Amanitin intoxication: effects of therapies on clinical outcomes – A review of 40 years of reported cases

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Supplementary materials

**Supplementary Table 1**: Normal ranges and unit conversions of clinical laboratory values [18-21].

|  |  |  |
| --- | --- | --- |
| Clinical laboratory values | Normal range | Unit conversion / Calculation |
| Aspartate aminotransferase (AST) | >14 years: 8-48 U/L (male), 8-43 U/L (female); 1-13 years: 8-60 U/L (male), 8-50 U/L (female) | 1 U/L = 0.0167 µkat/L = 1 IU/L = 0.01 IU/mL = 0.001mU/L = 0.0167 µmol.L−1.s−1 = 0.48 Karmen U/mL |
| Alanine aminotransferase (ALT) | 7-55 U/L (male); 7-45 U/L (female) |
| International Normalized Ratio (INR) | 0.8-1.0 | INR = PT (patient)/PT normal (13s), assuming \*ISI = 1  INR = (1/PT% + 0.018)/0.028 |
| Prothrombin Time (PT) | 12-13 seconds | NA |
| Prothrombin activity (PT%) | 70-100 % | NA |
| Total serum bilirubin (TSB) | 1.2 mg/dL (20,5 µmol/l); <1mg/dL for children | 1 mg/dL = 17. µmol/L |
| Serum creatinine (Cr) | Adult: 0.7 -1.3 mg/dL / 61.9 -115 µmol/L;  Children: 0.3-0.7 mg/dL or 27-62 µmol/L | 1 mg/dL = 88.42 µmol/L |
| Blood urea nitrogen (BUN) | 8-24 mg/dL (male), 6-21 mg/dL (female);  1-17 years: 7-20 mg/dL | 1 mg/dL = 0.3571 mmol/L |

**Supplementary Table 2:** Liver Poisoning Severity Score (adapted from Persson et al.) [22].

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ORGAN | NONE | MINOR | MODERATE | SEVERE |
|  | 0 | 1 | 2 | 3 |
|  | No symptoms or signs | Mild, transient, and spontaneously resolving symptoms or signs | Pronounced or prolonged symptoms or signs | Severe or life-threatening symptoms or signs |
| Liver |  | - Minimal rise in aminotransferase enzymes (AST, ALT ~2-5 × normal) | - Rise in aminotransferase enzymes (AST, ALT ~5-50 × normal) but no diagnostic biochemical (e.g., ammonia, clotting factors) or clinical evidence of liver dysfunction | - Rise in aminotransferase enzymes (~>50 × normal) or biochemical (e.g., ammonia, clotting factors) or clinical evidence of liver failure |

