

Online Supplementary Document

Azmatullah et al. Systematic review of the global epidemiology, clinical and laboratory profile of enteric fever
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Supplementary tables and definitions of variables

- Table S1: Epidemiology of enteric fever by age

Demographics/History	0 to 5 years 14 studies			5 to 10 years 6 studies			10 to 17 years 4 studies			Adults (12 years & up) 69 studies		
	N	N	%	n	N	%	n	N	%	n	N	%
Males	314	529	59	421	714	59	135	237	57	2761	4551	61
Blood/bone marrow Isolates	615	655	94	695	695	100	282	282	100	4153	4465	93
Pre-treatment antibiotics received	2	16	13							510	1240	41
Duration of illness ≤ 1 week	13	22	59							287	506	57
Duration of illness within 1-2weeks	7	18	39							45	195	23
Duration of illness > 2 weeks	2	18	11							115	691	17
Duration of illness > 1 week	9	18	50							293	971	30
Multi-drug resistant isolates	94	383	25	121	558	22	58	237	24	913	1726	53
Fluoroquinolone resistance	10	161	6							11	1662	1
Chloramphenicol resistance	47	99	47							1119	1877	60
Ampicillin/Amoxycillin resistance	36	71	51							1081	1461	74
Co-trimoxazole resistance	28	71	39							936	1158	81
Laboratory features												
Severe anaemia (<7.5 g/dl)	45	91	49							17	437	4
Neutrophilia(>7.5 x 10 ³ /μL)	9	9	100							4	50	8
Thrombocytopenia (<150 x 10 ³ /μL)	0	12	0	5	28	18	4	31	13	210	395	53
Severe thrombocytopenia(<50 x 10 ³ /μL)										13	194	7
Hemolysis or hemolytic anaemia										1	100	1
Other signs and symptoms												
Chills or rigors	4	33	12	4	125	3				362	769	47
Bradycardia/relative bradycardia										532	1142	47
Dehydration							1	8	13	164	288	57
Anorexia/refusal to feed	36	55	65	82	125	66				355	765	46
Weakness/dizziness or malaise							5	8	63	223	472	47
Continuous fever	8	18	44							113	274	41
Intermittent fever	5	18	28							32	191	17
Remittent fever	5	18	28							86	199	43
Stepladder fever										63	255	25
Chelosis										2	82	2
URTI	5	34	15	14	65	22	5	45	11	34	334	10
Other complications												
Myocarditis	1	51	2	6	125	5				72	862	8
Meningitis or meningismus	7	139	5	3	153	2	0	31	0	29	1645	2
Hepatitis or raised LFTs	17	47	36	19	72	26				547	1955	28
Jaundice	6	46	13	0	28	0	1	39	3	43	985	4
DIC										22	573	4
Acute acalculouscholecystitis	7	71	10							7	97	7
Edema or pleural effusion or ascites	0	12	0	6	69	9	1	31	3	9	512	2
Convulsions	10	122	8	3	125	2	0	8	0			

Focal neurological involvement									96	1102	9	
Epistaxis/bleeding (unspecified)	16	140	11	16	166	10			15	315	5	
Any abscess	1	71	1						16	435	4	
Osteomyelitis or septic arthritis	11	116	9						2	30	7	
Renal involvement	2	71	3						140	1277	11	
Arthritis or arthralgia or myalgia	0	18	0	1	28	4	4	39	10	194	1285	15

- **Table S2: Associations of clinical features in enteric fever by age (0-5 yrs old versus 5-10 yrs old)**

