

What is cost effectiveness of confirmatory testing before treating nail fungus?

December 23 2015

An analysis based on data from previously published literature suggests it is more cost effective to treat all suspected cases of nail fungus (onychomycosis) with the oral medication terbinafine than to perform confirmatory diagnostic tests beforehand, although confirmatory testing before treatment with the expensive topical medicine efinaconazole, 10 percent, was associated with reduced costs, according to an article published online by *JAMA Dermatology*.

Onychomycosis is the most common disease of the nail in adults. Guidelines encourage health care professionals to perform confirmatory testing before initiating systemic therapy. While studies from the 1990s determined this to be cost-effective, this approach has not been reevaluated recently.

Arash Mostaghimi, M.D., M.P.A., of the Brigham and Women's Hospital, Boston, and coauthors performed an analysis based on data from previously published literature and compared three approaches for diagnosing and treating nail fungus, which included treating all suspected cases or two kinds of screening and testing.

The calculated costs of treatment and monitoring liver enzymes associated with a 12-week course of terbinafine for one patient was \$53, while a full course of efinaconazole therapy for one nail was \$2,307. The costs of confirmatory testing using potassium hydroxide (KOH) screening were \$6 and \$148 for periodic acid-Schiff (PAS) testing.

The Clinical and Research Information on Drug-Induced Liver Injury Database calculates the incidence of clinically apparent liver injury due to terbinafine to be 1 case per 50,000 to 120,000 treatments. The study suggests the overall combined costs to avoid liver injury with terbinafine with a disease prevalence of 75 percent was between \$18.2 million and \$43.7 million using potassium hydroxide (KOH) screening and between \$37.6 million and \$90.2 million for periodic acid-Schiff (PAS) testing

However, confirmatory testing before treatment with efinaconazole was associated with savings of \$272 and \$406 per patient per nail using KOH screening and PAS testing, respectively, according to the study.

"Confirmatory testing for onychomycosis still has a place in clinical care. The emergence of efinaconazole, 10 percent, as a novel and expensive agent for the treatment of onychomycosis reinforces the value of confirmatory testing in an era of cost-containment," the study concludes.

"Mikhailov et al have shown that it is more cost effective to treat every presumptive case of onychomycosis with oral terbinafine rather than prove that the abnormality of the toenail is in fact due to onychomycosis. ... What is stated, but not stressed, by Mikhailov et al is the significant difference in price between oral terbinafine and newer topical treatments such as efinaconazole. Owing to the high cost of efinaconazole, the authors correctly point out that confirmatory diagnostic testing before initiating treatment does result in overall costs savings," writes Matthew H. Kanzler, M.D., of the Palo Alto Medical Foundation, Fremont, Calif., in a related editorial.

More information: *JAMA Dermatology*. Published online December 23, 2015. doi:10.1001/jamadermatol.2015.4190

JAMA Dermatology. Published online December 23, 2015.

doi:10.1001/jamadermatol.2015.4203

Provided by The JAMA Network Journals

Citation: What is cost effectiveness of confirmatory testing before treating nail fungus? (2015, December 23) retrieved 3 May 2024 from <https://medicalxpress.com/news/2015-12-re-evaluating-guidelines-toenail-fungus.html>

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