

Supplementary Table 1. Primary and Secondary Categories of Primary Implicated Agents in Subjects Who Underwent Liver Transplantation, Died Within 6 Months of Drug-Induced Liver Injury Onset, and Were Alive Within 6 Months of Drug-Induced Liver Injury Onset

Primary implicated class	Liver transplant recipient (n = 30), n (%)	Liver-related death (n = 17), n (%)	Non-liver-related death (n = 15), n (%)	Subjects with follow-up (chronic) (n = 113), n (%)	Subjects with follow-up (nonchronic) (n = 485), n (%)
1535 Antimicrobial	14/30 (46.7)	9/17 (52.9)	4/15 (26.7)	41/113 (36.3)	229/484 (47.3)
1536 Antibacterial	5/30 (16.7)	8/17 (47.1)	4/15 (26.7)	33/113 (29.2)	195/484 (40.3)
1537 Amoxicillin	0	0	0	0	5/484 (1.0)
1538 Amoxicillin with clavulanic acid	1/30 (3.3)	0	0	5/113 (4.4)	69/484 (14.3)
1539 Azithromycin	1/30 (3.3)	0	0	2/113 (1.8)	6/484 (1.2)
1540 Benzathine benzylpenicillin	0	0	0	0	1/484 (0.2)
1541 Cefaclor	0	0	0	0	1/484 (0.2)
1542 Cefadroxil	0	0	0	0	1/484 (0.2)
1543 Cefalexin	0	1/17 (5.9)	0	1/113 (0.9)	1/484 (0.2)
1544 Cefazolin	0	0	0	2/113 (1.8)	14/484 (2.9)
1545 Cefdinir	0	0	0	1/113 (0.9)	0
1546 Cefotaxime	0	1/17 (5.9)	0	0	0
1547 Ceftriaxone	0	0	1/15 (6.7)	0	2/484 (0.4)
1548 Cefuroxime	0	0	0	1/113 (0.9)	1/484 (0.2)
1549 Ciprofloxacin	0	1/17 (5.9)	1/15 (6.7)	1/113 (0.9)	8/484 (1.7)
1550 Clindamycin	0	0	0	0	2/484 (0.4)
1551 Doxycycline	0	0	0	1/113 (0.9)	3/484 (0.6)
1552 Erythromycin	0	1/17 (5.9)	0	0	1/484 (0.2)
1553 Gatifloxacin	0	0	0	0	1/484 (0.2)
1554 Levofloxacin	0	1/17 (5.9)	0	1/113 (0.9)	6/484 (1.2)
1555 Meropenem	0	0	0	1/113 (0.9)	0
1556 Minocycline	0	0	0	3/113 (2.7)	15/484 (3.1)
1557 Moxifloxacin	0	0	1/15 (6.7)	1/113 (0.9)	5/484 (1.0)