Clinical Features	Odds Ratio	95% Confidence Interval
Headache	0.1	0.05 - 0.2
Diarrhea	2.5	2.0 - 3.2
Constipation	0.4	0.3 - 0.6
Nausea or vomiting	0.6	0.4 - 0.8
Hepatomegaly	1.3	1.0 - 1.6
Abdominal pain or tenderness	0.1	0.07 - 0.2
Abdominal distention or ileus	0.2	0.1 - 0.4
Leucopenia (< 5 x 10 ³ /μL)	0.2	0.1 - 0.4
Leucocytosis(> 15 x 10 ³ /μL)	4.6	3.5 - 6.2
Altered mental status	0.4	0.2 - 0.6
Chills or rigors	4.1	1.0 - 17.7
Death	4.6	2.3 - 9.2

- **Table S3: Associations of clinical features in enteric fever by age (children versus adults*)**

Clinical Features	Odds Ratio	95% Confidence Interval
Multi-drug resistant isolates	0.3	0.2- 0.3
Pre-treatment antibiotics received	0.2	0.04 - 0.9
Coated tongue	3.5	2.5- 5.1
Cough	0.7	0.6- 0.9
Nausea or vomiting	0.7	0.5- 0.8
Diarrhea	0.6	0.5 - 0.6
Constipation	0.7	0.6 - 0.9
Hepatomegaly	2.1	1.8- 2.5
Splenomegaly	0.6	0.5- 0.7
Abdominal distention or ileus	2.7	2.0- 3.7
Anemia (Hb < 12 g/dl)	5.8	3.8- 9.0
Leucopenia (< 5 x 10 ³ /μL)	1.4	1.0- 1.8
Leucocytosis (> 15 x 10 ³ /μL)	2.7	1.8- 4.0
Thrombocytopenia (<150 x 10 ³ /μL)	0.1	0.05- 0.3
Altered mental status	0.7	0.6- 0.9
GI perforation	0.4	0.2- 0.8
Pneumonia or chest signs	1.7	1.3- 2.2
Hepatitis or raised LFTs	5.9	3.9 - 8.8
Jaundice	1.9	1.0 - 3.5
Chills or rigors	0.06	0.03- 0.1

URTI	2.1	1.1- 3.9
High grade fever	0.3	0.1 - 0.5
Fluoroquinolone resistance	9.4	3.9- 22.5
Chloramphenicol resistance	0.6	0.4 - 0.9
Ampicillin/Amoxicillin resistance	0.4	0.2 - 0.6
Co-trimoxazole resistance	0.2	0.1 - 0.3
Severe anaemia (<7.5)	24.2	12.8 - 45.6
Anorexia/refusal to feed	2.2	1.6 - 3.1
Edema or pleural effusion or ascites	4.5	1.5 - 12.9
Epistaxis/bleeding (unspecified)	2.3	1.2 - 4.4
Renal involvement	0.2	0.06 - 1.0
Arthritis or arthralgia or myalgia	0.1	0.02 - 1.0

* Children - 0 - 5 yrs old versus 5 - 10 yrs old
 Adults - Author defined or aged 12 years and above

References to Table 1 , Table S1, S2 and S3: Epidemiology of enteric fever by age

Ages 0- 5 years

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• **Table S4: Spectrum of enteric fever in children by economic regions and geographical regions**