**Supplementary Table 3:** Overview of amanitin intoxication case reports (n=370) out of 877 cases included in this study. The cases were included if one of the three criteria were achieved: amatoxin determination (proven) / mycologist identification (probable) / clinical diagnosis (possible).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Age** | **Gender** | **Mushroom** | **Treatment overview** | **PSS** | **Outcome** | **Possible/Probable/Proven** | **Reference** | **Reference Number** |
| 1 | 57 | F | A. Spec | TA | 3 | Survived w/o LTx | Possible | Teutsch et al. 1978 | 31 |
| 2 | 50 | F | A. Phal | Nif, Dhsm, VitC |  | Survived w/o LTx | Probable | Dumont et al. 1981 | 32 |
| 3 | 18 | F | A. Phal | Nif, Dhsm, VitC | 1 | Survived w/o LTx | Probable | Dumont et al. 1981 | 32 |
| 4 | 13 | F | A. Phal | Nif, Dhsm, VitC |  | Survived w/o LTx | Probable | Dumont et al. 1981 | 32 |
| 5 | 45 | M | A. Spec | TA | 3 | Death w/o LTx | Possible | Olson et al. 1982 | 30 |
| 6 | 39 | M | A. Phal | NM | 3 | Death w/o LTx | Probable | Olson et al. 1982 | 30 |
| 7 | 80 | M | A. Phal | NM | 3 | Death w/o LTx | Proven | Olson et al. 1982 | 30 |
| 8 | 18 | M | A. Phal | NM | 3 | Survived w/o LTx | Probable | Olson et al. 1982 | 30 |
| 9 | 55 | F | A. Vir | TA | 3 | Survived w/o LTx | Possible | Plotzker et al. 1982 | 33 |
| 10 | 24 | M | A. Ver | PEN |  | Survived w/o LTx | Probable | Hazani et al. 1983 | 34 |
| 11 | 34 | M | A. Phal | SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 12 | 40 | M | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 13 | 50 | M | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 14 | 50 | F | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 15 | 57 | M | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 16 | 9 | F | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 17 | 19 | F | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 18 | 21 | F | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 19 | 48 | F | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 20 | 60 | F | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 21 | 2 | M | A. Phal | SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 22 | 8 | M | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 23 | 8 | M | A. Phal | PEN, SIL, TA |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 24 | 26 | M | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 25 | 31 | F | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 26 | 38 | M | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 27 | 48 | M | A. Phal | PEN, SIL |  | Survived w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 28 | 20 | F | A. Phal | PEN, SIL |  | Death w/o LTx | Possible | Hruby et al. 1983 | 35 |
| 29 | 21 | F | A. Phal | NM |  | Survived w/o LTx | Proven | Belliardo et al. 1983 | 36 |
| 30 | 45 | F | A. Vir & A. Pan | NM | 1 | Survived w/o LTx | Probable | Kendrick et al. 1984 | 37 |
| 31 | 3 | F | A. Ocr | NM | 3 | Survived with LTx | Proven | Woodle et al. 1985 | 38 |
| 32 | 53 | F | A. Spec | PEN, TA |  | Death w/o LTx | Possible | Vesconi et al. 1985 | 16 |
| 33 | 11 | M | A. Spec | PEN, TA |  | Death w/o LTx | Possible | Vesconi et al. 1985 | 16 |
| 34 | 33 | M | A. Spec | PEN, TA |  | Death w/o LTx | Possible | Vesconi et al. 1985 | 16 |
| 35 | 53 | F | A. Spec | PEN, TA |  | Death w/o LTx | Possible | Vesconi et al. 1985 | 16 |
| 36 | 72 | M | A. Spec | PEN, TA |  | Death w/o LTx | Possible | Vesconi et al. 1985 | 16 |
| 37 | 57 | F | A. Spec | PEN, TA |  | Death w/o LTx | Possible | Vesconi et al. 1985 | 16 |
| 38 | 23 | M | A. Phal | NM | 3 | Death w/o LTx | Proven | Pond et al. 1986 | 39 |
| 39 | 35 | M | A. Phal | NM | 3 | Death w/o LTx | Proven | Pond et al. 1986 | 39 |
| 40 | 22 | F | A. Ocr | NM | 3 | Survived w/o LTx | Proven | Pond et al. 1986 | 39 |
| 41 | 5 | M | A. Ocr | NM | 3 | Survived w/o LTx | Proven | Pond et al. 1986 | 39 |
| 42 | 82 | F | A. Ocr | NM | 3 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 43 | 54 | F | A. Ocr | NM | 0 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 44 | 30 | F | A. Phal | NM | 0 | Survived w/o LTx | Proven | Pond et al. 1986 | 39 |
| 45 | 21 | F | A. Phal | NM | 3 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 46 | 23 | M | A. Phal | NM | 3 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 47 | 30 | F | A. Phal | NM | 2 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 48 | 49 | M | A. Phal | NM | 0 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 49 | 35 | M | A. Phal | NM | 3 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 50 | 66 | M | A. Phal | NM | 3 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 51 | 30 | F | A. Phal | NM | 2 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 52 | 36 | M | A. Phal | NM | 2 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 53 | 14 | F | A. Phal | NM | 0 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 54 | 28 | F | A. Phal | NM | 0 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 55 | 31 | F | A. Phal | NM | 0 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 56 | 8 | M | A. Phal | NM | 2 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 57 | 9 | F | A. Phal | NM | 2 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 58 | 7 | M | A. Phal | NM | 0 | Survived w/o LTx | Possible | Pond et al. 1986 | 39 |
| 59 | 19 | F | A. Phal | NM | 3 | Survived with LTx | Probable | Klein et al. 1989 | 15 |
| 60 | 45 | M | A. Phal | NM | 3 | Survived with LTx | Possible | Klein et al. 1989 | 15 |
| 61 | 14 | M | A. Phal | PEN, TA | 2 | Death w/o LTx | Proven | Sanz et al. 1989 | 40 |
| 62 | 65 | M | A. Phal | PEN, TA |  | Death w/o LTx | Proven | Sanz et al. 1989 | 40 |
| 63 | 36 | M | A. Phal | PEN, TA |  | Death w/o LTx | Proven | Sanz et al. 1989 | 40 |
| 64 | 46 | F | A. Vir | PEN, TA | 2 | Survived w/o LTx | Probable | Piering et al. 1990 | 41 |
| 65 | 39 | M | A. Vir | PEN, TA | 0 | Survived w/o LTx | Probable | Piering et al. 1990 | 41 |
| 66 | 20 | M | A. Phal | Cimet, PEN, SIL | 3 | Death w/o LTx | Possible | Olesen et al. 1990 | 29 |
| 67 | 53 | F | A. Vir | Cimet, PEN, SIL | 3 | Survived w/o LTx | Possible | Olesen et al. 1990 | 29 |
| 68 | 6 | M | A. Spec | PEN | 3 | Survived w/o LTx | Possible | Lawrence et al. 1990 | 43 |
| 69 | 4 | M | A. Spec | PEN | 3 | Survived w/o LTx | Possible | Lawrence et al. 1990 | 43 |
| 70 | 4 | F | A. Spec | PEN |  | Survived w/o LTx | Possible | Lawrence et al. 1990 | 43 |
| 71 | 47 | M | A. Phal | Cimet, PEN | 2 | Survived w/o LTx | Proven | Cappell et al. 1992 | 44 |
| 72 | 19 | F | A. Phal | Cimet, PEN | 1 | Survived w/o LTx | Proven | Cappell et al. 1992 | 44 |
| 73 | 21 | M | A. Phal | Cimet, PEN | 0 | Survived w/o LTx | Proven | Cappell et al. 1992 | 44 |
| 74 | 55 | F | A. Spec | PEN | 3 | Survived with LTx | Possible | Galler et al. 1992 | 45 |
| 75 | 51 | F | A. Spec | PEN, SIL | 3 | Survived w/o LTx | Proven | Christen et al. 1993 | 46 |
| 76 | 53 | M | A. Spec | PEN, SIL | 3 | Survived w/o LTx | Proven | Christen et al. 1993 | 46 |
| 77 | 37 | M | A. Spec | PEN, SIL | 3 | Survived w/o LTx | Proven | Christen et al. 1993 | 46 |
| 78 | 14 | F | A. Spec | PEN, SIL | 2 | Survived w/o LTx | Proven | Christen et al. 1993 | 46 |
| 79 | 12 | F | A. Spec | PEN, SIL | 3 | Survived w/o LTx | Proven | Christen et al. 1993 | 46 |
| 80 | 35 | F | A. Vir | NM |  | Death w/o LTx | Possible | Pérez-Moreno et al. 1994 | 47 |
| 81 | 29 | M | A. Vir | NM |  | Survived w/o LTx | Possible | Pérez-Moreno et al. 1994 | 47 |
| 82 | 65 | M | A. Vir | NM |  | Death w/o LTx | Possible | Pérez-Moreno et al. 1994 | 47 |
| 83 | 24 | M | A. Vir | NM |  | Death w/o LTx | Possible | Pérez-Moreno et al. 1994 | 47 |
| 84 | 19 | F | A. Vir | NM |  | Survived w/o LTx | Possible | Pérez-Moreno et al. 1994 | 47 |
| 85 | 17 | M | A. Vir | NM |  | Death w/o LTx | Possible | Pérez-Moreno et al. 1994 | 47 |
| 86 | 13 | M | A. Vir | NM |  | Death w/o LTx | Possible | Pérez-Moreno et al. 1994 | 47 |
| 87 | 26 | F | A. Phal & A. Ver | PEN, SIL, TA | 2 | Survived w/o LTx | Probable | Nagy et al. 1994 | 48 |
| 88 | 42 | F | A. Vir | NM | 3 | Survived w/o LTx | Probable | Yacyshyn et al. 1994 | 49 |
| 89 | 14 | M | A. Phal | PEN | 3 | Survived w/o LTx | Proven | Aji et al. 1995 | 50 |
| 90 | 11 | M | A. Phal | PEN | 3 | Survived w/o LTx | Proven | Aji et al. 1995 | 50 |
| 91 | 9 | M | A. Phal | PEN | 2 | Survived w/o LTx | Proven | Aji et al. 1995 | 50 |
| 92 | 71 | F | A. Spec | NAC | 3 | Death w/o LTx | Possible | Gonzalez et al. 1996 | 51 |
| 93 | 37 | M | A. Phal | PEN, SIL | 3 | Survived w/o LTx | Possible | Serné et al. 1996 | 52 |
| 94 | 26 | F | A. Phal | PEN, SIL | 2 | Survived w/o LTx | Possible | Serné et al. 1996 | 52 |
| 95 | 13 | F | A. Phal | PEN | 3 | Survived with LTx | Possible | Rosenthal et al. 1997 | 53 |
| 96 | 64 | F | A. Spec | NAC, PEN | 2 | Survived w/o LTx | Proven | Korman et al. 1997 | 54 |
| 97 | 68 | M | A. Spec | NAC, PEN | 3 | Death w/o LTx | Proven | Korman et al. 1997 | 54 |
| 98 | 9 | M | A. Phal | NM |  | Death w/o LTx | Possible | Langer et al. 1997 | 25 |
| 99 | 32 | M | A. Phal | NAC, PEN | 3 | Death w/o LTx | Probable | Zevin et al. 1997 | 55 |
| 100 | 42 | M | A. Phal | NAC | 3 | Survived w/o LTx | Possible | Zevin et al. 1997 | 55 |
| 101 | 30 | M | A. Phal | NM | 3 | Survived w/o LTx | Possible | Zevin et al. 1997 | 55 |
| 102 | 68 | M | A. Phal | NM | 3 | Death w/o LTx | Possible | Zevin et al. 1997 | 55 |
| 103 | 21 | F | A. Phal | NM |  | Survived with LTx | Possible | Scocco et al. 1998 | 56 |
| 104 | 36 | F | A. Vir | NM | 3 | Death w/o LTx | Probable | Chaiear et al. 1999 | 57 |
| 105 | 8 | M | A. Vir | NM | 2 | Death w/o LTx | Probable | Chaiear et al. 1999 | 57 |
| 106 | 44 | M | A. Spec | Cimet, PEN |  | Survived w/o LTx | Possible | Horn et al. 1999 | 58 |
| 107 | 66 | M | A. Phal | Cimet | 3 | Survived w/o LTx | Possible | Horn et al. 1999 | 58 |
| 108 | 32 | M | A. Phal | Cimet, PEN | 3 | Survived w/o LTx | Possible | Horn et al. 1999 | 58 |
| 109 | 41 | F | A. Phal | Cimet, PEN |  | Survived w/o LTx | Possible | Horn et al. 1999 | 58 |
| 110 | 20 | F | A. Phal | Cimet, PEN |  | Survived w/o LTx | Possible | Horn et al. 1999 | 58 |
| 111 | 21 | F | A. Phal | Cimet, PEN |  | Survived w/o LTx | Possible | Horn et al. 1999 | 58 |
| 112 | 20 | F | A. Phal | NM |  | Survived w/o LTx | Probable | Trim et al. 1999 | 59 |
| 113 | 45 | M | A. Phal | NM | 3 | Survived w/o LTx | Possible | Trim et al. 1999 | 59 |
| 114 | 7 | F | A. Phal | PEN |  | Survived w/o LTx | Probable | Trim et al. 1999 | 59 |
| 115 | 39 | M | A. Phal | NAC, PEN | 3 | Survived w/o LTx | Probable | Trim et al. 1999 | 59 |
| 116 | 46 | M | A. Phal | NAC, PEN | 3 | Death w/o LTx | Probable | Trim et al. 1999 | 59 |
| 117 | 63 | M | A. Phal | NM | 3 | Survived w/o LTx | Possible | Splendiani et al. 2000 | 60 |
| 118 | 75 | F | A. Phal | NM | 3 | Survived w/o LTx | Probable | Splendiani et al. 2000 | 60 |
| 119 | 28 | F | A. Vir | NM | 3 | Death w/o LTx | Probable | Lim et al. 2000 | 61 |
| 120 | 58 | M | A. Vir | NM | 3 | Survived w/o LTx | Probable | Lim et al. 2000 | 61 |
| 121 | 52 | F | A. Vir | NM | 3 | Survived w/o LTx | Probable | Lim et al. 2000 | 61 |
| 122 | 53 | F | A. Vir | PEN, TA | 2 | Survived with LTx | Possible | Broussard et al. 2001 | 62 |
| 123 | 25 | M | A. Vir | Cimet, PEN | 0 | Survived w/o LTx | Possible | Broussard et al. 2001 | 62 |
| 124 | 35 | M | A. Vir | PEN | 2 | Survived w/o LTx | Possible | Broussard et al. 2001 | 62 |
| 125 | 47 | M | A. Vir | PEN, TM | 1 | Survived w/o LTx | Possible | Broussard et al. 2001 | 62 |
| 126 | 30 | F | A. Phal | PEN, SIL | 3 | Survived w/o LTx | Possible | Alves et al. 2001 | 10 |
| 127 | 25 | M | A. Phal | PEN, SIL | 3 | Survived with LTx | Possible | Alves et al. 2001 | 10 |
| 128 | 12 | M | A. Phal | PEN, SIL | 2 | Survived w/o LTx | Possible | Alves et al. 2001 | 10 |
| 129 | 2 | F | A. Phal | PEN, SIL | 2 | Survived with LTx | Possible | Alves et al. 2001 | 10 |
| 130 | 22 | F | A. Phal | NAC, SIL | 3 | Survived with LTx | Probable | Boyer et al. 2001 | 63 |
