

Impact of drug therapy on brachioradial pruritus*

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Abstract: Few studies have described therapeutic options in brachioradial pruritus. We describe a cross-sectional study of brachioradial pruritus patients treated in an outpatient unit. We reviewed medical records and interviewed brachioradial pruritus patients without indication for decompressive surgery, in order to access the perceptions of intensity of pruritus prior to treatment and response to therapy. We found that antidepressants and anticonvulsants were the most frequently prescribed drugs. Best reductions in pruritus were associated with its highest intensities prior to treatment, and with longer periods of therapy.

Keywords: Dermatology; Observational studies; Pruritus; Therapeutics

Brachioradial pruritus (BRP) is characterized by chronic pruritus, generally sharply localized (which differentiates it from most other causes of long-lasting pruritus), and not associated with cutaneous changes.¹ Most therapeutic strategies relating to BRP have been described anecdotally, or extrapolated from other causes of neuropathic and chronic pruritus.² We aimed at analyzing itching reduction in BRP patients without indication for decompressive surgery.

Adult outpatients with BRP, diagnosed using valid criteria,^{1,3} were included in a cross-sectional study from May 2011–2014. Clinical and treatment information were recovered from medical records. Patients were interviewed in order to access: (a) the mean intensity of itching prior to treatment – using visual analogue scale (VAS); and (b) the perception of reduction in itching after at least 12 weeks of drug therapy – using Likert scale. Patients with missing information were excluded from the analysis. We used descriptive statistics after testing for normality. Chi-squared/Fisher and Kruskal-Wallis (KW) were used to analyze reduction of pruritus associations ($p < 0.05$), performed with the SPSS software (Statistical Package for the Social Sciences, SPSS Inc., Chicago, USA, version 19.0). This study was conducted in accordance with the Declaration of Helsinki, adopting all ethical procedures recommended by our institutional research ethics committee (CAAE 17133213.9.0000.5475).

Forty-nine patients were included, with a median age of 58 (49–63) years; 36 (73.5%) patients were female, predominantly Caucasians (81.6%). Most patients (67.4%) had symptoms for at least three years. Median follow up was 36 months (24–48). We found a mean intensity of pruritus of 8.5 (± 1.5); four patients (6.1%) ranked 5 or less. Regarding itching reduction, 19 patients (38.8%) report-

ed an *excellent reduction*, and 19 patients reported *good reduction*; six (12.2%) did not perceive *any reduction*.

Amitriptyline was the most prescribed drug ($n=22$) in this sample; doxepin ($n=15$) and gabapentin ($n=7$) were also frequently prescribed. None received prescriptions of capsaicin or pregabalin. Table 1 exhibits the frequency of drugs used.

Figure 1a graphically represents the relation between reduction of itch and drugs used. Association was found between fluoxetine and *good reduction* (χ^2 ; $p=0.0495$). Shorter treatment durations were associated with worse perceptions of reduction (χ^2 ; $p=0.0004$). Higher intensities of pruritus prior to treatment were associated with *excellent reduction* after treatment (KW; $p=0.0376$) (Figure 1b). Adverse events and their influence on dropout were not evaluated. Gabapentin was the option most frequently prescribed when the in-

TABLE 1: Drugs used to treat brachioradial pruritus, sorted by frequency of use, in 49 patients.

Drugs	Citations	Percent
Amitriptyline	22	33.8
Doxepin	15	23.1
Gabapentin	07	10.8
Risperidone	06	9.2
Pimozide	04	6.2
Fluoxetine	03	4.6
Chlorpromazine	02	3.1
Hydroxyzine	02	3.1
None	04	6.2
Total	65	100

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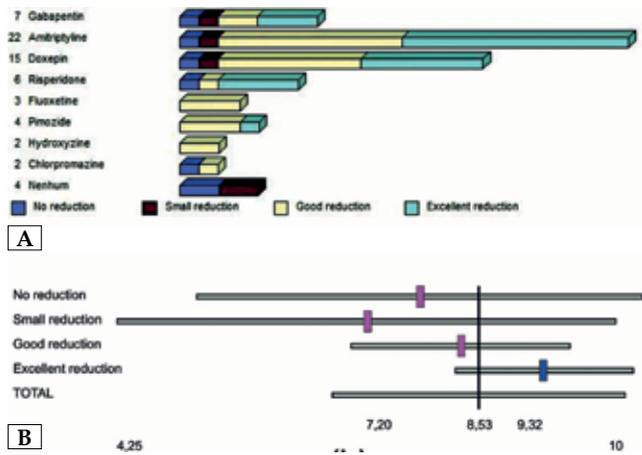


