**Appendix A: Supplementary data**

**Antifungal susceptibility of clinical mould isolates in New Zealand, 2001–2019**

**Supplementary Table 1** Amphotericin B MIC (mg/L) distributions for common mould isolates

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species/complex**  | **0.12** | **0.25** | **0.5** | **1** | **2** | **4** | **8** | **>8** | **Totals** |
| *Aspergillus flavus* |  |  | 3 | 6 | 9 | 4 |  |  | 22 |
| *Aspergillus fumigatus* | 3 | 17 | 83 | 73 | 53 | **11** | **22** |  | 232 |
| *Aspergillus nidulans*3 |  |  | 1 | 2 | 5 | 2 |  |  | 10 |
| *Aspergillus niger* |  |  | 6 | 10 | 4 |  |  |  | 20 |
| *Aspergillus terreus*  |  |  |  |  | 8 | 7 |  |  | 15 |
| **Totals** | **3** | **17** | **93** | **91** | **79** | **14** | **2** |  | **299** |
|  |  |  |  |  |  |  |  |  |  |
| *Fusarium oxysporum* |  |  | 1 |  | 4 | 4 | 1 |  | 10 |
| *Fusarium solani* |  |  | 2 | 24 | 16 | 3 |   |  | 45 |
| **Totals** |  |  | **3** | **24** | **20** | **7** | **1** |  | **55** |
|  |  |  |  |  |  |  |  |  |  |
| *Scedosporium apiospermum* |  |  | 1 |  | 10 | 14 | 7 | 84 | 40 |
|  |  |  |  |  |  |  |  |  |  |
| *Lichtheimia corymbifera* | 1 | 4 | 4 | 3 |   |  |  |  | 12 |
| *Rhizopus microsporus* |  |  | 3 | 8 |   |  |  |  | 11 |
| **Totals** | **1** | **4** | **7** | **11** |  |  |  |  | **23** |

|  |
| --- |
| Pale grey box = CLSI derived ECV.Black box = non-wild type.1 *A. fumigatus* isolate.2 Both *A. lentulus.* 3 No ECV for this species.4 Eight were >8 mg/L, unknown if 16 or higher, ECV =16 mg/L. |

 **Supplementary Table 2** Caspofungin MEC (mg/L) distributions for common mould isolates

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species/complex** | **<0.008** | **0.008** | **0.015** | **0.03** | **0.06** | **0.12** | **0.25** | **0.5** | **1** | **2** | **4** | **8** | **>8** | **Totals** |
| *Aspergillus flavus* | 3 |  | 4 | 3 | 4 |  |  |   |  |  |  |  |  | 14 |
| *Aspergillus fumigatus* | 12 | 1 | 52 | 76 | 37 | 9 |  |   |  |  |  |  |  | 187 |
| *Aspergillus nidulans*1 | 1 |  | 1 | 1 | 1 | 2 |  |  | 1 |  |  |  |  | 7 |
| *Aspergillus niger* | 1 |  | 8 | 1 | 3 | 2 | 2 |  |  |  |  |  |  | 17 |
| *Aspergillus terreus*  | 2 | 3 | 1 | 2 | 2 |   |  |  |  |  |  |  |  | 10 |
| **Totals** | **19** | **4** | **66** | **83** | **47** | **13** | **2** |  | **1** |  |  |  |  | **235** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Fusarium oxysporum*1 |  |  |  |  |  |  |  |  |  |  |  |  | 7 | 7 |
| *Fusarium solani*1 |  |  |  |  |  |  |  |  |  |  |  | 1 | 27 | 28 |
| **Totals** |  |  |  |  |  |  |  |  |  |  |  | **1** | **34** | **35** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Scedosporium apiospermum* |  |  |  |  |  |  |  | 2 | 5 | 7 | 6 | 5 | 2 | 27 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Lichtheimia corymbifera*1 |  |  |  |  |  |  |  |  |  |  |  |  | 9 | 9 |
| *Rhizopus microsporus*1 |  |  |  |  |  |  |  |  |  |  |  |  | 8 | 8 |
| **Totals** |  |  |  |  |  |  |  |  |  |  |  |  | **17** | **17** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pale grey box = CLSI derived ECV. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black box = non-wild type. |  |  |  |  |  |  |  |  |  |  |  |  |
| 1No ECVs for these species. |  |  |  |  |  |  |  |  |  |  |  |  |  |

