Antiepileptics and Cancer Risks

The January 2005 issue of *Brain* has a review article on the role of antiepileptics in regard to increased cancer risk in people with epilepsy. It reviews evidences based on animal experiments, genotoxicity studies, and clinico-epidemiological observations. The relationship between cancer risk and epilepsy has always been debated. And the other side of the debate is whether the antiepileptic drugs increase the risk or decrease it.

In the animal models, there are some evidences of the carcinoma-promoting effect of Phenobarbitals (liver tumors) and phenytoin (lymphoid cell and liver tumors) in rats. Human epidemiological studies also found an association between Phenobarbital and hepatocellular carcinoma and also with lung cancer while phenytoin was found to be causally associated with lymphoma, myeloma and neuroblastoma. The evidence, however, is not consistent and both the drugs are considered possibly carcinogenic in humans. Valproate, on the other hand, was found to have an antiproliferative effect on certain cancer cells possibly driven by histone deacetylase inhibition. No carcinogenicity has been demonstrated in the newer antiepileptic drugs, although more research is necessary to ascertain the safety.

Older Eyes See Moving Things Better

When we get older, we may have more vision problems like cataracts, macular degeneration, and so on. But one thing is consolatory: we will have an increased sensitivity for motion, thanks to our brain.

A Canadian study found that older people could spot small motions in otherwise uniform scenes better than younger people. Visual processing in the brain allows focusing on an important scene by ignoring the trivial regions. This is achieved by a mechanism of suppression of neuron’s each other’s activity. But as people get older these inhibitory interactions tend to wane.

In the study, the younger people (aged 18-31) took 100 milliseconds to recognize the direction of movement of the computer-generated stripes, and took twice as long for a small patch. While the older people (aged 60 years or older) took half the time for the same task and remained the same for the small patch. While the functional implication of this visual sensitiveness in older people remains to be studied, it is speculated that older people may have an easier time following visually complex scenes on TV like sporting events. Don’t mind getting older!

Tibial Neurotomy for Spastic Equinus Foot

Spastic equinus foot can cause a severe disability by affecting both stance and swing phases of gait. It is a common problem in pediatric practice, as conditions like cerebral palsy and high spina bifida can cause spastic foot. Similarly, brain injuries of any kind (traumatic, vascular, neoplastic, etc.) can cause a spastic paralysis resulting in spastic equinus where the patients cannot walk despite having sufficient strength in the lower limbs. Bracing, stretching and other physical therapies help to attain a better gait; and more recently the Botulinum Toxin A injection has been found to be useful for spastic foot. However, for countries like Nepal this treatment may be impractical as it is so expensive and it also needs to be repeated every 3-6 months.

Soleus neurotomy was previously reported to be a longer term alternative treatment. More recently, *Neurosurgery*. September issue, 2004, publishes a French multicenter study on tibial neurotomy for a long-term functional improvement. This prospective study was carried out in five neurosurgical centers involving 55 patients with spastic equinus foot from 1999 to 2003. Clinical parameters included description of foot deformity, study of stretch reflexes, evaluation of the repercussions of the deformity, and gait analysis. Selective neurotomy was performed in all cases without significant postoperative complication. Mean postoperative follow up time was 10 months. The following is the summary of the results:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Preoperative</th>
<th>Postoperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equinus Score</td>
<td>1.54</td>
<td>0.273</td>
</tr>
<tr>
<td>Stretch reflex score</td>
<td>2.46</td>
<td>0.47</td>
</tr>
<tr>
<td>Passive dorsiflexion</td>
<td>-0.56°</td>
<td>+6.85°</td>
</tr>
<tr>
<td>10-meter walk time</td>
<td>55 secs</td>
<td>35.16 secs</td>
</tr>
</tbody>
</table>

The results certainly look promising. We would like to see more controlled studies on this topic.
References


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