1558 Nitrofurantoin	2/30 (6.7)	2/17 (11.8)	1/15 (6.7)	7/113 (6.2)	23/484 (4.8)
1559 Piperacillin sodium with tazobactam	0	0	0	1/113 (0.9)	4/484 (0.8)
1560 Sulfamethoxazole with trimethoprim	0	1/17 (5.9)	0	4/113 (3.5)	20/484 (4.1)
1561 Telithromycin	1/30 (3.3)	0	0	1/113 (0.9)	4/484 (0.8)
1562 Vancomycin	0	0	0	0	2/484 (0.4)
1563 Antifungal	1/30 (3.3)	0	0	2/113 (1.8)	5/484 (1.0)
1564 Fluconazole	0	0	0	0	1/484 (0.2)
1565 Terbinafine	1/30 (3.3)	0	0	2/113 (1.8)	3/484 (0.6)
1566 Voriconazole	0	0	0	0	1/484 (0.2)
1567 Antimycobacterial: leprosy	0	0	0	0	2/484 (0.4)
1568 Dapsone	0	0	0	0	2/484 (0.4)
1569 Antimycobacterial: tuberculosis	7/30 (23.3)	1/17 (5.9)	0	3/113 (2.7)	22/484 (4.5)
1570 Ethambutol	0	0	0	0	1/484 (0.2)
1571 Isoniazid	7/30 (23.3)	0	0	3/113 (2.7)	18/484 (3.7)
1572 Isoniazid with rifampicin	0	1/17 (5.9)	0	0	0
1573 Pyrazinamide	0	0	0	0	2/484 (0.4)
1574 Rifampicin	0	0	0	0	1/484 (0.2)
1575 Antiviral: human immunodeficiency virus	1/30 (3.3)	0	0	3/113 (2.7)	3/484 (0.6)
1576 Atazanavir	0	0	0	1/113 (0.9)	0
1577 Atripla	1/30 (3.3)	0	0	0	0
1578 Darunavir	0	0	0	1/113 (0.9)	1/484 (0.2)
1579 Didanosine	0	0	0	1/113 (0.9)	0
1580 Nelfinavir	0	0	0	0	1/484 (0.2)
1581 Nevirapine	0	0	0	0	1/484 (0.2)
1582 Antiviral: herpes	0	0	0	0	2/484 (0.4)
1583 Aciclovir	0	0	0	0	1/484 (0.2)
1584 Valaciclovir	0	0	0	0	1/484 (0.2)
1585 HDS ^a	8/30 (26.7)	1/17 (5.9)	1/15 (6.7)	18/113 (15.9)	80/484 (16.5)
1586 Cardiovascular	2/30 (6.7)	2/17 (11.8)	1/15 (6.7)	14/113 (12.4)	52/484 (10.7)
1587 Anti-arrhythmic	0	1/17 (5.9)	1/15 (6.7)	0	5/484 (1.0)
1588 Amiodarone	0	1/17 (5.9)	1/15 (6.7)	0	3/484 (0.6)
1589 Dronedarone	0	0	0	0	2/484 (0.4)
1590 Antihypertensive	2/30 (6.7)	0	0	7/113 (6.2)	22/484 (4.5)