| 131 | 61 | F | A. Phal | NAC, PEN, SIL | 3 | Death w/o LTx | Proven | Himmelmann et al. 2001 | 64 |
| 132 | 52 | F | A. Spec | NM | 3 | Survived with LTx | Possible | Hallik et al. 2011 | 66 |
| 133 | 15 | F | A. Phal | NM | 2 | Survived w/o LTx | Probable | Shi et al. 2002 | 27 |
| 134 | 58 | F | A. Phal | SIL | 3 | Death w/o LTx | Possible | Faybik et al. 2003 | 9 |
| 135 | 62 | M | A. Phal | SIL | 2 | Death with LTx | Possible | Faybik et al. 2003 | 9 |
| 136 | 9 | M | A. Phal | SIL | 3 | Survived with LTx | Possible | Faybik et al. 2003 | 9 |
| 137 | 56 | M | A. Phal | SIL | 3 | Survived w/o LTx | Possible | Faybik et al. 2003 | 9 |
| 138 | 70 | F | A. Phal | SIL | 2 | Survived w/o LTx | Possible | Faybik et al. 2003 | 9 |
| 139 | 21 | F | A. Phal | SIL | 3 | Survived with LTx | Possible | Faybik et al. 2003 | 9 |
| 140 | 12 | M | A. Spec | NM | 3 | Survived w/o LTx | Possible | Covic et al. 2003 | 67 |
| 141 | 10 | F | A. Spec | NM | 3 | Death w/o LTx | Possible | Covic et al. 2003 | 67 |
| 142 | 27 | F | A. Phal | NM | 3 | Survived w/o LTx | Possible | Wu et al. 2004 | 68 |
| 143 | 20 | F | A. Phal | NM | 3 | Survived with LTx | Possible | Kucuk et al. 2005 | 69 |
| 144 | 44 | M | A. Phal | NM | 3 | Death with LTx | Possible | Kucuk et al. 2005 | 69 |
| 145 | 39 | F | A. Phal | NM | 3 | Survived w/o LTx | Proven | Lionte et al. 2005 | 26 |
| 146 |  | F | A. Phal | NM |  | Survived w/o LTx | Proven | Hydzik et al. 2005 | 70 |
| 147 |  | M | A. Phal | NM |  | Death w/o LTx | Proven | Hydzik et al. 2005 | 70 |
| 148 |  | M | A. Phal | NM |  | Survived with LTx | Proven | Hydzik et al. 2005 | 70 |
| 149 | 18 | M | A. Bis | Cimet, NAC, PEN, SIL, TA | 3 | Survived w/o LTx | Proven | Madhok et al. 2006 | 71 |
| 150 | 18 | M | A. Bis | Cimet, NAC, PEN, SIL, TA |  | Survived w/o LTx | Possible | Madhok et al. 2006 | 71 |
| 151 | 11 | M | A. Phal | PEN | 2 | Survived with LTx | Possible | Araz et al. 2006 | 72 |
| 152 | 36 | M | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Soysal et al. 2006 | 73 |
| 153 | 28 | F | A. Phal & boletus | PEN, TA |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 154 | 31 | F | A. Phal & boletus | PEN, TA |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 155 | 45 | M | A. Phal | PEN |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 156 | 36 | M | A. Phal & Agarics | NM | 0 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 157 | 28 | F | A. Phal & boletus | Cef, TA |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 158 | 40 | F | A. Phal & boletus | Cef, TA |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 159 | 24 | F | A. Phal & boletus | Cef, TA |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 160 | 34 | M | A. Phal | NAC | 0 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 161 | 69 | M | A. Phal & Puff-ball | NM |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 162 | 24 | F | A. Phal & boletus | PEN, TA |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 163 | 26 | F | A. Phal & boletus | PEN, TA |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 164 | 22 | M | A. Phal | PEN, TA |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 165 | 57 | F | A. Phal & Lactarius | PEN, TA |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 166 | 49 | F | A. Phal | PEN |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 167 | 52 | M | A. Phal | PEN, TA | 2 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 168 | 55 | M | A. Phal | PEN, SIL | 3 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 169 | 33 | M | A. Phal & Phallus impudicus | PEN, SIL | 1 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 170 | 30 | M | A. Phal | PEN | 2 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 171 | 46 | F | A. Phal | PEN | 2 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 172 | 47 | M | A. Phal | PEN, TA | 2 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 173 | 34 | F | A. Phal | PEN, TA | 3 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 174 | 69 | F | A. Phal | PEN | 3 | Death w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 175 | 32 | M | A. Phal | PEN, SIL, TA | 3 | Death w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 176 | 40 | M | A. Phal | PEN, TA | 3 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 177 | 23 | M | A. Phal & D. stramonium | PEN, TA | 3 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 178 | 8 | F | A. Phal | NM |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 179 | 9 | F | A. Phal | NM |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 180 | 1 | M | A. Phal | NM |  | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 181 | 9 | M | A. Phal | NM | 0 | Survived w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 182 | 3 | F | A. Phal | PEN, SIL | 3 | Death w/o LTx | Proven | Křenová et al. 2007 | 75 |
| 183 | 56 | M | A. Phal | NAC, PEN, SIL | 2 | Survived w/o LTx | Probable | Unverir et al. 2007 | 76 |
| 184 | 54 | M | A. Phal | NAC, PEN, SIL | 2 | Survived w/o LTx | Proven | Ennecker-Jans et al. 2007 | 77 |
| 185 | 51 | F | A. Phal | NAC, PEN, SIL | 0 | Survived w/o LTx | Proven | Ennecker-Jans et al. 2007 | 77 |
| 186 | 55 | F | A. Phal | NAC, PEN, SIL | 1 | Survived w/o LTx | Proven | Ennecker-Jans et al. 2007 | 77 |
| 187 | 72 | M | A. Phal | NAC, SIL |  | Survived w/o LTx | Proven | Thaler et al. 2008 | 78 |
| 188 | 16 | F | A. Phal | SIL | 3 | Survived with LTx | Possible | Yildiz et al. 2008 | 79 |
| 189 | 26 | F | A. Phal | SIL | 2 | Survived w/o LTx | Possible | Wacker et al. 2009 | 80 |
| 190 | 65 | F | A. Phal | NM | 3 | Survived w/o LTx | Proven | Garrouste et al. 2009 | 81 |
| 191 |  | M | A. Phal | Cimet, NAC, PEN SIL | 2 | Survived w/o LTx | Probable | Jiranantakan et al. 2009 | 82 |
| 192 |  | M | A. Phal | Cimet, NAC, PEN SIL | 2 | Survived w/o LTx | Probable | Jiranantakan et al. 2009 | 82 |
| 193 | 72 | F | A. Phal | NAC, PEN, SIL | 3 | Survived w/o LTx | Probable | Jiranantakan et al. 2009 | 82 |
| 194 | 1 | M | A. Vir | Cimet, NAC, PEN | 3 | Survived w/o LTx | Proven | Matthews et al. 2009 | 83 |
| 195 | 24 | F | A. Phal | NM | 3 | Survived w/o LTx | Probable | Aygul et al. 2010 | 84 |
| 196 | 89 | F | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 197 | 33 | F | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 198 | 13 | M | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 199 | 14 | M | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 200 | 14 | M | A. Phal | PEN | 2 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 201 | 52 | F | A. Phal | PEN | 3 | Survived with LTx | Possible | Mrzljak et al. 2010 | 86 |
| 202 | 38 | F | A. Phal | NAC, SIL | 2 | Survived w/o LTx | Possible | Evrenoglou et al. 2010 | 87 |
| 203 | 15 | M | A. Phal | NAC, SIL | 2 | Survived w/o LTx | Possible | Evrenoglou et al. 2010 | 87 |
| 204 | 49 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 205 | 16 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 206 | 46 |  | A. Phal | NM | 3 | Survived w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 207 | 30 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 208 | 61 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 209 | 25 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 194 | 1 | M | A. Vir | Cimet, NAC, PEN | 3 | Survived w/o LTx | Proven | Matthews et al. 2009 | 83 |
| 195 | 24 | F | A. Phal | NM | 3 | Survived w/o LTx | Probable | Aygul et al. 2010 | 83 |
| 196 | 89 | F | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 197 | 33 | F | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 198 | 13 | M | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 199 | 14 | M | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 200 | 14 | M | A. Phal | PEN | 2 | Survived w/o LTx | Possible | Põld et al. 2010 | 85 |
| 201 | 52 | F | A. Phal | PEN | 3 | Survived with LTx | Possible | Mrzljak et al. 2010 | 86 |
| 202 | 38 | F | A. Phal | NAC, SIL | 2 | Survived w/o LTx | Possible | Evrenoglou et al. 2010 | 87 |
| 203 | 15 | M | A. Phal | NAC, SIL | 2 | Survived w/o LTx | Possible | Evrenoglou et al. 2010 | 87 |
| 204 | 49 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 205 | 16 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 206 | 46 |  | A. Phal | NM | 3 | Survived w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 207 | 30 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 208 | 61 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 209 | 25 |  | A. Phal | NM | 3 | Death w/o LTx | Proven | Sorodoc et al. 2010 | 88 |
| 210 | 14 | M | A. Spec | NM | 3 | Survived w/o LTx | Probable | Lu et al. 2010 | 89 |
| 211 | 4 | M | A. Spec | NM | 2 | Survived w/o LTx | Probable | Lu et al. 2010 | 89 |
| 212 | 37 | F | A. Spec | NM | 3 | Survived w/o LTx | Probable | Lu et al. 2010 | 89 |
| 213 | 65 | M | A. Phal & A. Vir | SIL | 2 | Survived w/o LTx | Probable | Cassidy et al. 2011 | 90 |
| 214 | 45 | F | A. Phal | NAC, PEN, SIL | 3 | Survived w/o LTx | Probable | Freeman et al. 2011 | 91 |
| 215 | 1,4 | M | A. Phal | SIL | 3 | Survived w/o LTx | Proven | De la Fuente et al. 2011 | 92 |
| 216 | 62 | M | A. Flav, A. Bis, A. cf. ver & Russola | Cef, UDCA | 3 | Survived w/o LTx | Probable | Méndez-Navarro et al. 2011 | 93 |
| 217 | 47 | M | A. Bis | SIL, Sfm, TMP | 3 | Death w/o LTx | Probable | Méndez-Navarro et al. 2011 | 93 |
| 218 | 64 | F | A. Phal | NAC | 3 | Survived with LTx | Probable | Cress et al. 2011 | 94 |
| 219 |  | F | A. Phal | NAC, SIL | 3 | Survived w/o LTx | Possible | French et al. 2011 | 95 |
| 220 |  | F | A. Phal | NAC, SIL | 3 | Survived w/o LTx | Possible | French et al. 2011 | 95 |
| 221 | 62 | F | A. Phal | NAC, SIL |  | Survived w/o LTx | Proven | Bergis et al. 2012 | 96 |
| 222 | 78 | F | A. Phal | NAC, SIL |  | Survived w/o LTx | Proven | Bergis et al. 2012 | 96 |
| 223 | 66 | F | A. Spec | NAC, PEN, SIL | 2 | Survived w/o LTx | Possible | Oghabian et al. 2012 | 97 |
| 224 | 74 | F | A. Vir | SIL | 3 | Survived w/o LTx | Probable | Hays et al. 2012 | 98 |
| 225 | 64 | F | A. Spec | NAC, PEN | 2 | Survived w/o LTx | Probable | Chen et al. 2012 | 199 |
| 226 | 58 | F | A. Phal | NAC, PEN, SIL | 2 | Death w/o LTx | Probable | Lawton et al. 2013 | 100 |
| 227 |  |  | A. Phal | NAC, PEN, SIL | 3 | Survived with LTx | Possible | Roberts et al. 2013 | 101 |
| 228 |  |  | A. Phal | PEN, SIL | 3 | Death with LTx | Possible | Roberts et al. 2013 | 101 |
| 229 |  |  | A. Phal | NAC, PEN, SIL | 3 | Survived w/o LTx | Possible | Roberts et al. 2013 | 101 |
| 230 |  |  | A. Phal | Cimet, PEN, SIL | 3 | Survived with LTx | Possible | Roberts et al. 2013 | 101 |
| 231 |  |  | A. Phal & others | NAC, SIL | 3 | Survived with LTx | Possible | Roberts et al. 2013 | 101 |
| 232 |  |  | A. Phal | NAC, SIL | 3 | Death with LTx | Possible | Roberts et al. 2013 | 101 |
| 233 |  |  | A. Phal | NM | 3 | Death w/o LTx | Possible | Roberts et al. 2013 | 101 |
| 234 |  |  | A. Phal | NAC, SIL | 3 | Death with LTx | Possible | Roberts et al. 2013 | 101 |
| 235 |  |  | A. Phal | NAC, SIL | 0 | Survived w/o LTx | Possible | Roberts et al. 2013 | 101 |
| 236 |  |  | A. Phal | NAC, SIL | 0 | Survived w/o LTx | Possible | Roberts et al. 2013 | 101 |
| 237 | 72 | F | A. Ocr | Cimet, NAC, PEN, SIL | 3 | Survived w/o LTx | Probable | Ward et al. 2013 | 102 |
| 238 | 45 | M | A. Ocr | Cimet, NAC, PEN, SIL | 3 | Survived w/o LTx | Probable | Ward et al. 2013 | 102 |
| 239 | 63 | M | A. Phal | NAC, PEN, SIL | 3 | Death w/o LTx | Possible | Erden et al. 2013 | 103 |
| 240 | 5 | F | A. Phal | NAC, PEN, SIL | 3 | Survived with LTx | Possible | Grabhorn et al. 2013 | 104 |
| 241 | 9 | F | A. Phal | NAC, SIL | 3 | Survived w/o LTx | Possible | Grabhorn et al. 2013 | 104 |
| 242 | 10 | F | A. Phal | NAC, SIL | 3 | Survived w/o LTx | Possible | Grabhorn et al. 2013 | 104 |
| 243 | 4 | M | A. Phal | NAC, SIL | 3 | Survived w/o LTx | Possible | Grabhorn et al. 2013 | 104 |
| 244 | 1 | F | A. Phal | NM | 3 | Survived with LTx | Possible | Grabhorn et al. 2013 | 104 |
| 245 |  | F | A. Phal | NAC, SIL |  | Survived w/o LTx | Possible | Vanooteghem et al. 2013 | 105 |
