Table 2: Population treatment and study intervention class in 77 unique trials

<table>
<thead>
<tr>
<th>Treatment Setting</th>
<th>Chemotherapy alone (n=32)</th>
<th>Combination therapy with targeted therapy (n=39)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjuvant</td>
<td>14</td>
<td>25</td>
</tr>
<tr>
<td>Neoadjuvant</td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>Metastatic</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Early Stage</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Stage</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>


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Discussion and Conclusion

This SLR describes the efficacy and safety of treatment options for TNBC across the clinical trial landscape. The overall characteristics of the trials were similar within the same treatment settings, with moderate differences across studies in terms of study duration and treatment history. Treatments were mostly conducted in the metastatic or advanced setting, followed by neoadjuvant or adjuvant settings.

Most trials in TNBC targeted therapies, followed by chemotherapy in forms of combinations of 2 or more subclasses. While immunotherapy was only rarely used in comparative trials thus far.

Multiple interventions showed superior treatment effect across the different treatment settings. For TNBC, it is crucial to evaluate the type of drug and the methods used. Safety profiles were observed across the targeted therapy and chemotherapy treatment groups.

This SLR has some inherent limitations that should be acknowledged. For TNBC, there is a large number of ongoing trials. As the evidence base evolves, a quantitative approach would allow a more defined comparison of studies across each category of therapies, to support treatment development and optimization for TNBC patients.

Disclosures

This SLR was sponsored by Bristol-Myers Squibb.

Figure 1: PRISMA diagram

Search Results and Characteristics of Included Studies

Eighty-nine publications corresponding to 77 unique trials, predominantly open-label phase 2 or 3 studies (72 RCTs and 5 comparative non-RCTs), met eligibility criteria for our review after title/abstract and full-text screening (Figure 1).

The SLR included 17,194 patients with TNBC, predominantly middle-aged women (median age ranged from 40 to 69 years) with BC.

Immune checkpoint inhibitors were evaluated in 5 trials. Targeted therapies were evaluated in 49 trials. Thirty-two trials evaluated chemotherapy alone, with the majority (75%) assessing chemotherapy combinations of 2 or more subclasses. More information regarding the included trials are outlined in Table 1.

The most-studied treatments for metastatic or advanced TNBC (n = 35), including 18 studies reporting on first-line, one study on second line, and 16 in mixed lines of treatment. Thirty-one studies reported on neoadjuvant and 11 studies on adjuvant treatment for TNBC patients with stage I–I disease (Table 2).

Table 1: Study interventions

<table>
<thead>
<tr>
<th>Immune checkpoint inhibitor (n=8)</th>
<th>Targeted therapies (n=40)</th>
<th>Chemotherapy alone (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pembrolizumab</td>
<td>AXR05 (n=11)</td>
<td>Navelbine (n=6)</td>
</tr>
<tr>
<td>Nivolumab (n=11)</td>
<td>Tivantinib (n=10)</td>
<td>Docetaxel (n=7)</td>
</tr>
<tr>
<td>PAIF (n=7)</td>
<td>Pembrolizumab (n=4)</td>
<td>Gemcitabine (n=4)</td>
</tr>
<tr>
<td>Bevacizumab (n=3)</td>
<td>Navelbine (n=4)</td>
<td>Carboplatin (n=4)</td>
</tr>
<tr>
<td>Atezolizumab (n=3)</td>
<td>Rituximab (n=4)</td>
<td>Paclitaxel (n=4)</td>
</tr>
<tr>
<td>OPF (n=2)</td>
<td>Bevacizumab (n=2)</td>
<td>Carboplatin (n=2)</td>
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<tr>
<td>Nivolumab (n=2)</td>
<td>Atezolizumab (n=2)</td>
<td>Carboplatin (n=2)</td>
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<tr>
<td>Pembrolizumab (n=2)</td>
<td>Navelbine (n=2)</td>
<td>Carboplatin (n=2)</td>
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<tr>
<td>PD-1 inhibitor</td>
<td>Pembrolizumab (n=2)</td>
<td>Carboplatin (n=2)</td>
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<tr>
<td>PD-L1 inhibitor</td>
<td>Pembrolizumab (n=1)</td>
<td>Carboplatin (n=1)</td>
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<tr>
<td>OPF (n=1)</td>
<td>Pembrolizumab (n=1)</td>
<td>Carboplatin (n=1)</td>
</tr>
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</table>

Most trials involved a combination of chemotherapy from 2 or more different subclasses. Based on the main study interventions, the following subclasses were reported:

- Pembrolizumab (n=11)
- Nivolumab (n=11)
- Navelbine (n=10)
- Pembrolizumab (n=9)
- Pembrolizumab (n=8)
- Navelbine (n=8)
- Pembrolizumab (n=7)
- Navelbine (n=5)
- Pembrolizumab (n=4)
- Pembrolizumab (n=3)
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