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Searching the LILACS Database Could Improve Systematic Reviews in Dermatology

Well-performed systematic reviews should analyze as many articles as possible to provide the best evidence available. However, some reviews limit their searches only to a few numbers of databases, mainly literature in English, published in journals fundamentally edited in developed countries. The LILACS database is an underused source of trials that indexes journals mainly from Latin American and Caribbean countries. In the present study, I sought to assess whether including a LILACS search improved the quality of systematic reviews in dermatology.

Methods. I evaluated reviews from the Cochrane Skin Group and a sample of non-Cochrane reviews published from 2002 to 2007 in the 4 dermatologic journals with the highest impact factors (Journal of the American Academy of Dermatology, Archives of Dermatology, Journal of Investigative Dermatology, and British Journal of Dermatology). The first group of reviews was retrieved from the Cochrane Skin Group Web site, and the non-Cochrane reviews were found through a search in Medline, according to the strategy described by Montori et al. A systematic review was defined as a study that used any systematic way of searching the literature using explicit criteria for article selection.

For the included reviews, we used LILACS to locate randomized clinical trials that matched each review’s inclusion criteria using a validated, highly sensitive LILACS search strategy described elsewhere. The LILACS search result was classified positive when at least 1 randomized controlled trial that fit the inclusion criteria was found and negative when no such trials were located. The search results were considered inconclusive when at least 1 trial that fit the inclusion criteria was found but it could not be sorted as a randomized one. For the positive LILACS search results, the references listed in the review were checked to determine if the identified articles had already been located.

Table. Numbers of Cochrane and Non-Cochrane Review Articles Found by Search Strategy

<table>
<thead>
<tr>
<th>Search Strategy</th>
<th>Cochrane (n=25)</th>
<th>Non-Cochrane (n=19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without LILACS search, No.</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td>Restricted to English language</td>
<td>0</td>
<td>8 (42)</td>
</tr>
<tr>
<td>Explicit no language restriction</td>
<td>14 (63)</td>
<td>7 (37)</td>
</tr>
<tr>
<td>Inconclusive LILACS results</td>
<td>6 (27)</td>
<td>8 (42)</td>
</tr>
<tr>
<td>Positive LILACS results</td>
<td>8 (18)</td>
<td>8 (42)</td>
</tr>
<tr>
<td>Only LILACS-located trials</td>
<td>6 (14)</td>
<td>8 (42)</td>
</tr>
</tbody>
</table>

*Unless otherwise indicated, data are reported as number (percentage) of review articles found.

Results. A total of 44 reviews (25 Cochrane and 19 non-Cochrane) were analyzed. Three of the Cochrane reviews included a LILACS search and were excluded from further analysis (Table and eTable [http://www.archdermatol.com]). Twenty percent of the reviews (8 of 41) were restricted to English-language articles and 51% (21 of 41) explicitly had no language restriction. The LILACS search results were positive in 29% of all reviews (12 of 41), inconclusive in 34% (14 of 41), and negative in 37% (15 of 41). In 5 of the 14 inconclusive cases, the original review allowed any kind of trial as inclusion criteria. In Cochrane reviews, 18% of the search results were positive (4 of 22), whereas in the non-Cochrane reviews 42% were positive (8 of 19). On the other hand, 27% (6 of 22) and 42% (8 of 19), respectively, produced inconclusive results (references available from the author).

Among the 12 reviews with positive LILACS search results (4 Cochrane and 8 non-Cochrane), only 1 Cochrane review had located the article identified on LILACS by other methods. Therefore, 27% of the systematic reviews (11 of 41), a LILACS search was effective in identifying new articles suitable for inclusion. In conclusion, using LILACS can increase the number of trials potentially suited for inclusion in systematic reviews.

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Additional Information: An eTable is available at http://www.archdermatol.com.


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VIGNETTES

Adult-Onset Erythropoietic Porphyria in the Setting of MDS

Report of a Case. In September 2004, an 81-year-old man with myelodysplastic syndrome (MDS) presented with a 6-week history of painful, pruritic lesions on his ears, scalp, and the dorsal surface of his hands. His urine was red-brown. The use of alcohol and/or new medications and exposure to chemicals and/or radiation were denied. Biopsy specimens revealed subepidermal blistering with few polymorphonuclear cells, abundant solar elastotic material, and homogeneous eosinophilic material surrounding upper dermis small vessels, all fairly non-specific findings. Urine porphyrin analysis revealed massively elevated porphyrin levels in a pattern consistent with congenital erythropoietic porphyria (CEP). Bactracin ointment and diphenhydramine treatments were started, but the patient was lost to follow-up.

In August 2007, the patient returned. He was receiving weekly transfusions of packed red blood cells and platelets as treatment for his MDS, and he noted that his cutaneous lesions consistently flared after each transfusion. These symptoms had previously improved under treatment with deferasirox, an iron-chelating drug, but his deferasirox treatment had been discontinued. On physical examination, we found multiple crusted and bloody erosions, ulcers, and a few bullae on his hands (Figure 1), ears, and scalp (Figure 2). Hypertrichosis was present on the forearms (Figure 3).

Quantitative and qualitative analyses of porphyrin isomers in his urine, serum, and stool were performed. Urine studies demonstrated grossly elevated series 1 isomers of uroporphyrin and coproporphyrin. The serum zinc protoporphyrin to heme ratio, fecal coproporphyrin 1 level, and levels of other fecal series 1 isomers were massively elevated. Collectively, these results confirmed the diagnosis of CEP. Deferasirox treatment was reinstituted secondary to significantly elevated ferritin levels. Topical tacrolimus and bactracin treatments were started to soothe affected areas.

Comment. Congenital erythropoietic porphyria is an uncommon, autosomal recessive disorder resulting from decreased activity of uroporphyrinogen 3 synthase (UROS) secondary to UROS gene mutation.1 It classically presents early in life with sun-induced vesicobullous eruptions on exposed skin and mucous membranes, eventually culminating in severe scarring and deformity. Red-brown stained diapers, erythrodontia, and hemolytic anemia are associated findings.2,3 Adult-onset CEP is milder, male predominant, and rare, with only 13 cases previously reported to our knowledge. Bullae and vesicle formation, pruritus, and pain are typical.1,5,6 Skin fragility, induration, scarring, hypertrichosis, and discolored urine are sometimes present.1,5

Figure 1. A and B, Dorsal hand surfaces. Blisters, erosions, bloody crusts, and scars with irregular patches of hyperpigmentation. Note involvement of the fingernails.

Figure 2. Scalp involvement with crusted ulcers and scales.

Figure 3. Hypertrichosis on sun-exposed forearm.