| 246 |  | F | A. Phal | NAC, SIL |  | Survived w/o LTx | Possible | Vanooteghem et al. 2013 | 105 |
| 247 |  | F | A. Phal | NAC, SIL |  | Survived w/o LTx | Possible | Vanooteghem et al. 2013 | 105 |
| 248 |  | F | A. Phal | NAC, SIL |  | Survived w/o LTx | Possible | Vanooteghem et al. 2013 | 105 |
| 249 | 46 | F | A. Spec | NM | 0 | Survived w/o LTx | Proven | Altintepe et al. 2014 | 106 |
| 250 | 66 | F | A. Spec | NAC, PEN, SIL | 2 | Survived w/o LTx | Possible | Baniasad et al. 2014 | 107 |
| 251 | 65 | M | A. Bis | NAC, SIL | 3 | Survived w/o LTx | Probable | Purcell et al. 2014 | 108 |
| 252 |  | M | A. Spec | NAC, PEN, SIL |  | Survived w/o LTx | Possible | Chan et al. 2014 | 110 |
| 253 | 70 | M | A. Phal | NAC | 3 | Death w/o LTx | Possible | Sodavarapu et al. 2014 | 111 |
| 254 | 20 | F | A. Phal | P-15C | 3 | Survived w/o LTx | Possible | Frass et al. 2014 | 112 |
| 255 | 69 | F | A. Phal | Ars.alb,P-15C, HN, NAC, SIL | 3 | Survived w/o LTx | Probable | Frass et al. 2014 | 112 |
| 256 | 22 | F | A. Phal | PEN | 3 | Death w/o LTx | Possible | Zhang et al. 2014 | 113 |
| 257 | 23 | M | A. Phal | PEN | 3 | Death w/o LTx | Possible | Zhang et al. 2014 | 113 |
| 258 | 24 | F | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Zhang et al. 2014 | 113 |
| 259 | 22 | M | A. Phal | PEN | 2 | Survived w/o LTx | Possible | Zhang et al. 2014 | 113 |
| 260 | 22 | M | A. Phal | PEN | 3 | Death w/o LTx | Possible | Zhang et al. 2014 | 113 |
| 261 | 24 | M | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Zhang et al. 2014 | 113 |
| 262 | 24 | M | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Zhang et al. 2014 | 113 |
| 263 | 51 | M | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Zhang et al. 2014 | 113 |
| 264 | 47 | F | A. Phal | PEN | 3 | Survived w/o LTx | Possible | Zhang et al. 2014 | 113 |
| 265 | 71 | M | A. Spec | NAC, PEN, SIL | 3 | Survived w/o LTx | Possible | Gores et al. 2014 | 114 |
| 266 | 33 | F | A. Spec | PEN, SIL | 3 | Death w/o LTx | Possible | Verma et al. 2014 | 115 |
| 267 | 14 | F | A. Spec | PEN, SIL | 2 | Death w/o LTx | Possible | Verma et al. 2014 | 115 |
| 268 | 13 | M | A. Spec | PEN, SIL | 3 | Death w/o LTx | Possible | Verma et al. 2014 | 115 |
| 269 | 35 | M | A. Spec | NM |  | Death w/o LTx | Possible | Verma et al. 2014 | 115 |
| 270 | 55 | F | A. Phal | SIL | 3 | Survived w/o LTx | Possible | Ros et al. 2015 | 116 |
| 271 | 61 | M | A. Phal | PEN | 3 | Survived w/o LTx | Proven | Yilmaz et al. 2015 | 117 |
| 272 | 62 | M | A. Phal | NAC, SIL |  | Death w/o LTx | Possible | Rahmani et al. 2015 | 118 |
| 273 | 68 | F | A. Pan + A. Spec | NAC, SIL |  | Survived w/o LTx | Proven | Garcia et al. 2015c | 119 |
| 274 | 54 | M | A. Ver | NAC, PEN, SIL | 3 | Death w/o LTx | Possible | Chibishev et al. 2015 | 120 |
| 275 | 30 | M | A. Ver | NAC, PEN, SIL | 3 | Death w/o LTx | Possible | Chibishev et al. 2015 | 120 |
| 276 | 75 | F | A. Ver | NAC, PEN, SIL | 2 | Survived w/o LTx | Possible | Chibishev et al. 2015 | 120 |
| 277 | 54 | F | A. Ver | NAC, PEN, SIL | 0 | Survived w/o LTx | Possible | Chibishev et al. 2015 | 120 |
| 278 | 31 | F | A. Ver | NAC, PEN | 2 | Survived w/o LTx | Possible | Chibishev et al. 2015 | 120 |
| 279 | 34 | M | A. Ver | NAC, PEN, SIL | 1 | Survived w/o LTx | Possible | Chibishev et al. 2015 | 120 |
| 280 | 32 | F | A. Ver | NAC, PEN, SIL |  | Survived w/o LTx | Possible | Chibishev et al. 2015 | 120 |
| 281 | 23 | M | A. Ver | NAC, PEN, SIL |  | Survived w/o LTx | Possible | Chibishev et al. 2015 | 120 |
| 282 | 56 | F | A. Spec | NAC, SIL | 3 | Survived w/o LTx | Possible | Pillukat et al. 2016 | 121 |
| 283 | 34 | F | A. Spec | Ceftr, NAC, SIL | 3 | Survived w/o LTx | Possible | Pillukat et al. 2016 | 121 |
| 284 | 47 | M | A. Spec | NAC, SIL, TM | 3 | Survived w/o LTx | Possible | Pillukat et al. 2016 | 121 |
| 285 | 67 | M | A. Phal & A. Spec | NAC, SIL | 3 | Survived w/o LTx | Possible | Pillukat et al. 2016 | 121 |
| 286 | 58 | F | A. Spec | Ceftr, NAC, PEN, SIL | 3 | Survived w/o LTx | Possible | Pillukat et al. 2016 | 121 |
| 287 | 78 | M | A. Spec | NAC, SIL | 3 | Survived w/o LTx | Possible | Pillukat et al. 2016 | 121 |
| 288 | 31 | F | A. Vir | NAC, SIL |  | Survived w/o LTx | Proven | Olsson et al. 2016 | 122 |
| 289 | 1,3 | M | A. Phal | NM |  | Death with LTx | Possible | Arif et al. 2016 | 123 |
| 290 | 10 | M | A. Phal | NAC, SIL |  | Survived with LTx | Possible | Arif et al. 2016 | 123 |
| 291 | 27 | M | A. Phal | NAC, SIL, TM | 3 | Survived with LTx | Proven | Vondran et al. 2016 | 125 |
| 292 | 60 | M | A. Pal | NM | 3 | Death w/o LTx | Probable | Zhu et al. 2016 | 126 |
| 293 | 60 | F | A. Pal | NM | 3 | Death w/o LTx | Probable | Zhu et al. 2016 | 126 |
| 294 | 2 | F | A. Spec | NAC |  | Death with LTx | Possible | Trakulsrichai et al. 2017 | 24 |
| 295 | 73 | M | A. Bis | Cycl | 1 | Survived w/o LTx | Proven | Austin et al. 2017 | 127 |
| 296 |  | M | A. Phal | NM |  | Survived with LTx | Possible | Pantoflicek et al. 2017 | 129 |
| 297 | 49 | M | A. Spec | NAC, SIL | 3 | Survived w/o LTx | Possible | Surmaitis et al. 2017 | 130 |
| 298 | 37 | M | A. Phal | SIL | 3 | Survived w/o LTx | Probable | Vo et al. 2017 | 131 |
| 299 | 26 | F | A. Phal | SIL | 3 | Survived w/o LTx | Possible | Vo et al. 2017 | 131 |
| 300 | 28 | M | A. Phal | SIL | 3 | Survived w/o LTx | Possible | Vo et al. 2017 | 131 |
| 301 | 1,5 | F | A. Phal | SIL | 3 | Survived with LTx | Possible | Vo et al. 2017 | 131 |
| 302 | 38 | F | A. Phal | SIL | 3 | Survived with LTx | Possible | Vo et al. 2017 | 131 |
| 303 | 49 | F | A. Phal | SIL | 3 | Survived w/o LTx | Possible | Vo et al. 2017 | 131 |
| 304 | 48 | M | A. Spec | NAC, PEN, SIL | 3 | Survived w/o LTx | Proven | Ma et al. 2017 | 132 |
| 305 | 47 | F | A. Far | NAC, PEN, SIL | 3 | Survived with LTx | Proven | Ma et al. 2017 | 132 |
| 306 | 29 | M | A. Spec | NAC, PEN, SIL | 3 | Survived with LTx | Possible | Ma et al. 2017 | 132 |
| 307 | 44 | M | A. Spec | NAC |  | Survived w/o LTx | Possible | Ma et al. 2017 | 132 |
| 308 | 74 | M | A. Spec | NAC, PEN, SIL |  | Survived w/o LTx | Proven | Ma et al. 2017 | 132 |
| 309 | 40 | F | A. Spec | NAC, PEN, SIL |  | Survived w/o LTx | Proven | Ma et al. 2017 | 132 |
| 310 | 49 | M | A. Phal | NAC, SIL | 3 | Survived w/o LTx | Possible | Hongo et al. 2017 | 133 |
| 311 | 55 | F | A. Spec | NAC, SIL | 1 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 312 | 42 | F | A. Spec | NAC, SIL | 3 | Death w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 313 | 17 | F | A. Spec | NAC, SIL | 3 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 314 | 24 | M | A. Spec | NAC, SIL | 1 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 315 | 22 | M | A. Spec | NAC, SIL | 2 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 316 | 17 | M | A. Spec | NAC, SIL | 2 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 317 | 38 | M | A. Spec | NAC, SIL | 2 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 318 | 60 | M | A. Spec | NAC, SIL | 3 | Death w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 319 | 45 | F | A. Spec | NAC, SIL | 2 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 320 | 27 | F | A. Spec | NAC, SIL | 2 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 321 | 16 | F | A. Spec | NAC, SIL | 1 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 322 | 45 | F | A. Spec | SIL | 3 | Death w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 323 | 18 | M | A. Spec | NAC, SIL | 2 | Survived w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 324 | 36 | M | A. Spec | NM | 3 | Death w/o LTx | Possible | Dutta et al. 2017 | 134 |
| 325 | 41 | F | A. Ful | PEN, SIL | 3 | Survived w/o LTx | Possible | Li et al. 2018 | 135 |
| 326 | 48 | F | A. Ful | PEN, SIL | 2 | Survived w/o LTx | Possible | Li et al. 2018 | 135 |
| 327 | 45 | F | A. Phal | NAC, SIL | 3 | Survived w/o LTx | Proven | Schmutz et al. 2018 | 139 |
| 328 | 55 | M | A. Phal | NAC, PEN, SIL | 2 | Survived w/o LTx | Possible | Pakala et al.2018 | 140 |
| 329 | 38 | F | A. Ful + A. Rim | NM |  | Death w/o LTx | Proven | Lu et al. 2018 | 141 |
| 330 | 15 | M | A. Ful + A. Rim | NM |  | Death w/o LTx | Proven | Lu et al. 2018 | 141 |
| 331 | 19 | M | A. Ful + A. Rim | NM |  | Survived w/o LTx | Proven | Lu et al. 2018 | 141 |
| 332 | 21 | M | A. Ful + A. Rim | NM |  | Survived w/o LTx | Proven | Lu et al. 2018 | 141 |
| 333 | 52 | M | A. Exit | NM | 3 | Death w/o LTx | Probable | Sun et al. 2018 | 142 |
| 334 | 51 | F | A. Exit | NM | 2 | Survived w/o LTx | Probable | Sun et al. 2018 | 142 |
| 335 | 43 | M | A. Exit | NM | 1 | Survived w/o LTx | Probable | Sun et al. 2018 | 142 |
| 336 | 16 | F | A. Exit | NM |  | Survived w/o LTx | Probable | Sun et al. 2018 | 142 |
| 337 | 38 | F | A. Exit | NM |  | Survived w/o LTx | Probable | Sun et al. 2018 | 142 |
| 338 | 11 | M | A. Exit | NM | 2 | Survived w/o LTx | Probable | Sun et al. 2018 | 142 |
| 339 | 4 | F | A. Exit | NM | 2 | Death w/o LTx | Probable | Sun et al. 2018 | 142 |
| 340 | 72 | F | A. Exit | NM | 3 | Death w/o LTx | Probable | Sun et al. 2018 | 142 |
| 341 | 52 | F | A. Exit | NM | 3 | Death w/o LTx | Probable | Sun et al. 2018 | 142 |
| 342 | 36 | F | A. Exit | NM | 1 | Survived w/o LTx | Probable | Sun et al. 2018 | 142 |
| 343 | 63 | F | A. Phal | NAC, PEN | 3 | Survived w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 344 | 6 | M | A. Phal | NAC, PEN | 2 | Survived w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 345 | 15 | F | A. Phal | NAC, PEN | 2 | Survived w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 346 | 11 | M | A. Phal | NAC, PEN | 2 | Survived w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 347 | 13 | F | A. Phal | NAC, PEN | 3 | Survived w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 348 | 8 | M | A. Phal | NAC, PEN | 3 | Survived w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 349 | 54 | F | A. Phal | NAC, PEN | 3 | Survived w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 350 | 49 | M | A. Phal | NAC, PEN | 2 | Survived w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 351 | 19 | F | A. Phal | NAC, PEN | 3 | Survived w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 352 | 5 | F | A. Phal | NAC, PEN | 3 | Death w/o LTx | Possible | Baskiran et al. 2018 | 143 |
| 353 | 29 | F | A. Phal | NAC, PEN | 3 | Survived with LTx | Possible | Baskiran et al. 2018 | 143 |
| 354 | 3 | F | A. Phal | NAC, PEN | 2 | Survived with LTx | Possible | Baskiran et al. 2018 | 143 |
| 355 | 9 | M | A. Phal | NAC, PEN | 3 | Survived with LTx | Possible | Baskiran et al. 2018 | 143 |
| 356 | 16 | F | A. Phal | NAC, PEN | 3 | Survived with LTx | Possible | Baskiran et al. 2018 | 143 |
| 357 | 67 | F | A. Phal | NAC, PEN | 2 | Survived with LTx | Possible | Baskiran et al. 2018 | 143 |
| 358 | 20 | F | A. Phal | NAC, PEN | 3 | Death with LTx | Possible | Baskiran et al. 2018 | 143 |
| 359 | 50 | F | A. Phal | NAC, PEN | 3 | Death with LTx | Possible | Baskiran et al. 2018 | 143 |
| 360 | 46 | F | A. Phal | NAC, PEN | 2 | Death with LTx | Possible | Baskiran et al. 2018 | 143 |
| 361 | 14 | F | A. Spec | NAC, PEN, SIL | 3 | Survived w/o LTx | Possible | Olaru et al. 2018 | 144 |
| 362 | 3 | F | A. Phal | Cimet, NAC | 3 | Survived with LTx | Probable | Mauree et al. 2019 | 145 |
| 363 | 61 | F | A. Spec | NAC, SIL | 2 | Survived w/o LTx | Proven | Beaumier et al. 2019 | 146 |
| 364 | 63 | M | A. Spec | NAC, SIL | 1 | Survived w/o LTx | Proven | Beaumier et al. 2019 | 146 |
| 365 | 44 | F | A. Phal | NM | 2 | Survived w/o LTx | Possible | Karakoç et al. 2019 | 147 |
| 366 | 9 | F | A. Spec | NAC, PEN | 3 | Death w/o LTx | Possible | Mărginean et al. 2019 | 148 |
| 367 | 5 | M | A. Spec | NAC, PEN | 3 | Death w/o LTx | Possible | Mărginean et al. 2019 | 148 |
| 368 | 56 | M | A. Ful | SIL | 3 | Death w/o LTx | Probable | Wang et al. 2020 | 149 |
| 369 | 54 | F | A. Ful | SIL | 3 | Survived w/o LTx | Probable | Wang et al. 2020 | 149 |
| 370 | 58 | F | A. Ful | SIL | 2 | Survived w/o LTx | Probable | Wang et al. 2020 | 149 |