Demographics/History	High Income countries 17 studies			Europe& Central Asia 4 studies			Sub-Saharan Africa 12 studies			Middle East & North Africa 3 studies			South Asia 37 studies			East Asia & Pacific 10 studies		
	N	N	%	n	N	%	n	N	%	N	N	%	n	N	%	n	N	%
Males	262	472	56	77	131	59	574	1077	53	162	281	58	2626	4512	58	371	661	56
Duration of illness 1-2weeks	63	161	39				109	420	26	40	150	27	556	1712	32	63	158	40
Duration of illness > 2 weeks	74	161	46				35	320	11	18	150	12	432	1863	23	5	158	3
Duration of illness > 1 week	63	134	47				131	424	31				672	1380	49	122	325	38
Chloramphenicol resistance	10	257	4	2	83	2	0	120	0				712	1075	66	66	426	15
Ampicillin/Amoxycillin resistance	19	245	8	3	83	4	6	120	5				506	781	65	41	329	12
Co-trimoxazole resistance	17	245	7	2	83	2	10	181	6				502	708	71	29	337	9
Laboratory features																		
Severe anaemia (<7.5 g/dl)							52	152	34	3	62	5	3	50	6	7	163	4
Neutrophilia(>7.5 x 10 ³ /μL)				21	24	88							72	131	55	116	177	66
Thrombocytopenia (<150 x 10 ³ /μL)	39	264	15	0	15	0	92	266	35				53	1208	4	47	173	27
Severe thrombocytopenia (<50 x 10 ³ /μL)							4	91	4	1	71	1				5	17	29
Hemolysis or hemolytic anaemia	11	127	9	1	27	4	2	144	1							7	279	3
Other signs and symptoms																		
Chills or rigors	40	106	38							4	71	6	154	503	31	83	638	13
Anorexia/refusal to feed	140	279	50	37	72	51	73	224	33				770	3184	24	246	502	49
Weakness or malaise	58	61	95	23	51	45	6	217	3				48	161	30	9	30	30
Continuous fever							3	54	6	31	150	21	262	351	75	32	137	23
Intermittent fever	96	127	76				11	35	31	5	150	3	171	354	48	52	137	38
Remittent fever	28	111	25				64	231	28	114	150	76	29	245	12	51	137	37
Stepladder fever													0	93	0	0	54	0
Chelosis	2	24	8										33	447	7	4	137	3
URTI	31	111	28				11	47	23	37	150	25	436	2765	16	19	314	6
Other complications																		
Myocarditis							1	107	1				24	908	3	12	397	3
Meningitis or meningismus	18	326	6				170	957	18	12	221	5	54	1231	4	9	488	2
Hepatitis or raised LFTs	23	56	41	13	43	30	13	296	4				199	2427	8	70	173	40
Jaundice	4	181	2	3	51	6	33	569	6				109	3485	3	12	538	2
DIC													91	336	27	1	54	2
Acute acalculouscholecystitis	1	28	4										39	970	4	4	156	3
Edema/pleural effusion/ascites	8	83	10				4	117	3				14	674	2	6	193	3
Convulsions	2	58	3	3	27	11	7	324	2				22	590	4	4	30	13
Focal neurological involvement	4	153	3	3	51	6	11	385	3	5	71	7	65	2249	3	17	458	4
Epistaxis/bleeding(unspecified)	24	240	10				3	117	3				33	772	4	16	242	7
Any abscess	1	50	2				3	164	2				2	488	0			

Osteomyelitis or septic arthritis	1	206	0			10	184	5			2	625	0	2	102	2		
Renal involvement	4	16	25			59	974	6	20	71	28	8	823	1	46	116	40	
Arthritis or arthralgia or myalgia	24	152	16	40	96	42	17	271	6	2	71	3	60	1182	5	16	384	4

Table S5: Spectrum of enteric fever in children in Latin America & Caribbean

	Latin America & Caribbean 2 studies		
	n	N	%
Males	8	13	62
Blood/bone marrow Isolates	13	13	100
Duration of illness ≤ 1 week	4	4	100
Fever	4	4	100
High grade fever	0	4	0
Anorexia/refusal to feed	2	4	50
Cough	4	4	100
Nausea or vomiting	2	4	50
Diarrhea	0	4	0
Constipation	0	4	0
Hepatomegaly	0	4	0
Splenomegaly	0	4	0
Anaemia (Hb < 12 g/dl)	9	9	100
Neutrophilia (>7.5 x 10 ³ /μL)	9	9	100
Meningitis or meningismus	1	9	11
Pneumonia or chest signs	1	9	11
Hepatitis or raised LFTs	2	9	22
Epistaxis/bleeding	4	9	44
Death	2	13	15

- Table S6: Associations of clinical features in enteric fever by geographical regions (Africa* versus South Asia)