Supplementary Table 1. Continued

Primary implicated class	Liver transplant recipient (n = 30), n (%)	Liver-related death (n = 17), n (%)	Non-liver-related death (n = 15), n (%)	Subjects with follow-up (chronic) (n = 113), n (%)	Subjects with follow-up (nonchronic) (n = 485), n (%)		
1653					1712		
1654					1713		
1655					1714		
1656					1715		
1657					1716		
1658					1717		
1659	Aliskiren	0	0	0	1/484 (0.2)	1718	
1660	Amlodipine	0	0	1/113 (0.9)	0	1719	
1661	Atenolol	0	0	0	1/484 (0.2)	1720	
1662	Benazepril	0	0	1/113 (0.9)	0	1721	
1662	Carvedilol	0	0	0	1/484 (0.2)	1721	
1663	Enalapril	0	0	1/113 (0.9)	0	1722	
1664	Hydralazine	1/30 (3.3)	0	1/113 (0.9)	4/484 (0.8)	1723	
1665	Irbesartan	0	0	0	1/484 (0.2)	1724	
1666	Labetalol	0	0	0	1/484 (0.2)	1725	
1667	Lisinopril	0	0	1/113 (0.9)	2/484 (0.4)	1726	
1667	Lisinopril with hydrochlorothiazide	1/30 (3.3)	0	0	0	1726	
1668	Methyldopa	0	0	2/113 (1.8)	7/484 (1.4)	1727	
1669	Valsartan	0	0	0	1/484 (0.2)	1728	
1670	Verapamil	0	0	0	3/484 (0.6)	1729	
1671	Lipid-lowering agent	0	0	7/113 (6.2)	24/484 (5.0)	1730	
1672	Atorvastatin	0	0	0	6/484 (1.2)	1731	
1672	Fenofibrate	0	0	1/113 (0.9)	2/484 (0.4)	1731	
1673	Fluvastatin	0	0	1/113 (0.9)	1/484 (0.2)	1732	
1674	Gemfibrozil	0	0	0	1/484 (0.2)	1733	
1675	Lovastatin	0	0	0	2/484 (0.4)	1734	
1676	Nicotinic acid	0	0	0	2/484 (0.4)	1735	
1677	Pravastatin	0	0	1/113 (0.9)	1/484 (0.2)	1736	
1678	Rosuvastatin	0	0	4/113 (3.5)	3/484 (0.6)	1737	
1679	Simvastatin	0	0	0	6/484 (1.2)	1738	
1680	Lipid-lowering agents	0	1/17 (5.9)	0	1/484 (0.2)	1739	
1681	Ezetimibe with simvastatin	0	1/17 (5.9)	0	1/484 (0.2)	1739	
1681	Central nervous system	3/30 (10.0)	1/17 (5.9)	2/15 (13.3)	5/113 (4.4)	40/484 (8.3)	1740
1682	Attention deficit hyperactivity disorder	0	0	0	1/113 (0.9)	1/484 (0.2)	1741
1683	Atomoxetine	0	0	0	1/113 (0.9)	0	1742
1684	Dexmethylphenidate	0	0	0	0	1/484 (0.2)	1743
1685	Anesthetic	0	0	0	0	5/484 (1.0)	1744
1686	Isoflurane	0	0	0	0	2/484 (0.4)	1745
1687	Ketamine	0	0	0	0	1/484 (0.2)	1746
1687	Sevoflurane	0	0	0	0	2/484 (0.4)	1746
1688	Anticonvulsant	3/30 (10.0)	0	2/15 (13.3)	1/113 (0.9)	13/484 (2.7)	1747
1689	Carbamazepine	0	0	2/15 (13.3)	0	0	1748
1690	Gabapentin	0	0	0	1/113 (0.9)	0	1749
1691	Lamotrigine	0	0	0	0	5/484 (1.0)	1750
1692	Phenytoin	1/30 (3.3)	0	0	0	5/484 (1.0)	1751
1693	Pregabalin	0	0	0	0	1/484 (0.2)	1752
1694	Topiramate	1/30 (3.3)	0	0	0	0	1753
1694	Valproic acid	1/30 (3.3)	0	0	0	2/484 (0.4)	1753
1695	Antidepressant	0	1/17 (5.9)	0	2/113 (1.8)	13/484 (2.7)	1754
1696	Bupropion	0	1/17 (5.9)	0	0	4/484 (0.8)	1755
1697	Duloxetine	0	0	0	2/113 (1.8)	5/484 (1.0)	1756
1698	Escitalopram	0	0	0	0	2/484 (0.4)	1757
1699	Imipramine	0	0	0	0	1/484 (0.2)	1758
1700	Trazodone	0	0	0	0	1/484 (0.2)	1759
1701	Antipsychotic	0	0	0	1/113 (0.9)	4/484 (0.8)	1760
1702	Olanzapine	0	0	0	1/113 (0.9)	1/484 (0.2)	1761
1702	Quetiapine	0	0	0	0	3/484 (0.6)	1761
1703	Muscle relaxant	0	0	0	0	3/484 (0.6)	1762
1704	Baclofen	0	0	0	0	1/484 (0.2)	1763
1705	Dantrolene	0	0	0	0	1/484 (0.2)	1764
1706	Metaxalone	0	0	0	0	1/484 (0.2)	1765
1707	Stimulant	0	0	0	0	1/484 (0.2)	1766
1707	Modafinil	0	0	0	0	1/484 (0.2)	1766
1708	Antineoplastic	0	2/17 (11.8)	5/15 (33.3)	13/113 (11.5)	15/484 (3.1)	1767
1709							1768
1710							1769
1711							1770