A. Bis: Amanita bisporigera, A. Exit: Amanita exitialis, A. Far: Amanita farinosa, A. Flav: Amanita flavorubens, A. Ful: Amanita fuliginea, A. Ocr: Amanita ocreata, A. Pal: Amanita pallidorosea, A. Pan: Amanita pantherina, A. Phal: Amanita phalloides, A. Spec: Amanita species, A. Ver: Amanita verna, A. Vir: Amanita virosa, Ars.Alb: Arsenicum Album, Cef: Ceftazidime, Ceftr: Ceftriazone, Cimet: Cimetidine, Cycl: Cyclosporine, D. stramonium: Datura stramonium, Dhsm: dihydrostreptomycin, GGD: Glossy ganoderma Decoction, GI: gastrointestinal, HN: Helleborus niger, LTx: Liver transplantation, NAC: N-acetylcysteine, Nif: nifuroxazide, P-15C: Phosphorous-15C, PEN: benzylpenicillin, Sfm: Sulfamethoxazole, SIL: Silibinin, TA: Thioctic acid, TM: Thiamine, TMP: Trimethoprim, UDCA: Ursodeoxycholic acid, VitC: vitamin C, w/o: without.

**Supplementary Table 4:** Overview of amanitin intoxication case series (n=507) out of 877 cases included in this study. The cases were included if patient outcome and treatment(s) are known.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Reference** | **Year** | **No. of patients** | **Patient outcome** | **Treatment(s)** | **Reference number** |
| 1 | Vesconi et al. 1985 | 1985 | 47 | Survived w/o LTx | PEN, TA | 16 |
| 2 | Pinson et al. 1990 | 1990 | 1 | Survived w/o LTx | PEN, SIL | 42 |
| 1990 | 4 | Survived with LTx | PEN, SIL | 42 |
| 3 | Jander et al. 2001 | 2001 | 20 | Survived w/o LTx | Supportive only | 65 |
| 2001 | 1 | Death w/o LTx | Supportive only | 65 |
| 4 | Giannini et al. 2007 | 2006 | 109 | Survived w/o LTx | PEN | 23 |
| 2006 | 2 | Death w/o LTx | PEN | 23 |
| 5 | Erguven et al. 2007 | 2007 | 12 | Survived w/o LTx | PEN, SIL | 28 |
| 2007 | 7 | Death w/o LTx | PEN, SIL | 28 |
| 6 | Xiao et al. 2007 | 2007 | 12 | Survived w/o LTx | PEN, GGD | 74 |
| 2007 | 3 | Survived w/o LTx | PEN | 74 |
| 2007 | 8 | Death w/o LTx | PEN | 74 |
| 7 | Bergis et al. 2012 | 2012 | 17 | Survived w/o LTx | NAC, SIL | 96 |
| 2012 | 1 | Death w/o LTx | NAC, SIL | 96 |
| 8 | Dirican et al. 2014 | 2014 | 6 | Survived w/o LTx | NAC, PEN | 109 |
| 2014 | 5 | Survived with LTx | NAC, PEN | 109 |
| 2014 | 1 | Death w/o LTx | NAC, PEN | 109 |
| 2014 | 3 | Death with LTx | NAC, PEN | 109 |
| 9 | Stankiewicz et al. 2016 | 2016 | 5 | Survived with LTx | Supportive only | 124 |
| 2016 | 5 | Death with LTx | Supportive only | 124 |
| 10 | Vendramin et al. 2017 | 2017 | 27 | Survived w/o LTx | SIL | 128 |
| 2017 | 1 | Survived with LTx | SIL | 128 |
| 2017 | 1 | Death w/o LTx | SIL | 128 |
| 11 | Foutris et al. 2018 | 2018 | 61 | Survived w/o LTx | SIL | 137 |
| 2018 | 20 | Survived w/o LTx | NAC, SIL | 137 |
| 12 | Kieslichova et al. 2018 | 2018 | 16 | Survived w/o LTx | NAC, SIL | 138 |
| 2018 | 5 | Survived with LTx | NAC, SIL | 138 |
| 2018 | 1 | Death w/o LTx | NAC, SIL | 138 |
| 2018 | 1 | Death with LTx | NAC, SIL | 138 |
| 13 | Ye et al. 2020 | 2020 | 81 | Survived w/o LTx | NAC, PEN, SIL | 150 |
| 2020 | 24 | Death w/o LTx | NAC, PEN, SIL | 150 |

