Drug-induced changes in dentate nuclei of cerebellum

Sir,

We read with great interest the article titled “Sequential MR imaging (with diffusion-weighted imaging) changes in metronidazole-induced encephalopathy” by Singh et al. in the April–June 2017 issue of the Indian Journal of Radiology and Imaging. The article is highly informative and describes signal changes in splenium and dentate nuclei following metronidazole ingestion. In this article, we describe a few drugs that cause similar signal changes in the cerebellar dentate nuclei [Table 1]:

Thus, we see that the dentate nuclei can be affected by many drugs with nonspecific magnetic resonance imaging findings. Hence, integration of clinical data is crucial for definitive diagnosis.

Table 1: Drugs that cause signal change in dentate nuclei

<table>
<thead>
<tr>
<th>Drug</th>
<th>Use</th>
<th>Area of brain affected</th>
<th>T2/FLAIR</th>
<th>Resolution upon discontinuation of drug</th>
</tr>
</thead>
<tbody>
<tr>
<td>A[1,2] Metronidazole</td>
<td>Antibiotic, amebicide, antiprotozoal agent</td>
<td>Dentate nuclei, midbrain, inferior colliculus, dorsal pons and medulla, inferior olivary nucleus, splenium</td>
<td>Yes, shows diffusion restriction</td>
<td>Yes</td>
</tr>
<tr>
<td>C[2] Isoniazid</td>
<td>First line antitubercular therapy</td>
<td>Dentate nuclei</td>
<td>Yes, may show diffusion restriction</td>
<td>Yes</td>
</tr>
<tr>
<td>D[2,4] Cycloserine</td>
<td>Second line antitubercular therapy</td>
<td>Dentate nuclei</td>
<td>Yes, shows diffusion restriction</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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Conflicts of interest
There are no conflicts of interest.

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