Clinical Features	Odds Ratio	95% Confidence Interval
Multi-drug resistant isolate	0.6	0.5 - 0.8
Toxicity	2.2	1.8 - 2.7
Diarrhea	2.3	2.0 - 2.6
Constipation	3.3	2.4 - 4.5
Relative bradycardia	15.3	9.6 - 24.3
Leucopenia (< 5 x 10 ³ /μL)	2.8	2.1 - 3.6
Leucocytosis (> 15)	0.6	0.4 - 0.9
Thrombocytopenia	11.5	7.9 - 16.7
Abdominal pain/tenderness	2.4	2.1 - 2.8
Abdominal distention or ileus	7.4	6.2 - 8.9
Altered mental status	1.5	1.2 - 1.8
Meningitis or meningismus	4.1	3.0 - 5.5
Pneumonia	3.1	2.6 - 3.8
GI bleeding	0.5	0.3 - 0.8
Death	3.6	2.7 - 4.9
Severe anaemia (<7.5)	5.4	1.6 - 18.1
URTI	1.7	1.2 - 2.3

Duration of illness > 2 weeks	0.4	0.3 - 0.6
Duration of illness > 1 week	0.8	0.6 - 1.0
Chills or rigors	0.2	0.1 - 0.6
Anorexia/refusal to feed	1.5	1.1 - 2.0
Weakness or malaise	0.07	0.03 - 0.2
Continuous fever	0.07	0.04 - 0.1
Remittent fever	6.5	4.2- 10.1
Intermittent fever	0.1	0.06 - 0.2
Hepatitis or raised LFTs	0.5	0.3 - 0.9
Jaundice	1.9	1.3- 2.9
Osteomyelitis or septic arthritis	17.9	3.9 - 82.5
Renal involvement	7.8	4.0 - 15.1

* Sub-Saharan Africa (12 studies) and Middle East & North Africa (3 studies)

References to Table 2, Table S4, Table S5 and Table S6: Spectrum of enteric fever in children by economic regions

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- Table S7: Enteric fever in children in hospital-based versus community-based setting

Demographics/History	Hospital-based 80 studies			Community-based or health center (out- patients) 5 studies		
	N	N	%	n	N	%
Males	4075	7142	57	2	4	50
Duration of illness within 1-2weeks	831	2601	32			

Duration of illness > 2 weeks	564	2652	21			
Duration of illness > 1 week	988	2263	44			
Chloramphenicol resistance	780	1895	41	10	28	36
Ampicillin/Amoxicillin resistance	567	1520	37			
Co-trimoxazole resistance	547	1516	36			
Laboratory features						
Severe anaemia (<7.5 g/dl)	53	393	13			
Neutrophilia(>7.5 x 10 ³ /μL)	218	341	64			
Thrombocytopenia (<150 x 10 ³ /μL)	231	1926	12			
Severe thrombocytopenia (<50 x 10 ³ /μL)	10	179	6			
Hemolysis or hemolytic anaemia	21	577	4			
Other signs and symptoms						
Chills or rigors	281	1318	21			
Anorexia/refusal to feed	1264	4212	30	4	53	8
Weakness/dizziness or malaise	142	471	30	2	49	4
Continuous fever	328	692	47			
Intermittent fever	335	803	42			
Remittent fever	286	874	33			
Stepladder fever	0	147	0			
Chelosis	39	608	6			
URTI	532	3371	16	2	16	13
Other complications						
Myocarditis	37	1412	3			
Meningitis or meningismus	260	3160	8			
Hepatitis or raised LFTs	320	3004	11			
Jaundice	156	4790	3			
DIC	92	390	24			
Acute acalculouscholecystitis	44	1154	4			
Edema or pleural effusion or ascites	32	1067	3			
Convulsions	103	3329	3			
Focal neurological involvement	38	1029	4			
Epistaxis/bleeding (unspecified)	79	1342	6			
Any abscess	6	702	1			
Osteomyelitis or septic arthritis	11	1083	1			
Renal involvement	137	2000	7			
Arthritis or arthralgia or myalgia	159	2156	7			

