**Supplementary Table 2. Clinical and genetic features of eighteen reported pediatric XMEN cases in the literature**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| patient ID | #1-1 | #1-2 | #2-1 | #3-1 | #4-1 | #5-1 | #6-1 | #7-1 | #8-1 | #9-1 | #10-1 | #11-1 | #12-1 | #13-1 | #14-1 | #14-2 | #15-1 | #16-1 |
| age at diagnosis | 7yrs | 3yrs | 4yrs | 16yrs | 16yrs | 13yrs | 15yrs | 16yrs | 2yrs | 17yrs | 15yrs | 13yrs | 11yrs | 17yrs | 32m | 18m | 10yrs | 6yrs |
| cDNA variant (NM\_032121.5) | c.859\_997del139 | c.859\_997del139 | c.236G>A | c.409C>T | c.598delC | c.712C>T | Partial gene deletion exons 3-10 | c.900\_901dupAA | c.223C>T | c.555dupA | c.737\_738insGA | c.1068A>C | c.991C>T | c.938T>G | c.472delG | c.472delG | c.771T>A | Partial gene deletion exons 2–10 |
| protein variant | p.(Asn287\*) | p.(Asn287\*) | p.(Trp79\*) | p.(Arg137\*) | p.(Arg200Glyfs\*13) | p.(Arg238\*) | / | p.(Thr301Lysfs\*14) | p.(Gln75\*) | p.(Tyr186Ilefs\*2) | p.(Phe246Leufs\*18) | p.(Lys356Asn) | p.(Arg331\*) | p.(Leu313\*) | p.(Asp158Metfs\*6) | p.(Asp158Metfs\*6) | p.(Cys257\*) | / |
| elevated liver enzymes | + | + | NA | + | + | + | + | + | + | + | NA | NA | NA | NA | - | NA | NA | NA |
| recurrent ear and sinopulmonary infections | + | + | NA | - | - | + | - | + | + | + | NA | NA | NA | NA | + | + | NA | + |
| EBV viremia | + | + | + | + | + | + | + | + | - | + | + | - | - | + | - | - | - | + |
| lymphoproliferation or neoplasia | - | - | - | B-cell LPD | Burkitt’s lymphoma | B-cell LPD | Hodgkin lymphoma | EBV-positive LPD | B-cell LPD | Hodgkin lymphoma | Hodgkin’s lymphoma | - | - | - | - | - | Castleman disease | Kaposis sarcoma |
| developmental disability | - | - | - | - | - | - | - | - | - | - | - | + | + | - | - | - | - | + |
| decreased NKG2D expression on NK and CD8 T cells | + | + | + | + | + | + | + | + | + | + | + | NA | NA | + | + | + | + | + |
| elevated B cells | + | + | NA | + | + | + | + | + | + | + | - | NA | NA | NA | + | + | + | + |
| inverted CD4:CD8 ratio | + | + | + | + | + | + | + | + | - | + | + | NA | NA | - | + | + | + | NA |
| CD4 lymphopenia | + | + | - | - | + | - | - | + | + | + | - | NA | NA | - | + | + | + | + |
| low IgA | + | + | - | + | + | + | + | + | + | - | NA | NA | NA | NA | + | NA | NA | + |
| low IgG | + | + | - | + | + | + | + | + | + | - | NA | NA | NA | NA | - | NA | NA | + |
| thrombocytopenia | + | + | NA | + | + | + | + | + | + | + | + | NA | NA | NA | - | - | - | NA |
| transient neutropenia | + | + | NA | + | + | + | + | + | + | - | NA | NA | NA | NA | - | - | - | NA |
| HSV infection | + | + | - | - | + | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CMV infection | - | - | - | - | - | - | - | - | + | + | + | - | - | - | - | - | - | - |
| outcome | alive | alive | NA | died (HSCT) | alive (mRNA) | alive (HSCT) | alive | alive (HSCT) | NA | died (HSCT) | alive | alive | alive | alive | alive | alive | alive (HSCT) | alive |
| reference | (Li et al., 2011; Chaigne-Delalande et al., 2013; Ravell et al., 2020) | (Li et al., 2011; Chaigne-Delalande et al., 2013; Ravell et al., 2020) | (Chaigne-Delalande et al., 2013; Li et al., 2014; Ravell et al., 2020) | (Chaigne-Delalande et al., 2013; Li et al., 2014; Ravell et al., 2020) | (Chaigne-Delalande et al., 2013; Li et al., 2014; Ravell et al., 2020; Brault et al., 2021) | (Dhalla et al., 2015; Ravell et al., 2020) | (Ravell et al., 2020) | (Dimitrova et al., 2019; Ravell et al., 2020) | (Hoyos-Bachiloglu et al., 2020; Ravell et al., 2020) | (Patiroglu et al., 2015; Ravell et al., 2020) | (Hoyos-Bachiloglu et al., 2020) | (Blommaert et al., 2019) | (Blommaert et al., 2019) | (Blommaert et al., 2019) | (He et al., 2018) | (He et al., 2018) | (Klinken et al., 2020) | (Brigida et al., 2017) |

*LPD*: lymphoproliferative disease; *HSCT*: hematopoietic stem cell transplant; *NA*: not available

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