 **Supplementary Table 3** ItraconazoleMIC (mg/L) distributions for common mould isolates

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species/complex** | **<0.015** | **0.015** | **0.03** | **0.06** | **0.12** | **0.25** | **0.5** | **1** | **2** | **4** | **8** | **16** | **>16** | **Total** |
| *Aspergillus flavus* |  |  |  | 1 | 3 | 12 | 5 |   |  |  |  |  |  | 21 |
| *Aspergillus fumigatus* | 1 | 5 | 3 | 13 | 65 | 98 | 40 | 5 | **11** |  |  |  | **12** | 232 |
| *Aspergillus nidulans* |  |  |  | 2 | 6 | 2 |  | 1 |  |  |  |  |  | 11 |
| *Aspergillus niger* | 1 |  |  |  | 3 | 4 | 8 | 4 |  |   |  |  |  | 20 |
| *Aspergillus terreus complex* |  |  |  |  | 5 | 10 |  |  |   |  |  |  |  | 15 |
| **Totals** | **2** | **5** | **3** | **16** | **82** | **126** | **53** | **10** | **1** |  |  |  | **1** | **299** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Fusarium oxysporum* |  |  |  |  |  |  |  |  |  |  |  |  | 453 | 45 |
| *Fusarium solani* |  |  |  |  |  |  |  |  |  |  |  |  | 103 | 10 |
| **Totals** |  |  |  |  |  |  |  |  |  |  |  |  | **55** | **55** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Scedosporium apiospermum* |  |  |  | 1 |  | 8 | 20 | 9 |  |  |  |   |  | 39 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Lichtheimia corymbifera*4 |  |  |  | 1 | 4 | 6 |  | 1 |  |  |  |  |  | 12 |
| *Rhizopus microsporus*4 |  |  |  |  |  |  | 1 | 4 | 3 |  |  |  |  | 11 |
| **Totals** |  |  |  | **1** | **4** | **6** | **1** | **5** | **3** |  |  |  |  | **23** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pale grey box = CLSI derived ECV. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Dark grey box = SYO derived ECV. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black box = non-wild type. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 *A. lentulus.* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 *A. fumigatus sensu stricto*. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 All >16, ECV = 32 mg/L both species. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 No ECVs for these species. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Supplementary Table 4** Posaconazole MIC (mg/L) distributions for common mould isolates

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species/complex** | **<0.008** | **0.008** | **0.016** | **0.03** | **0.06** | **0.12** | **0.25** | **0.5** | **1** | **2** | **4** | **8** | **>8** | **Total** |
| *Aspergillus flavus* |  |  |  |  | 1 | 4 | 8 | 6 |  |  |  |  |  | 19 |
| *Aspergillus fumigatus* | 2 |  | 4 | 15 | 65 | 57 | 37 | 5 | 11 | 12 |  |  |  | 187 |
| *Aspergillus nidulans* |  |  |  | 1 | 3 | 2 | 2 |  |   |  |  |   |  | 8 |
| *Aspergillus niger* |  |  |  |  | 1 | 3 | 6 | 6 |  |   |  |  |  | 16 |
| *Aspergillus terreus complex* |  |  |  |  |  | 9 | 6 |  |   |  |  |  |  | 15 |
| **Totals** | **2** |  | **4** | **16** | **70** | **75** | **59** | **17** | **1** | **1** |  |  |  | **245** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Fusarium oxysporum* |  |  |  |  |  |  |  |  | 2 | 5 |  | 1 | 23 | 7 |
| *Fusarium solani* |  |  |  |  |  |  |  |  | 2 | 1 |  | 1 | 274 | 31 |
| **Totals** |  |  |  |  |  |  |  |  | **2** | **6** |  | **1** | **29** | **38** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Scedosporium apiospermum* |  |  |  |  |  | 2 |  | 16 | 9 | 1 |  |  |  | 28 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Lichtheimia corymbifera* |  |  |  |  |  | 2 | 5 | 1 |  |   |  |  |  | 8 |
| *Rhizopus microsporus* |  |  |  |  |  |  |  | 4 | 4 | 1 | 1 |  |  | 10 |
| **Totals** |  |  |  |  |  | **2** | **5** | **5** | **4** | **1** | **1** |  |  | **18** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pale grey box = CLSI derived ECV. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black box = non-wild type. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 *A. lentulus.* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 *A. fumigatus sensu stricto.* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 MIC >8, ECV = 8 mg/L. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 MIC >8, ECV = 32 mg/L. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