**Supplementary Table 5**: The patient characteristics and clinical laboratory values for patients who either received supportive care or NAC, PEN, SIL, or combinations (n=752).

|  |  |  |
| --- | --- | --- |
| Patient Characteristics | n (%) | Median (Range) |
| Gender  Male  Female  *Not reported* | 139 (18)  153 (20)  *460* |  |
| Age (years)  *Not reported* | 287 (38)  *465* | 35 (1-89) |
| Age group  Child  Adult  Elderly  *Not reported* | 94 (13)  319 (42)  28 (4)  *311* |  |
| Time from ingestion to GI symptoms (hours)  *Not reported* | 316 (42)  *436* | 12 (0-72) |
| Time from ingestion to clinical care (hours)  *Not reported* | 177 (24)  *575* | 30 (1-138) |
| Length of Hospital Stay  *Not reported* | 223 (30)  *529* | 7 (1-93) |
| Hepatotoxicity  Present  Absent  *Not reported* | 568 (76)  111 (15)  *73* |  |
| Nephrotoxicity  Present  Absent  *Not reported* | 116 (15)  121 (16)  *515* |  |
| Patient Outcome  Survived w/o LTx  Survived with LTx  Died w/o LTx  Died with LTx | 574 (76)  53 (7)  106 (14)  19 (3) |  |
| Frequency of therapeutic regimen use  NAC  PEN  SIL  NAC/PEN  NAC/SIL  PEN/SIL  NAC/PEN/SIL  Supportive care | 7 (1)  156 (21)  114 (15)  42 (6)  106 (14)  59 (8)  135 (18)  133 (18) |  |
| Poisoning Severity Score  PSS0  PSS1  PSS2  PSS3  *Not rated* | 22 (3)  14 (2)  62 (8)  160 (21)  *494* |  |

|  |  |  |
| --- | --- | --- |
| Patient Characteristics | n (%) | Median (Range) |
| Liver blood test peak values  AST (U/L)  *Not reported*  ALT (U/L)  *Not reported*  INR  *Not reported*  TSB (mg/dL)  *Not reported* | 226 (30)  *526*  240 (32)  *512*  231 (31)  *521*  147 (20)  *605* | 2262 (12-19614)  3498 (40-18456)  2.50 (0.77-46.15)  5.32 (0.9-396.5) |
| Kidney function test peak values  Cr (µmol/L)  *Not reported*  BUN (mg/dL)  *Not reported* | 88 (12)  *664*  34 (5)  *718* | 235.4 (8.0-1077.0)  37.9 (5.0-274.4) |

ALT: alanine aminotransferase, AST: aspartate aminotransferase, BUN: blood urea nitrogen, Cr: serum creatinine, INR: international normalized ratio, LTx: liver transplantation, NAC: N-acetylcysteine, PEN: benzylpenicillin, PSS: Poisoning Severity Score, SIL: silibinin, TSB: total serum bilirubin.

