Background

• With cases up to 13.084 (without cancer registry), Indonesia ranks in the top 5 prevalent country for Nasopharyngeal Carcinoma (NPC).

• Most of these patients come with advanced stage which requires a more complicated treatment and have poor prognosis.

• Additional dosages (AC) after concurrent chemoradiotherapy believed to control micrometastases and therefore improving survival.

• Consideration over toxicities, compliance, survival, long treatment time and the psychosocial effect for the patient are needed in choosing the best treatment.

• Objective : to evaluate the current outcome of NPC patient undergoing chemoradiotherapy with or without adjuvant chemotherapy.

Materials and Methods

• Search on online databases, Pubmed and Central, are performed with keywords including “nasopharyngeal carcinoma”, “chemotherapy”, “adjuvant”, and “outcome” along with their synonyms.

• Studies inclusion criteria are article in English from 2014-2019, chemotherapy using platinum-based drug, and outcome of survival and/or toxicity with overall survival minimum of 2 years.

• Data extracted including are study author, year of publishing, location of trial, number of participants, characteristic of patients, chemotherapy regimen used, and outcome of studies (OS, PFS, DMFS, LFFS, and toxicities).

• Quality assessment were done using Newcastle Ottawa Scale for Cohort studies and with CEBM for Randomized Controlled Trial studies. Risk of bias assessed using Cochrane Method for RCT and ROBINS-I for cohort studies.

Table 1. Summary of Result

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Subject No.</th>
<th>QA</th>
<th>Risk of Bias</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chen L et al, 2016</td>
<td>RCT</td>
<td>477</td>
<td>↑</td>
<td>++</td>
<td>Considering compliance and toxicity of AC, routine delivery of AC after CCRT should only be reconsidered for patients with advanced stage NPC and not solely based on staging.</td>
</tr>
<tr>
<td>Nakahara et al, 2016</td>
<td>Cohort</td>
<td>31</td>
<td>↑+</td>
<td>High risk patient with locoregionally advanced NPC have higher survival benefit from the addition of AC.</td>
<td></td>
</tr>
<tr>
<td>Liang ZG et al, 2016</td>
<td>Cohort</td>
<td>511</td>
<td>↑+</td>
<td>High risk patient with locoregionally advanced NPC have higher survival benefit from the addition of AC.</td>
<td></td>
</tr>
<tr>
<td>Zhong Q et al, 2015</td>
<td>Cohort</td>
<td>522</td>
<td>↑</td>
<td>There are no significant difference in OS, LFFS and DMFS, but has shown higher OS trend in AC patients.</td>
<td></td>
</tr>
<tr>
<td>Yang S et al, 2015</td>
<td>Cohort</td>
<td>155</td>
<td>↑</td>
<td>Adjuvant therapy show improvement it was not significant compared with CCRT only, there for it should not be used routinely except for clinical trial.</td>
<td></td>
</tr>
<tr>
<td>Dong Y et al, 2015</td>
<td>Cohort</td>
<td>488</td>
<td>↑</td>
<td>Adjuvant therapy may be used on patients with advanced stage NPC who have positive predictor to benefit from the extra dose of chemotherapy.</td>
<td></td>
</tr>
<tr>
<td>Liang Z et al, 2014</td>
<td>Cohort</td>
<td>260</td>
<td>↑</td>
<td>Borderline significant result in advanced nodal stage, but still considered to have no benefit in 2 year follow up post treatment.</td>
<td></td>
</tr>
</tbody>
</table>

Results

• Total of 179 studies identified in the database CENTRAL and PubMed

• 21 studies are identified

• 9 studies were excluded

• 16 studies remain continue in full text reading

• Figure 1. Flowchart of article selection

Conclusion

• Most of the study conducted are located in China where NPC incidence remains high at 3/100.000 population (twice the world incidence) with patient never undergoing treatments except Yang et al whose subject are those with residual carcinoma. Chen L et al mentioned EBV DNA load post treatment as one of the factors to guide AC usage, with results from another study showing those with higher EBV DNA post-therapy are more likely to be resistant to platinum-based chemotherapy therefore giving adjuvant chemotherapy doing more harm than good.11,12 High risk patient mentioned in Liang ZG et al are those with age>45 years, T3-4, N2-3, and albumin ≤42 g/L.

• Although it has shown trend towards improvement in OS, but it is not statistically significant, especially considering the toxicity. Adjuvant chemotherapy may be used on patients with advanced stage NPC who have positive predictor to benefit from the extra dose of chemotherapeutic agent.

Reference