- Table S8: Associations of clinical features in enteric fever in children by setting (hospital-based versus community/health-center)

Clinical Features	Odds Ratio	95% Confidence Interval
Pre-treatment antibiotics received	2.8	2.0 - 4.0
Multidrug resistant isolates	1.7	1.3 - 2.1
High - grade fever	4.7	3.5 - 6.4
Headache	0.3	0.2 - 0.4
Toxicity	0.3	0.1 - 0.6
Nausea/vomiting	2.0	1.6 - 2.6
Cough	0.7	0.5 - 0.9
Diarrhea	5.2	3.8 - 7.2

Constipation	4.2	1.9 - 9.6
Hepatomegaly	7.1	4.2 - 12.0
Splenomegaly	2.7	1.7 - 4.1
Abdominal pain/tenderness	0.5	0.4 - 0.6
Abdominal distention or ileus	7.4	2.7 - 20.0
GI bleeding	9.0	1.2 - 64.3
Duration of illness \leq 1week	1.8	1.3 - 2.4
Fluoroquinolone resistance	0.03	0.01 - 0.08

References for Table 3 , Table S7, and Table S8: Typhoid fever in children in hospital-based vs. community/health-center

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• **Table S9: Typhoid fever in children in with multi-drug resistant versus sensitive strains of salmonella**

Demographics/History	Multi-drug resistant 13 studies			Sensitive 22 studies		
	n	N	%	n	N	%
Males	358	601	60	864	1500	58
Duration of illness 1 - 2 weeks	80	272	29	208	897	23
Duration of illness >2 weeks	83	272	31	164	897	18
Duration of illness > 1 week	208	334	62	407	1034	39
Ampicillin/Amoxycillin resistance	125	125	100	9	186	5
Co-trimoxazole resistance	125	125	100	14	186	8
Laboratory features						
Severe anaemia (<7.5 g/dl)	2	39	5	13	75	17
Thrombocytopenia (<150 x 10 ³ /μL)	3	62	5	39	119	33
Other signs and symptoms						
Chills or rigors	33	116	28	22	192	11
Anorexia/refusal to feed	27	77	35	85	253	34
Continuous fever	81	81	100	66	171	39
Intermittent fever	44	62	71	52	137	38
Remittent fever	11	11	100	51	137	37
Chelosis	5	112	4	6	161	4
Other complications						
Myocarditis	10	157	6	5	313	2
Meningitis or meningismus	3	54	6	6	210	3
Hepatitis or raised LFTs	59	413	14	22	210	10
Jaundice	43	416	10	12	317	4
Acute acalculouscholecystitis	4	80	5	3	122	2
Edema or pleural effusion or ascites	5	181	3	0	11	0
Convulsions	2	54	4	8	233	3
Epistaxis/bleeding (unspecified)	2	39	5	3	62	5
Any abscess	0	62	0	1	47	2

Renal involvement	3	95	3	46	116	40
Arthritis or arthralgia or myalgia	1	77	1	45	233	19

- Table S10: Associations of clinical features in enteric fever in children with multi-drug resistant versus sensitive strains of *S. Typhi* and *S. Paratyphi*