**Supplementary Table 6**: The patient characteristics and clinical laboratory values in proven cases (n=67), probable cases (n=48), and possible cases (n=189) treated with NAC, PEN, SIL, or combinations.

|  |  |  |  |
| --- | --- | --- | --- |
| Patient characteristics and  clinical laboratory values | Case groups | | |
| **Proven cases**  **n = 67** | **Probable cases**  **n = 48** | **Possible cases**  **n = 189** |
| Patient Outcome, n (%)  Survived w/o LTx  Survived with LTx  Died w/o LTx  Died with LTx | 49 (73)  3 (5)  15 (22)  0 (0) | 31 (65)  3 (6)  14 (29)  0 (0) | 121 (64)  27 (14)  31 (16)  10 (5) |
| PSS  PSS0, n (%)  PSS1, n (%)  PSS2, n (%)  PSS3, n (%)  *Not rated, n* | 6 (9)  3 (4)  7 (10)  30 (45)  *21* | 0 (0)  3 (6)  11 (23)  29 (60)  *5* | 9 (5)  4 (2)  38 (20)  97 (51)  *41* |
| Gender  Male, n (%)  Female, n (%)  *Not reported, n* | 31 (46)  30 (45)  *6* | 19 (40)  29 (60)  *0* | 87 (46)  93 (49)  *9* |
| Age (years)  n (%)  Median (range)  *Not reported, n* | 64 (96)  40 (1-80)§  *3* | 48 (100)  43 (4-75)§  *0* | 172 (37)  30 (1-89)† ‡  *17* |
| Age group  Child, n (%)  Adult, n (%)  Elderly, n (%)  *Not reported, n* | 16 (24)  43 (64)  8 (12)  *0* | 8 (17)  36 (75)  4 (8)  *0* | 51 (27)  115 (61)  14 (7)  *9* |
| Time from ingestion to GI symptoms (hours)  n (%)  Median (range)  *Not reported, n* | 53 (79)  10 (0-72)  *14* | 43 (90)  12 (2-24)  *5* | 109 (25)  11 (2-48)  *80* |
| Time from ingestion to clinical care (hours)  n (%)  Median (range)  *Not reported, n* | 52 (78)  24 (1-90)  *15* | 37 (77)  46 (6-120)  *11* | 86 (20)  36 (10-138)  *103* |
| Length of hospital stay (days)  n (%)  Median (range)  *Not reported, n* | 51 (76)  8 (1-46)‡ §  *16* | 38 (79)  7 (2-28)†  *10* | 128 (28)  6 (1-93)†  *61* |
| Hepatotoxicity  Present  Absent  *Not reported* | 53 (79)  10 (15)  *4* | 44 (92)  4 (8)  *0* | 178 (97)  6 (3.3)  *5* |
| Nephrotoxicity  Present  Absent  *Not reported* | 31 (46)  17 (25)  *19* | 16 (33)  14 (29)  *18* | 49 (63)  29 (37.2)  *111* |
| Peak AST (U/L)  n (%)  Median (range)  *Not reported, n* | 36 (54)  1760 (31-19614)  *31* | 38 (79)  2325 (90-12000)§  *10* | 132 (30)  2940 (12-16420)‡  *57* |
| Peak ALT (U/L)  n (%)  Median (range)  *Not reported, n* | 43 (64)  3488 (40-18456)‡  *23* | 42 (88)  3001 (129-12000)† §  *6* | 137 (31)  3900 (52-11350)‡  *52* |

|  |  |  |  |
| --- | --- | --- | --- |
| Patient characteristics and  clinical laboratory values | Case groups | | |
| **Proven cases**  **n = 67** | **Probable cases**  **n = 48** | **Possible cases**  **n = 189** |
| Peak INR  n (%)  Median (range)  *Not reported, n* | 36 (54)  2.57 (0.77-24.54)  *31* | 40 (83)  3.43 (0.95-46.15)  *8* | 130 (30)  2.52 (0.84-15.00)  *59* |
| Peak TSB (mg/dL)  n (%)  Median (range)  *Not reported, n* | 25 (37)  6.8 (1.4-26.0)  *42* | 35 (73)  9.0 (1.3-396.5)  *13* | 85 (19)  4.9 (0.9-32.5)  *104* |
| Peak Cr (µmol/L)  n (%)  Median (range)  *Not reported, n* | 21 (31)  371.4 (127.0-1000.0)§  *46* | 14 (29)  211.5 (51.0-963.8)  *34* | 52 (12)  207.0 (8.0-1077.0)†  *137* |
| Peak BUN (mg/dL)  n (%)  Median (range)  *Not reported, n* | 7 (10)  52.0 (31.4-92.0)  *60* | 10 (21)  21.5 (5.0-60.7)§  *38* | 17 (4)  39.3 (21.0-274.4)‡  *172* |

ALT: alanine aminotransferase, AST: aspartate aminotransferase, BUN: blood urea nitrogen, Cr: serum creatinine, INR: international normalized ratio, LTx: liver transplantation, NAC: N-acetylcysteine, PEN: benzylpenicillin, PSS: Poisoning Severity Score, SIL: silibinin, TSB: total serum bilirubin.

†P < 0.05 versus ‘Proven cases’; ‡P<0 .05 versus ‘Probable cases’; §P<0.05 versus ‘Possible cases’.

**Supplementary Table 7**: The patient characteristics and clinical laboratory values in different patient outcomes (n=877).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Patient characteristics and  clinical laboratory values | Patient outcomes | | | |
| **Survived w/o LTx**  **n = 682** | **Survived with LTx**  **n = 57** | **Died w/o LTx**  **n = 119** | **Died with LTx**  **n = 19** |
| PSS  PSS0, n (%)  PSS1, n (%)  PSS2, n (%)  PSS3, n (%)  *Not rated, n* | 25 (4)  44 (6)  59 (9)  102 (15)  *452* | 0 (0)  0 (0)  5 (9)  28 (49)  *24* | 0 (0)  0 (0)  5 (4)  49 (41)  *65* | 0 (0)  0 (0)  2 (11)  6 (32)  *11* |
| Gender  Male, n (%)  Female, n (%)  *Not reported, n* | 117 (17)  129 (19)  *436* | 10 (18)  24 (42)  *23* | 43 (36)  27 (23)  *49* | 3 (16)  4 (21)  *12* |
| Age (years)  n (%)  Median (range)  *Not reported, n* | 237 (35)  36 (1-89)‡  *445* | 32 (56)  21 (1-67)† §  *25* | 74 (62)  37 (3-80)‡  *45* | 7 (37)  44 (1-62)  *12* |
| Age group  Child, n (%)  Adult, n (%)  Elderly, n (%)  *Not reported, n* | 62 (9)  285 (42)  22 (3)  *313* | 15 (26)  27 (47)  1 (2)  *14* | 23 (19)  49 (41) 10 (8)  *37* | 2 (11)  10 (53)  0 (0)  *7* |
| Time from ingestion to GI symptoms (hours)  n (%)  Median (range)  *Not reported, n* | 286 (42)  12 (0-72)  *396* | 24 (42)  10 (7-25)  *33* | 45 (38)  10 (4-48)  *74* | 4 (21)  10 (8-10)  *15* |
| Time from ingestion to clinical care (hours)  n (%)  Median (range)  *Not reported, n* | 150 (22)  24 (1-144)  *532* | 21 (37)  36 (12-96)  *36* | 50 (42)  36 (12-120)  *69* | 5 (26)  20 (19-48)  *14* |
| Length of hospital stay (days)  n (%)  Median (range)  *Not reported, n* | 187 (27)  8 (1-46)§  *495* | 26 (46)  16 (2-93)§  *31* | 70 (59)  5 (1-29)† ‡  *49* | 9 (47)  5 (2-10)  *10* |
| Hepatotoxicity  Present  Absent  *Not reported* | 441 (65)  122 (18)  *119* | 56 (98)  0 (0)  *1* | 118 (99)  0 (0)  *1* | 19 (100)  0 (0)  *0* |
| Nephrotoxicity  Present  Absent  *Not reported* | 64 (9)  180 (26)  *438* | 13 (23)  4 (7)  *40* | 49 (41)  15 (13)  *55* | 5 (26)  0 (0)  *14* |
| Peak AST (U/L)  n (%)  Median (range)  *Not reported, n* | 186 (27)  1587 (12-15863)‡ §  *496* | 28 (49)  4428 (774-16648)†  *29* | 43 (36)  3741 (573-19614)†  *76* | 5 (26)  3391 (1110-12051)  *14* |
| Peak ALT (U/L)  n (%)  Median (range)  *Not reported, n* | 208 (31)  1508 (40-14102)‡ §  *474* | 33 (58)  5132 (200-10611)†  *24* | 53 (45)  4127 (1387-18456)†  *66* | 8 (42)  4846 (1330-10153)  *11* |
| Peak INR  n (%)  Median (range)  *Not reported, n* | 172 (25)  1.57 (0.77-9.40)‡ § Δ  *510* | 36 (63)  3.96 (1.70-17.20)†  *21* | 49 (41)  6.92 (1.23-46.15)†  *70* | 7 (37)  8.40 (1.06-15.00)†  *12* |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Patient characteristics and  clinical laboratory values | Patient outcomes | | | |
| **Survived w/o LTx**  **n = 682** | **Survived with LTx**  **n = 57** | **Died w/o LTx**  **n = 119** | **Died with LTx**  **n = 19** |
| Peak TSB (mg/dL)  n (%)  Median (range)  *Not reported, n* | 97 (14)  3.7 (0.9-62.9)§  *585* | 23 (40)  6.0 (2.0-32.5)  *34* | 44 (37)  9.0 (2.0-396.5)†  *75* | 5 (26)  6.2 (4.0-23.8)  *14* |
| Peak Cr (µmol/L)  n (%)  Median (range)  *Not reported, n* | 51 (8)  198.1 (48.6-1077.0)  *631* | 12 (21)  151.2 (33.6-329.9)§  *45* | 33 (28)  318.3 (8.0-709.0)‡  *86* | 5 (26)  179.0 (119.0-433.3)  *14* |
| Peak BUN (mg/dL)  n (%)  Median (range)  *Not reported, n* | 26 (4)  36.5 (14.3-95.0)  *656* | 6 (11)  46.2 (24.0-119.0)  *51* | 7 (6)  31.3 (5.0-274.4)  *112* | No data |

ALT: alanine aminotransferase, AST: aspartate aminotransferase, BUN: blood urea nitrogen, Cr: serum creatinine, INR: international normalized ratio, LTx: liver transplantation, NAC: N-acetylcysteine, PEN: benzylpenicillin, PSS: Poisoning Severity Score, SIL: silibinin, TSB: total serum bilirubin.