Supplementary Table 1. Continued

1771							1830
1772							1831
1773	Primary implicated class	Liver transplant	Liver-related	Non-liver-	Subjects with	Subjects	1832
1774	Secondary implicated class	recipient	death	related death	follow-up	with follow-up	1833
1775	Primary implicated agent	(n = 30), n (%)	(n = 17), n (%)	(n = 15), n (%)	(chronic)	(nonchronic)	1834
1776					(n = 113), n (%)	(n = 485), n (%)	1835
1777	Brain cancer	0	0	3/15 (20.0)	1/113 (0.9)	0	1836
1778	Temozolomide	0	0	3/15 (20.0)	1/113 (0.9)	0	1837
1779	Breast cancer	0	0	0	4/113 (3.5)	1/484 (0.2)	1838
1780	Exemestane	0	0	0	1/113 (0.9)	0	1839
1781	Letrozole	0	0	0	0	1/484 (0.2)	1840
1782	Tamoxifen	0	0	0	3/113 (2.7)	0	1841
1783	Leukemia	0	0	0	3/113 (2.7)	11/484 (2.3)	1842
1784	Imatinib	0	0	0	1/113 (0.9)	3/484 (0.6)	1843
1785	Mercaptopurine	0	0	0	1/113 (0.9)	7/484 (1.4)	1844
1786	Methotrexate	0	0	0	1/113 (0.9)	1/484 (0.2)	1845
1787	Leukemia, lymphoma	0	0	1/15 (6.7)	1/113 (0.9)	0	1846
1788	Asparaginase	0	0	1/15 (6.7)	1/113 (0.9)	0	1847
1789	Multiple myeloma	0	0	1/15 (6.7)	0	0	1848
1790	Thalidomide	0	0	1/15 (6.7)	0	0	1849
1791	Prostate cancer	0	0	0	1/113 (0.9)	0	1850
1792	Bicalutamide	0	0	0	1/113 (0.9)	0	1851
1793	Solid tumors	0	2/17 (11.8)	0	2/113 (1.8)	2/484 (0.4)	1852
1794	Carboplatin	0	1/17 (5.9)	0	0	0	1853
1795	Imetelstat	0	0	0	0	1/484 (0.2)	1854
1796	Lapatinib	0	0	0	2/113 (1.8)	0	1855
1797	Oxaliplatin	0	1/17 (5.9)	0	0	1/484 (0.2)	1856
1798	Solid tumors, lymphoma	0	0	0	1/113 (0.9)	1/484 (0.2)	1857
1799	Cyclophosphamide	0	0	0	1/113 (0.9)	1/484 (0.2)	1858
1800	Analgesic	0	0	1/15 (6.7)	4/113 (3.5)	22/484 (4.5)	1859
1801	Mild to moderate pain	0	0	1/15 (6.7)	4/113 (3.5)	22/484 (4.5)	1860
1802	Celecoxib	0	0	0	1/113 (0.9)	2/484 (0.4)	1861
1803	Diclofenac	0	0	1/15 (6.7)	0	8/484 (1.7)	1862
1804	Diclofenac sodium with misoprostol	0	0	0	1/113 (0.9)	2/484 (0.4)	1863
1805	Etodolac	0	0	0	0	2/484 (0.4)	1864
1806	Flavocoxid	0	0	0	0	4/484 (0.8)	1865
1807	Meloxicam	0	0	0	1/113 (0.9)	1/484 (0.2)	1866
1808	Oxaprozin	0	0	0	0	2/484 (0.4)	1867
1809	Salsalate	0	0	0	0	1/484 (0.2)	1868
1810	Valdecoxib	0	0	0	1/113 (0.9)	0	1869
1811	Immunomodulatory	0	1/17 (5.9)	0	4/113 (3.5)	15/484 (3.1)	1870
1812	Autoimmune disease	0	0	0	1/113 (0.9)	3/484 (0.6)	1871
1813	Adalimumab	0	0	0	0	1/484 (0.2)	1872
1814	Infliximab	0	0	0	1/113 (0.9)	2/484 (0.4)	1873
1815	Multiple sclerosis	0	1/17 (5.9)	0	2/113 (1.8)	5/484 (1.0)	1874
1816	Interferon beta-1a	0	1/17 (5.9)	0	1/113 (0.9)	4/484 (0.8)	1875
1817	Interferon beta-1b	0	0	0	1/113 (0.9)	0	1876
1818	Interleukins	0	0	0	0	1/484 (0.2)	1877
1819	Transplant rejection	0	0	0	1/113 (0.9)	7/484 (1.4)	1878
1820	Azathioprine	0	0	0	0	7/484 (1.4)	1879
1821	Tacrolimus	0	0	0	1/113 (0.9)	0	1880
1822	Endocrine	1/30 (3.3)	0	0	5/113 (4.4)	9/484 (1.9)	1881
1823	Anti-thyroid	1/30 (3.3)	0	0	1/113 (0.9)	4/484 (0.8)	1882
1824	Propylthiouracil	1/30 (3.3)	0	0	0	2/484 (0.4)	1883
1825	Thiamazole	0	0	0	1/113 (0.9)	2/484 (0.4)	1884
1826	Birth control	0	0	0	1/113 (0.9)	1/484 (0.2)	1885
1827	Estradiol	0	0	0	0	1/484 (0.2)	1886
1828	Ethinylestradiol with norgestimate	0	0	0	1/113 (0.9)	0	1887
1829	Diabetes	0	0	0	2/113 (1.8)	2/484 (0.4)	1888
	Glibenclamide	0	0	0	0	1/484 (0.2)	
	Metformin	0	0	0	1/113 (0.9)	1/484 (0.2)	
	Sitagliptin	0	0	0	1/113 (0.9)	0	
	Hormone replacement	0	0	0	0	1/484 (0.2)	
	Testosterone	0	0	0	0	1/484 (0.2)	