Clinical Features	Odds Ratio	95% Confidence Interval
Duration of illness \leq 1 week	0.4	0.3 - 0.5
Headache	2.4	1.7 - 3.3
Toxicity	2.1	1.6 - 2.6
Hepatomegaly	2.3	1.9 - 2.7
Splenomegaly	2.4	2.0 - 2.9
Abdominal pain/tenderness	2.4	2.0 - 3.0
Abdominal distention or ileus	2.6	1.7 - 4.1
Anaemia	1.6	1.3 - 2.0
Leucopenia	0.5	0.3 - 0.8
Shock	2.9	1.2 - 7.3
Pneumonia	2.2	1.3 - 3.7
GI bleeding	2.3	1.1 - 4.5
Relapse	0.3	0.1 - 0.7
High grade fever	0.6	0.5 - 0.8
Bradycardia or relative bradycardia	9.1	2.3 - 36.4
Dehydration	10.9	3.3 - 36.0
Duration of illness $>$ 1 week	2.7	2.1 - 3.4
Jaundice	2.9	1.5 - 5.7
Renal involvement	0.05	0.01 - 0.2
Duration of illness $>$ 2 weeks	2.0	1.4 - 2.7
Thrombocytopenia ($<$ 150)	0.1	0.03 - 0.3
Chills or rigors	3.1	1.7 - 5.6
Myocarditis	4.2	1.4 - 12.5
Arthritis or arthralgia or myalgia	0.05	0.01 - 0.4

References to Table 4, Table S9 and Table S10: Typhoid fever in children with multi-drug resistant versus sensitive strains of salmonella

Sensitive

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Table S11 :Time-line of included studies on enteric fever in children

	1950-1970s 13 studies			1980-1989 21 studies			1990 – 1999 30 studies			2000-2013 12 studies		
Demographics/History	N	N	%	n	N	%	n	N	%	n	N	%
Blood/bone marrow Isolates	882	1113	79	1283	1629	79	4562	4941	92	918	918	100
Pre-treatment antibiotics received	23	34	68	137	295	46	1875	3283	57	45	227	20
Duration of illness≤ 1week	204	404	50	516	841	61	711	1570	45	82	251	33
Multi-drug resistant isolates	0	127	0	1	351	0	1609	3772	43	281	598	47
Fluoroquinolone resistance							12	1148	1	8	167	5
Chloramphenicol resistance	0	127	0	49	497	10	591	1042	57	0	72	0
Signs & Symptoms: Systemic												
Fever	662	711	93	1327	1399	95	3694	4014	92	731	732	100
High grade fever	8	70	11	199	385	52	1847	2706	68	247	465	53
Chills or rigors	22	137	16	39	488	8	185	566	33	48	190	25
Bradycardia or relative bradycardia	30	390	8	355	771	46	24	149	16	9	270	3
Anorexia/refusal to feed	203	463	44	269	523	51	706	3046	23	92	319	29
Headache	147	538	27	456	1235	37	295	3256	9	314	766	41
Toxicity	171	295	58	79	288	27	978	3310	30	48	76	63
Coated tongue	81	150	54	157	196	80	146	294	50	65	198	33
Respiratory and abdominal												
Cough	244	641	38	290	878	33	464	2377	20	178	666	27
Nausea or vomiting	290	655	44	354	935	38	1361	3757	36	282	783	36
Diarrhea	280	701	40	718	1561	46	1312	3964	33	182	802	23
Constipation	87	348	25	243	811	30	251	3445	7	35	583	6
Hepatomegaly	139	471	30	372	747	50	1922	4123	47	359	603	60
Splenomegaly	343	869	39	266	905	29	1280	4358	29	222	603	37
Abdominal pain or tenderness	273	559	49	574	1476	39	764	3194	24	383	763	50
Abdominal distention or ileus	235	611	38	292	1155	25	171	3657	5	43	515	8
Laboratory features												
Anaemia (Hb < 12 g/dl)	233	467	50	323	967	33	2124	2959	72	189	337	56
Leucopenia (< 5 x 10 ³ /μL)	92	379	24	272	906	30	109	1589	7	26	338	8
Leucocytosis (> 15 x 10 ³ /μL)	16	161	10	25	302	8	330	1465	23	54	275	20
Thrombocytopenia (<150 x 10 ³ /μL)	41	161	25	104	415	25	79	1188	7	39	198	20
Complications & outcome												
Shock or hypotension	8	188	4	3	81	4	89	2344	4	24	408	6
Altered mental status	146	650	22	276	1495	18	290	4176	7	75	517	15
Pneumonia or chest signs	117	610	19	276	1204	23	148	1580	9	37	394	9
GI bleeding	40	784	5	23	1351	2	48	716	7	39	586	7
GI perforation	58	660	9	12	1047	1	7	775	1	3	130	2
Hepatitis or raised LFTs	18	277	6	66	145	46	172	2072	8	43	266	16