Figure 1: **A.** Distribution of reduction of pruritus perceived by patients, and drugs prescribed to treat brachioradial pruritus (n=49); **B.** Reduction in pruritus after at least 12 weeks of treatment (Likert scale) in 49 brachioradial pruritus patients, according to the mean (min-max) intensity of pruritus prior to treatment (Visual Analogue Scale).

tensity of itching was higher (VAS ≥ 9.43), but the mean difference between drugs was not significant.

Although topical anesthetics are used to ameliorate BRP, there is little evidence of their effectiveness.⁴ Gabapentin was previously described as the most effective drug in BRP,⁵ but there are no head-to-head comparisons to confirm this statement. Expensive drugs like gabapentin and pregabalin are impractical to public

health in developing countries. Antidepressants have been used for neuropathic and chronic pruritus,^{1,2} but few studies described their use in BRP.¹

The reason why chronic pruritus is usually insensitive to antihistamine treatment remains unknown, probably because several pathways may convey this symptom.^{1,6} Psychoactive drugs seem to be more effective in conditions like BRP, but concerns about adverse events may lead to sub-optimal dosages and impaired efficacy.¹ Antidepressants directly influence central pruritus perception, probably interfering in the neuronal re-uptake of neurotransmitters, thereby reducing pruritus perception.⁷

Although better evidence is still lacking, we found good reductions of itching in BRP patients with the antidepressants fluoxetine, amitriptyline and doxepin, as well as with the antipsychotics used. They could be reliable options to more expensive drugs. Best reductions were associated with the highest intensities of the pruritus prior to treatment, and with longer periods of therapy; these patients were most probably encouraged to maintain treatment adherence. We must consider design limitations; economic restrictions also limited the use of some medications in this study. Furthermore, larger samples may provide different estimates of effect.

Nevertheless, we must consider that BRP seems to be a boundary condition between neurology and dermatology fields, so dermatologists should encourage patients to investigate an underlying neurological disease.⁸⁻¹⁰ Given the distressing impact of BRP in the quality of life, it is important to understand the principles of therapeutic management on this condition. □

REFERENCES

- Masuda PY, Martelli AC, Wachholz PA, Akumatsu HT, Martins AL, Silva NM. Brachioradial pruritus - descriptive analysis of Brazilian case series. *J Dtsch Dermatol Ges.* 2013;11:530-5.
- Yosipovitch G, Bernhard JD. Clinical practice. Chronic pruritus. *N Engl J Med.* 2013;368:1625-34.
- Mirzoyev SA, Davis MD. Brachioradial Pruritus: Mayo Clinic Experience over the Past Decade. *Br J Dermatol.* 2013;169:1007-15.
- Gooding SM, Canter PH, Coelho HF, Boddy K, Ernst E. Systematic review of topical capsaicin in the treatment of pruritus. *Int J Dermatol.* 2010;49:858-65.
- Stumpf A, Ständer S. Neuropathic itch: diagnosis and management. *Dermatol Ther.* 2013;26:104-9.
- Ross SE. Pain and itch: insights into the neural circuits of aversive somatosensation in health and disease. *Curr Opin Neurobiol.* 2011;21:880-7.
- Ständer S, Weisshaar E, Luger TA. Neurophysiological and neurochemical basis of modern pruritus treatment. *Exp Dermatol.* 2008;17:161-9.
- Binder A, Fölster-Holst R, Sahan G, Koroschetz J, Stengel M, Mehdorn HM, et al. A case of neuropathic brachioradial pruritus caused by cervical disc herniation. *Nat Clin Pract Neurol.* 2008;4:338-42.
- Carvalho S, Sanches M, Alves R, Selores M. Brachioradial pruritus in a patient with cervical disc herniation and Parsonage-Turner syndrome. *An Bras Dermatol.* 2015;90:401-2.
- Goodkin R, Wingard E, Bernhard JD. Brachioradial pruritus: cervical spine disease and neurogenic/neuropathic pruritus. *J Am Acad Dermatol.* 2003;48:521-4.

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