Table 1: Systematic reviews of mistletoe (*Viscum album*) in cancer


<table>
<thead>
<tr>
<th>First author year [ref]</th>
<th>Main outcomes</th>
<th>Number of studies</th>
<th>Main results/Conclusions</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Buessing 2012 [20]      | Quality of life | RCTs: n=9  
Non-RCTs: n=4  
Patients: n=734 | A random-effect meta-analysis estimated the overall treatment effect at standardized mean difference = 0.56 (p <0.0001)  
All studies reported positive effects in favour of the Iscador® treatment | Heterogeneous data, methodological limitations, trials included were of poor quality (Jadad Score 0-2 points out of possible 5) [36] |
| Kienle 2010 [21]        | Quality of life | RCTs: n=26  
Patients: n=3058  
Non-RCTs: n=10  
Patients: n=4996 | Evidence for beneficial effect of mistletoe extract on quality of life in 22/26 trials  
Evidence for beneficial effect of mistletoe extract on quality of life in 10/10 trials | There is evidence of impact on quality of life and reduction of side effects of conventional therapies  
The studies vary in the degree of methodological quality |
| Kienle 2009 [22]        | Quality of life  
Survival  
Tumour response  
Safety | RCT: n=19  
Patients: n=2420  
Non-RCTs: n=16  
Patients: n=6399  
Cohort studies: n=11  
Patients: n=1130 | Evidence for beneficial effect of mistletoe extract on quality of life in 21/24 trials  
Evidence for beneficial effect of mistletoe extract on survival in 12/22 non-RCT, no evidence in RCTs  
Evidence for beneficial effect of mistletoe extract on tumour response in 3/6 cohort studies, no evidence in controlled studies  
No safety concerns | Methodological quality of studies differed substantially (e.g. small sample size in RCTs)  
Some recent studies, especially on quality of life were reasonably well conducted |
| Melzer 2009 [23]        | Quality of life  
Safety | RCT and non-RCT: n=18  
Patients: n=6800 | Studies indicate a beneficial effect of mistletoe extract on quality of life  
One serious adverse event (angioedema) was reported | Supportive mistletoe therapy seems safe and beneficial for quality of life  
Methodological quality of most studies was low |
<table>
<thead>
<tr>
<th>Study</th>
<th>Outcome</th>
<th>Methodology</th>
<th>Findings</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ostermann</strong></td>
<td>Survival</td>
<td>RCTs: n=5</td>
<td>Random effect meta-analysis estimated the overall hazard ratio 0.59 (p&lt;0.001)</td>
<td>Pooled analysis of clinical studies suggest that adjuvant treatment of cancer patients with mistletoe extract Iscador® is associated with better survival</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-RCTs: n=7</td>
<td>No effect in RCTs: HR=1.24 (p=0.35)</td>
<td>Methodological limitations (quality: moderate/poor), publication bias.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retrospective studies: n=10</td>
<td>Matched pair studies: HR = 0.33 (95%CI: 0.17 to 0.65, p=0.0012)</td>
<td>Future studies should focus on transparent design and description of endpoints</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Patients: n=3388</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Horneber</strong></td>
<td>Quality of life</td>
<td>RCTs: n=21</td>
<td>Some evidence for beneficial effect of mistletoe extract on quality of life in 14/16 trials</td>
<td>Only 2 of the 16 studies addressing quality of life (breast cancer patients during chemotherapy) were of higher methodological quality</td>
</tr>
<tr>
<td></td>
<td>Survival</td>
<td>Patients: n=3484</td>
<td>Evidence for beneficial effect of mistletoe extract on survival in 6/13 trials</td>
<td>There is some evidence for benefits on quality of life in breast cancer patients during chemotherapy</td>
</tr>
<tr>
<td></td>
<td>Safety</td>
<td></td>
<td>Evidence for no beneficial effect of mistletoe extract on survival in 2/13 trials</td>
<td>None of the methodologically stronger trials exhibited efficacy in terms of survival</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No safety concerns</td>
<td>Evidence from RCTs of impact on survival or tumour response is weak</td>
</tr>
</tbody>
</table>

RCT = randomised controlled trial