Abametapir for Head Lice Treatment: A Drug Review

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BACKGROUND

Head lice, or Pediculus humanus capitis, is a common yet difficult to treat ectoparasite. It has traditionally been treated with over-the-counter (OTC) synergized pyrethrin or pyrethroids (permethrin); however, widespread resistance has led to the need for novel pediculicides, such as abametapir. The purpose of this article is to review the pharmacology, safety, efficacy, and clinical importance of abametapir 0.74% by weight.

METHODS

A systematic review of the Medline and Embase databases was conducted for the terms "abametapir" or "Xeglyze" or "Ha44." All relevant articles prior to December 2020 were included.

RESULTS

Abametapir works through chelating heavy metal ions and inhibiting metalloproteinases critical to louse ova development, hatching, and adult survival. A phase II trial using an ex-vivo approach validated the direct ovicidal activity of abametapir 0.74%, inhibiting 100% of treated louse eggs from hatching, compared to 64% in the vehicle-treated group. In comparison to the untreated controls' hatch rates of 93.3% and 79.5%, respectively, the absolute hatch rate reduction was 92.9% in abametapir-treated and 42.3% in vehicle-treated louse eggs ($P < 0.001$) (Table 1).

	Abametapir-Treated	Vehicle-Treated
Pre-treatment Hatch Rates	93.3%	79.5%
Post-treatment Hatch Rates	0%	36%
Absolute Hatch Rate Reduction* (*using Generalized Estimating Equation model)	92.9%	42.3%

Table 1: Ovicidal Activity of Abametapir

RESULTS

In two identical phase III clinical trials conducted in 704 patients with head lice infestations, subjects treated with a single ten-minute application of abametapir experienced greater treatment success – being lice-free through 14 days – compared to vehicle-treated subjects, with 81.1% success versus 50.9% in Study 1 ($P = 0.001$) and 81.8% versus 47.2% in Study 2 ($P < 0.001$) (Figure 1). Abametapir was well-tolerated, with mild scalp erythema, rash, skin burning sensation, contact dermatitis, vomiting, eye irritation, and transient hair color change, being the most experienced adverse effects (Table 2).

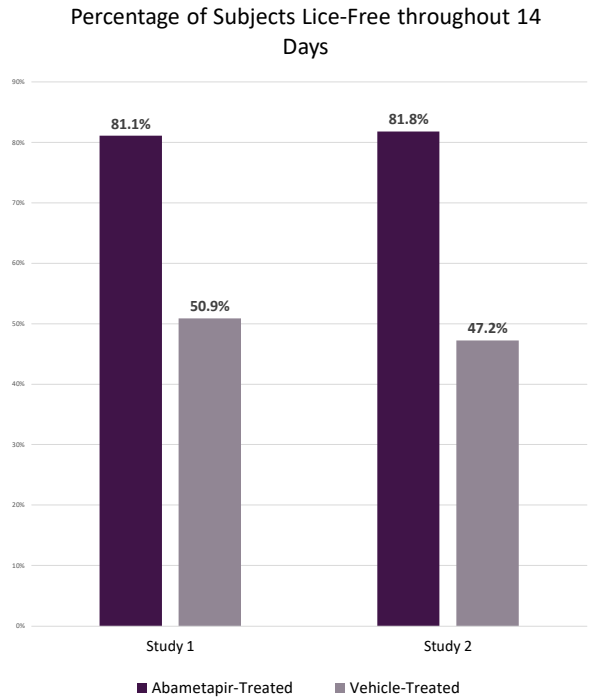

Figure 1: Phase III Clinical Trials

Side Effects (All Mild)	Percent Affected
Scalp erythema	4%
Rash	3.2%
Skin burning sensation	2.6%
Contact dermatitis	1.7%
Vomiting	1.7%
Eye irritation	1.2%
Transient hair color change	1.0%

Table 2: Common Side Effects of Abametapir Treatment

LIMITATIONS

Reinfestation was not analyzed in the phase III studies as it would require complete isolation for 14 days to properly assess. Furthermore, the drug is not currently widely available yet.

CONCLUSION

Abametapir is a newly Food and Drug Administration (FDA)-approved single-application treatment for head lice in patients aged six months and older. Its direct ovicidal and lousicidal activity is effective in treating head lice infestations with a single application. In the face of growing resistance to current pediculicides, Abametapir offers a safe and effective new treatment option for the management of head lice.