Jaundice	21	484	4	22	534	4	81	3381	2	38	408	9
Relapse	59	658	9	29	1053	3	173	3235	5	5	248	2
Death	73	986	7	40	1518	3	62	4288	1	5	722	1

References to Table S6 : Time-line of included studies on enteric fever in children

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Chart 1 : Definitions of variables used

Variables	As defined by author, or :
Multi-drug resistance	Resistance to all 3 of chloramphenicol, ampicillin/amoxycillin, cotrimoxazole
Weakness or malaise	fatigue, weakness, dizziness, malaise, prostration
High grade fever	> 104 F or > 40 C, hyperpyrexia, extreme hyperpyrexia
Toxicity	toxemia or 'enteric state'
Chelosis	stomatitis, mouth ulcers, aphthous ulcers, parotitis, stomatitis, cracked lips
Pneumonia, bronchopneumonia or chest signs	abnormal CXR, congestion, consolidation, rales, rhonchi, crepts, dyspnea, respiratory/chest/lung/bronchitic signs, pulmonary infiltration, bronchitis, respiratory distress, bronchial breathing, broncho-pulmonary involvement
Complications	
Altered mental status	mental change, encephalopathy, encephalitis, drowsy, lethargy, confusion, coma, semi-coma, delirium, psychosis, irritability, disoriented, stupor, obtundation, disordered thought, CNS disturbances, neuro-psychiatric features/manifestations, altered sensorium, clouded/altered consciousness, acute schizophrenia, global cerebral dysfunction, somnolence, apathy
Focal neurological signs or symptoms	aphasia, ataxia, deafness, motor paresis, hemiplegia, tremor, difficulty speaking, nystagmus, dysarthria, slurred speech, chorea/choreoform movements, cerebellar ataxia, cerebellitis, cerebellar disease, Parkinsonism, facial palsy, unsteady gait, unsteady/falls, myelitis, transverse myelitis, CN palsy
Hepatitis or raised LFTs	elevated SGPT/ALT, hepatic dysfunction, raised LFTs or transaminases (if not disaggregated, both ALT and/or AST elevated extracted), hepato-biliary involvement (taken ALT raised as > 35 if not specified by author), or ALT and/or bilirubin elevation, liver failure
Abdominal distention or ileus	tyimpanities, tympanic abdomen, meteorism, tumid abdomen, decreased or absent bowel sounds, signs of intestinal obstruction
Renal involvement	nephritis, nephrotic, proteinuria, albuminuria, raised BUN or Cr, abnormal urine d/r, hematuria, pyuria, renal failure, oliguria, nephropathy
Arthritis, arthralgia, myalgia	limb/extremity pain, leg pain, backache, bone pain, joint pain, joint swelling, reactive arthritis, bodyache, muscle pain
Outcome	
Relapse	Clinical, or clinical and culture-confirmed
Laboratory features	
Anaemia(<12g/dl)	undefined, moderate anaemia, Hb 5-10, 8.5-10Hct< 30%/32%, Hb<9, < 10, <=10.5, <= 11, < 12, <=12
Severe anaemia (<7.5 g/dl)	undefined, <5, < 6, <6.5, < 6.7, < 7.4
Leucopenia (<5 x 10 ³ /μL)	<4, <4.5, <3, or undefined
Leucocytosis (>15 x 10 ³ /μL)	or undefined
Thrombocytopenia (<150 x 10 ³ /μL)	<100, or undefined
Severe thrombocytopenia (<50 x 10 ³ /μL)	or undefined
Neutrophilia (>7.5 x 10 ³ /μL)	or undefined