 **Supplementary Table 5** Voriconazole MIC (mg/L) distributions for common mould isolates

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species/complex** | **0.03** | **0.06** | **0.12** | **0.25** | **0.5** | **1** | **2** | **4** | **8** | **>8** | **Totals** |
| *Aspergillus flavus* |  |  | 5 | 5 | 5 | 4 | 11 |  |  |  | 20 |
| *Aspergillus fumigatus* | 7 | 50 | 67 | 50 | 30 | 3 | 12 | 13 | 13 |  | 210 |
| *Aspergillus nidulans* | 4 | 3 | 2 | 1 |  |  |   |   |  |  | 10 |
| *Aspergillus niger* |  | 1 | 2 | 5 | 4 | 5 |   |  |  |  | 17 |
| *Aspergillus terreus complex* |  |  | 7 | 6 | 2 |   |   |  |  |  | 15 |
| **Totals** | **11** | **54** | **83** | **67** | **41** | **12** | **2** | **1** | **1** |  | **272** |
|  |  |  |  |  |  |  |  |  |  |  |  |
| *Fusarium oxysporum* |  |  |  |  |  | 1 | 7 | 2 |  |  | 10 |
| *Fusarium solani* |  |  |  |  |  | 4 | 8 | 18 | 4 | 64 | 40 |
| **Totals** |  |  |  |  |  | **5** | **15** | **20** | **4** | **6** | **50** |
|  |  |  |  |  |  |  |  |  |  |  |  |
| *Scedosporium apiospermum* |  | 3 | 12 | 11 | 8 | 1 |  |   |  |  | 35 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| *Lichtheimia corymbifera*5 |  |  |  |  |  |  | 1 | 2 | 6 | 3 | 12 |
| *Rhizopus microsporus*5 |  |  |  |  |  |  |  | 2 | 1 | 8 | 11 |
| **Totals** |  |  |  |  |  |  | **1** | **4** | **7** | **11** | **23** |
| Pale grey box = CLSI derived ECV. |  |  |  |  |  |  |  |  |  |  |  |
| Dark grey box = SYO derived ECV. |  |  |  |  |  |  |  |  |  |  |  |
| Green box, CLSI and SYO ECVs the same. |  |  |  |  |  |  |  |  |  |  |
| Black box = non-wild type. |  |  |  |  |  |  |  |  |  |  |  |
| 1 Non-WT by SYO ECV, CLSI ECV 2 mg/L. |  |  |  |  |  |  |  |  |  |  |
| 2 *Neosartorya pseudofischeri.* |  |  |  |  |  |  |  |  |  |  |  |
| 3 *A. lentulus.*  |  |  |  |  |  |  |  |  |  |  |  |
| 4 MIC >8, ECV = 32 mg/L both species. |  |  |  |  |  |  |  |  |  |  |
| 5 No ECVS for these species |  |  |  |  |  |  |  |  |  |  |  |
| Recent interpretive criteria for *A. fumigatus sensu stricto* are S≤0.5, I=1, R≥2 (CLSI M61 2nd Edition 2020). These criteria do not apply to the three non-WT isolates. |