Impact of HIV Infection on Mpxo-Related Hospitalizations in Brazil

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BACKGROUND

• By 9th February 2023, Brazil reported 10,756 mpxo cases and 15 related deaths, ranking second and third globally, respectively.
• HIV late presentation to care remains a major public health concern in Brazil and the COVID-19 pandemics negatively impact on the HIV care continuum.1 HIV-related immunosuppression may negatively impact mpxo outcomes.2
• We aimed to describe mpxo hospitalization rates and explore the impact of HIV infection on mpxo-related hospitalizations and clinical outcomes.

METHODS

• Prospective cohort that included all individuals with laboratory-confirmed mpxo (pPCR MPXV) followed at a major infectious diseases referral center in Rio de Janeiro, Brazil.2
• For statistical analysis, we used Chi-squared or Fisher’s exact test for qualitative variables and the Moods median test for quantitative variables.

RESULTS

416 participants had mpxo diagnosis between June 12th and December 31st 2022
• Median age = 34 years old (IQR 28.40);
• 91.3% were cisgender men (n=380/416), 6% were cisgender women (n=25/416) and 2.7% were travestis or transgender women (TGW) (n=11/416);
• 86.9% were men who have sex with men (MSM) (n=325/374);
• 62.3% self-reported black or pardo (n=205/329);
• 51.1% were people living with HIV (PLWH) (n=206/403).

Overall mpxo-related hospitalization rate was 9.6% (n=40/416)
• 52.5% were PLWH (n=21/40);
• Most common reason to hospitalization was pain control (92.5%, n=37/40), followed by secondary bacterial infection (52.5%, n=21/40), proctitis (42.5%, n=17/40) and urogenital complications (37.5%, n=15/40).

Table 1. Sociodemographic and clinical information of confirmed mpxo cases by HIV and hospitalization status

<table>
<thead>
<tr>
<th>All mpxo cases (n=416)</th>
<th>All PLWH (n=206)</th>
<th>PLWH not Hospitalized (n=185)</th>
<th>Hospitalized participants (n=40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Age (IQR, years)</td>
<td>34 (29.40)</td>
<td>36 (30.41)</td>
<td>35 (31.41)</td>
</tr>
<tr>
<td>Cisgender Men</td>
<td>380/416 (91.3%)</td>
<td>197/206 (96.6%)</td>
<td>176/185 (95.1%)</td>
</tr>
<tr>
<td>Cisgender Women</td>
<td>254/416 (6%)</td>
<td>2/206 (1%)</td>
<td>2/185 (1.1%)</td>
</tr>
<tr>
<td>Travesti or TGW</td>
<td>11/416 (2.7%)</td>
<td>7/206 (3.8%)</td>
<td>7/185 (3.9%)</td>
</tr>
<tr>
<td>Hospitalized for Pain Control</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hospitalized due to Severe Proctitis</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Required Intensive Care Support during Hospitalization</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Concomitant Opportunistic Infection</td>
<td>-</td>
<td>5/206 (2.4%)</td>
<td>1/177 (0.6%)</td>
</tr>
<tr>
<td>HIV RNA load &gt; 40 copies/mm³</td>
<td>-</td>
<td>51/205 (24.8%)</td>
<td>41/186 (22.1%)</td>
</tr>
<tr>
<td>CD4+ count &lt; 200 cells/mm³</td>
<td>-</td>
<td>9/183 (4.9%)</td>
<td>2/162 (1.2%)</td>
</tr>
<tr>
<td>No ART</td>
<td>-</td>
<td>15/201 (7.5%)</td>
<td>11/181 (6.1%)</td>
</tr>
</tbody>
</table>

What are the impacts of HIV on mpxo-related hospitalization?
• Compared to non-hospitalized PLWH, those who required hospitalization more frequently presented with CD4+ inferior to 200 cells/mm³ (33.3% [n=7/21] vs 1.2% [n=2/162], p<0.001), virologically unsuppressed (47.6% [n=10/21] vs 22.1% [n=41/186], p=0.02), were not on ART (19% [n=4/21] vs 6.1% [n=11/181], p=0.048) and were diagnosed with a concomitant opportunistic infection (19% [n=4/21] vs 0.6% [n=1/177], p<0.001).
• Among hospitalized participants, PLWH were more frequently admitted due to proctitis (57.1% [n=12/21] vs 26.3% [n=5/19], p=0.049) and showed anogenital lesions (85.7% [n=18/21] vs 47.4% [n=9/19], p=0.01).
• PLWH accounted for all cases of hospitalized individuals with confirmed mpxo who required intensive care support (n=5), had deep tissue involvement (n=3) and mpxo-related death (n=2).

CONCLUSIONS
• Our findings suggest an association between worse outcomes in the HIV care continuum and mpxo-related hospitalizations.
• Advanced immunosuppression contributed to severe clinical presentation and death.
• Public health strategies to mitigate HIV late presentation and the negative impact of COVID-19 pandemics on the HIV care continuum are urgently needed.

REFERENCES

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