†P < 0.05 versus ‘Survived w/o LTx’; ‡P<0 .05 versus ‘Survived with LTx’; §P<0.05 versus ‘Died w/o LTx’; ΔP<0.05 versus ‘Died with LTx’.

**Supplementary Table 8**: The patient characteristics and clinical laboratory values of patients with aminotransferase values available for PSS rating (n=325).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Patient characteristics and  clinical laboratory values | Liver PSS Rating | | | |
| **PSS0**  **n = 25** | **PSS1**  **n = 44** | **PSS2**  **n = 71** | **PSS3**  **n = 185** |
| Patient Outcome, n (%)  Survived w/o LTx  Survived with LTx  Died w/o LTx  Died with LTx | 25 (100)  0 (0)  0 (0)  0 (0) | 44 (100)  0 (0)  0 (0)  0 (0) | 59 (83)  5 (7)  5 (7)  2 (3) | 102 (55)  28 (15)  49 (27)  6 (3) |
| Gender  Male, n (%)  Female, n (%)  *Not reported, n* | 8 (32)  8 (32)  *9* | 7 (16)  7 (16)  *30* | 31 (44)  34 (48)  *6* | 82 (44)  85 (46)  *18* |
| Age (years)  n (%)  Median (range)  *Not reported, n* | 16 (64)  33 (7-54)  *9* | 14 (32)  40 (16-73)  *30* | 63 (89)  31 (2-75)  *8* | 171 (92)  37 (1-89)  *14* |
| Age group  Child, n (%)  Adult, n (%)  Elderly, n (%)  *Not reported, n* | 3 (12)  13 (52)  0 (0)  *9* | 1 (2)  12 (27)  1 (2)  *30* | 23 (32)  37 (52) 5 (7)  *6* | 36 (19)  119 (64)  19 (10)  *11* |
| Time from ingestion to GI symptoms (hours)  n (%)  Median (range)  *Not reported, n* | 16 (64)  12 (1-72)  *9* | 11 (25)  12 (2-24)  *33* | 45 (63)  12 (6-48)  *26* | 140 (76)  10 (1-48)  *45* |
| Time from ingestion to clinical care (hours)  n (%)  Median (range)  *Not reported, n* | 11 (44)  20 (1-72)  *14* | 7 (16)  20 (14-47)  *37* | 32 (45)  27 (9-120)  39 | 122 (66)  34 (6-144)  *63* |
| Length of hospital stay (days)  n (%)  Median (range)  *Not reported, n* | 9 (44)  7 (3-11)  *16* | 10 (23)  7 (2-10)  *34* | 51 (72)  8 (2-27)  *20* | 150 (81)  8 (1-93)  *35* |
| Hepatotoxicity  Present  Absent  *Not reported* | 16 (64)  9 (36)  *0* | 18 (41)  0 (0)  *26* | 71 (100)  0 (0)  *0* | 185 (100)  0 (0.0)  *0* |
| Nephrotoxicity  Present  Absent  *Not reported* | 2 (8)  8 (32)  *15* | 4 (9)  33 (75)  *7* | 19 (27)  15 (21)  *37* | 75 (41)  38 (21)  *72* |
| Peak AST (U/L)  n (%)  Median (range)  *Not reported, n* | 22 (88)  59 (12-85)§ Δ  *3* | 18 (41)  136(64-200)Δ  *26* | 65 (92)  739 (69-1966)† Δ  *6* | 157 (85)  4374 (250-19614)† ‡ §  *28* |
| Peak ALT (U/L)  n (%)  Median (range)  *Not reported, n* | 14 (56)  64 (40-88)§ Δ  *11* | 44 (100)  131 (97-1000)Δ  *0* | 67 (94)  1014 (60-4022)† Δ  *4* | 177 (96)  5132 (1418-18456)† ‡ §  *8* |
| Peak INR  n (%)  Median (range)  *Not reported, n* | 20 (80)  1.12 (0.77-1.68)§ Δ  *5* | 11 (25)  1.28 (0.95-1.91)Δ  *33* | 56 (79)  1.46 (0.86-46.15)† Δ  *15* | 163 (88)  3.62 (0.89-46.15)† ‡ §  *22* |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Patient characteristics and  clinical laboratory values | Liver PSS Rating | | | |
| **PSS0**  **n = 25** | **PSS1**  **n = 44** | **PSS2**  **n = 71** | **PSS3**  **n = 185** |
| Peak TSB (mg/dL)  n (%)  Median (range)  *Not reported, n* | 5 (20)  2.0 (1.5-12.2)  *20* | 4 (9)  20.0 (1.4-45.2)  *40* | 35 (49)  3.4 (0.9-28.1)Δ  *36* | 120 (65)  6.7 (1.2-396.5)§  *65* |
| Peak Cr (µmol/L)  n (%)  Median (range)  *Not reported, n* | 4 (16)  117.4 (77.0-625.1)  *21* | 2 (5)  522.6 (108.0-937.3)  *42* | 16 (23)  229.9 (51.0-1077.0)  *55* | 76 (41)  235.4 (33.6-1000.0)  *109* |
| Peak BUN (mg/dL)  n (%)  Median (range)  *Not reported, n* | 2 (8)  59.0 (27.0-91.0)  *23* | 1 (2)  46.6 (46.6-166.0)  *43* | 9 (13)  60.7 (5.0-92.0)  *62* | 24 (13)  31.5 (13.0-119.0)  *161* |

ALT: alanine aminotransferase, AST: aspartate aminotransferase, BUN: blood urea nitrogen, Cr: serum creatinine, INR: international normalized ratio, LTx: liver transplantation, NAC: N-acetylcysteine, PEN: benzylpenicillin, PSS: Poisoning Severity Score, SIL: silibinin, TSB: total serum bilirubin.

†P<0.05 versus PSS0; ‡P<0.05 versus PSS1; §P<0.05 versus PSS2; ΔP<0.05 versus PSS3.

**Supplementary Table 9**: The comparison of possible confounding variables between survival group and death groups, excluding LTx cases.

|  |  |  |  |
| --- | --- | --- | --- |
| Variables (Survival rate, LTx excluded) | | Significance (2-tailed) | 95% CI of the Difference |
| Age  Survived, Years (Mean ± SD)  Died, Years (Mean ± SD) | 36 ± 20  49 ± 22 | 0.278 | -8.385 to 2.421 |
| Time from ingestion to GI symptoms  Survived, Hours (Mean ± SD)  Died, Hours (Mean ± SD) | 13 ± 7  13 ± 8 | 0.894 | -2.363 to 2.062 |
| Time from ingestion to clinical care  Survived, Hours (Mean ± SD)  Died, Hours (Mean ± SD) | 34 ± 27  44 ± 28 | 0.030 | -18.474 to -0.960 |

**Supplementary Table 10**: The comparison of possible confounding variables between survival group and treatment failure groups.

|  |  |  |  |
| --- | --- | --- | --- |
| Variables (Treatment success rate) | | Significance (2-tailed) | 95% CI of the Difference |
| Age  Survived, Years (Mean ± SD)  Treatment failure, Years (Mean ± SD) | 36 ± 20  35 ± 22 | 0.476 | -6.400 to 2.992 |
| Time from ingestion to GI symptoms  Survived, Hours (Mean ± SD)  Treatment failure, Hours (Mean ± SD) | 13 ± 7  12 ± 7 | 0.662 | -2.166 to 1.378 |
| Time from ingestion to clinical care  Survived, Hours (Mean ± SD)  Treatment failure, Hours (Mean ± SD) | 34 ± 27  41 ± 26 | 0.078 | -0.756 to 14.053 |

**Chart, diagram

Description automatically generated**

**Supplementary Figure 1**: The relationships between peak clinical laboratory values and PSS scores **(A-D)** Liver clinical laboratory values: (**A**) aspartate aminotransferase (AST), **(B)** alanine aminotransferase (ALT), (**C**) international normalized ratio (INR), and **(D)** total serum bilirubin (TSB) in PSS groups. \*P<0.05, \*\*P<0.01, \*\*\*P<0.001 compared to PSS0, ###P<0.001 compared to PSS1, +++P<0.001 compared to PSS2.