	Midazolam Propofol
Female 17 y Osteosarcoma	Mixed pain	Continuos iv opioids, gabapentinoids, contionuos iv ketamine, corticoids	1	Midazolam

Limitations

Retrospective study based on clinical records

Difficulty in properly assessing NP in patients

Lack of
therapeutical
efficacy
measurements

Conclusions & future lines

In our cohort, neuropathic pain was present in 45,6% of the patients.

It was more frequent in patients with solid cancer (68,1%).

Gabapentinoids were the most common used treatments.

Future studies should aim to prospectively confirm our findings regarding frequency and patterns and study the most effective way to tackle NP in different cancer patients



Thank you very
much