Supplementary Table 1. Continued

1889							1948
1890							1949
1891	Primary implicated class	Liver transplant	Liver-related	Non-liver-	Subjects with	Subjects	1950
1892	Secondary implicated class	recipient	death	related death	follow-up	with follow-up	1951
1893	Primary implicated agent	(n = 30), n (%)	(n = 17), n (%)	(n = 15), n (%)	(chronic)	(nonchronic)	1952
1894					(n = 113), n (%)	(n = 485), n (%)	1953
1895	Immunosuppression	0	0	0	0	1/484 (0.2)	1954
1896	Methylprednisolone	0	0	0	0	1/484 (0.2)	1955
1897	Osteoporosis	0	0	0	1/113 (0.9)	0	1956
1898	Zoledronic acid	0	0	0	1/113 (0.9)	0	1957
1899	Other	2/30 (6.7)	1/17 (5.9)	1/15 (6.7)	9/113 (8.0)	22/484 (4.5)	1958
1900	Alcohol addition	0	0	0	0	2/484 (0.4)	1959
1901	Disulfiram	0	0	0	0	2/484 (0.4)	1960
1902	Anti-BPH	0	0	0	0	1/484 (0.2)	1961
1903	Alfuzosin	0	0	0	0	1/484 (0.2)	1962
1904	Anticoagulant	0	0	0	0	2/484 (0.4)	1963
1905	Dalteparin	0	0	0	0	1/484 (0.2)	1964
1906	Prasugrel	0	0	0	0	1/484 (0.2)	1965
1907	Anti-emetic	1/30 (3.3)	0	0	0	0	1966
1908	Promethazine	1/30 (3.3)	0	0	0	0	1967
1909	Anti-gout	0	0	1/15 (6.7)	1/113 (0.9)	4/484 (0.8)	1968
1910	Allopurinol	0	0	1/15 (6.7)	1/113 (0.9)	3/484 (0.6)	1969
1911	Febuxostat	0	0	0	0	1/484 (0.2)	1970
1912	Anti-ulcer	0	0	0	3/113 (2.7)	3/484 (0.6)	1971
1913	Esomeprazole	0	0	0	1/113 (0.9)	0	1972
1914	Lansoprazole	0	0	0	1/113 (0.9)	0	1973
1915	Omeprazole	0	0	0	1/113 (0.9)	0	1974
1916	Ranitidine	0	0	0	0	3/484 (0.6)	1975
1917	Asthma	0	0	0	1/113 (0.9)	3/484 (0.6)	1976
1918	Montelukast	0	0	0	1/113 (0.9)	3/484 (0.6)	1977
1919	Copper overload	0	0	0	1/113 (0.9)	0	1978
1920	Penicillamine	0	0	0	1/113 (0.9)	0	1979
1921	Gastrointestinal motility	0	0	0	1/113 (0.9)	0	1980
1922	Metoclopramide	0	0	0	1/113 (0.9)	0	1981
1923	Inflammatory bowel disease	0	0	0	1/113 (0.9)	0	1982
1924	Mesalazine	0	0	0	1/113 (0.9)	0	1983
1925	Iron overload	0	0	0	0	1/484 (0.2)	1984
1926	Deferasirox	0	0	0	0	1/484 (0.2)	1985
1927	Obesity	0	1/17 (5.9)	0	0	0	1986
1928	Phentermine	0	1/17 (5.9)	0	0	0	1987
1929	Psoriasis	0	0	0	0	3/484 (0.6)	1988
1930	Acitretin	0	0	0	0	3/484 (0.6)	1989
1931	Pulmonary hypertension	0	0	0	0	1/484 (0.2)	1990
1932	Bosentan	0	0	0	0	1/484 (0.2)	1991
1933	Rheumatoid arthritis	1/30 (3.3)	0	0	1/113 (0.9)	2/484 (0.4)	1992
1934	Leflunomide	1/30 (3.3)	0	0	1/113 (0.9)	2/484 (0.4)	1993
1935							1994
1936							1995
1937							1996
1938							1997
1939							1998
1940							1999
1941							2000
1942							2001
1943							2002
1944							2003
1945							2004
1946							2005
1947							2006

^aIndividual HDS products were not listed.

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