

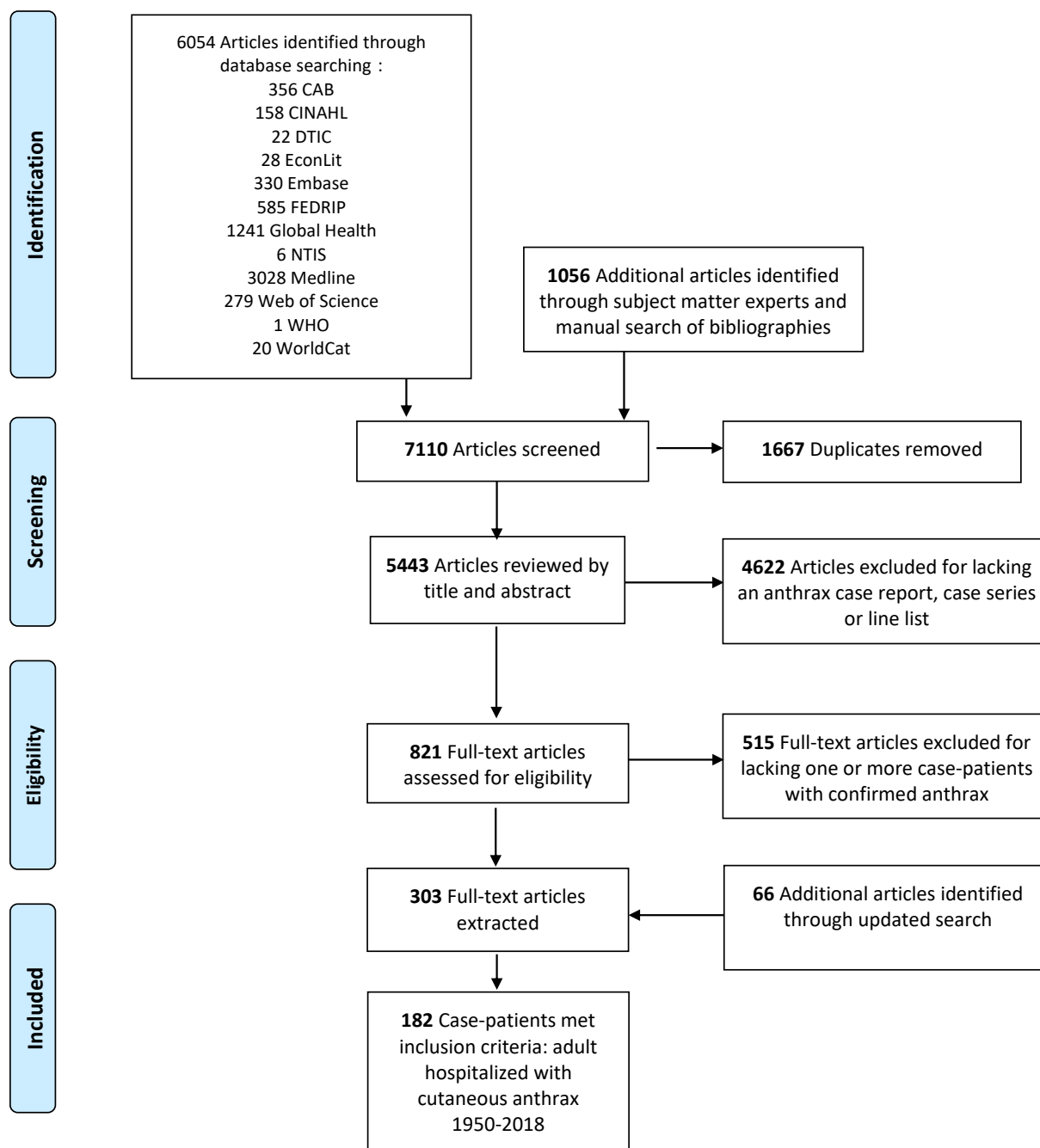
Supplement to *Risk Factors for Death or Meningitis in Adults Hospitalized for Cutaneous Anthrax: A Systematic Review, 1950-2018*

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Supplementary Figure 1. Systematic Review Search Strategy for Adults Hospitalized for Cutaneous Anthrax, 1950-2018. Abbreviations of databases include CAB, Commonwealth Agricultural Bureaux; CINAHL, Cumulative Index to Nursing and Allied Health Literature; DTIC, Defense Technical Information Center; FEDRIP, Federal Research in Progress; NTS, National Technical Information Service; and WHO, World Health Organization. “Hospitalized” included patients who received ongoing medical care in their homes.

Supplementary Table 1. Demographics and Clinical Findings on Presentation Associated with Early (≤ 72 -Hours After Hospitalization) and Late (>72 -Hours After Hospitalization) Mortality Among Adults Hospitalized for Cutaneous Anthrax, 1950-2018 (N=182)

Characteristic	Survived		Early fatalities vs. Survival					Late fatalities vs. Survival					
	n	(%)	N	n	(%)	N	OR (95% CI)	P value	n	(%)	N	OR (95% CI)	P value
Overall	135	(74.2)	28	13	(15.4)				13	(7.1)			
Demographics													
Age (years)													
18-45	89	(67.4)	132	14	(50.0)	28	Reference	-	1	(7.7)	13	Reference	-
46-64	40	(30.3)	132	12	(42.9)	28	1.9 (.7, 4.9)	.2	10	(76.9)	13	21.8 (2.9, ∞)	<.001
65+	3	(2.3)	132	2	(7.1)	28	4.2 (.3, 39.8)	.3	2	(15.4)	13	49.7 (2.1, ∞)	.01
Sex													
Male	94	(69.6)	134	23	(82.1)	28	2.0 (.7, 7.0)	.3	10	(76.9)	13	1.4 (.3, 8.4)	.2
Female	40	(29.6)	134	5	(17.9)	28	Reference	-	3	(23.1)	13	Reference	-
Pregnant	3	(7.5)	40	1	(20.0)	5	3.0 (.1, 49.8)	.8	1	(33.3)	3	5.7 (.1, 145.0)	.5
Not pregnant	37	(92.5)	40	4	(80.0)	5	Reference	-	2	(66.7)	3	Reference	-
Geographic region^a													
European Region	74	(54.8)	135	5	(17.9)	28	Reference	-	5	(38.5)	13	Reference	-
Eastern Mediterranean Region	23	(17.0)	135	1	(3.6)	28	0.6 (0, 6.2)	1.0	3	(23.1)	13	1.2 (.3, 10.7)	.6
Region of the Americas	16	(11.9)	135	3	(10.7)	28	2.7 (.4, 15.8)	.4	2	(15.4)	13	1.8 (.2, 12.5)	.8
Western Pacific Region	6	(4.4)	135	2	(7.1)	28	4.8 (.4, 38.6)	.2	1	(7.7)	13	2.4 (0, 28.0)	.9
South-East Asia Region	12	(7.8)	135	14	(50.0)	28	16.5 (4.6, 70.2)	<.0001	0	(0)	13	0.9 (0, 5.6)	.5
African Region	4	(3.0)	135	3	(10.7)	28	10.5 (1.2, 84.7)	.03	2	(15.4)	13	7.1 (.5, 66.4)	.1
Clinical findings													
Symptoms													
Fever or chills	53	(39.8)	133	20	(71.4)	28	3.7 (1.5, 10.6)	<.01	9	(75.0)	12	4.5 (1.1, 26.9)	.04
Anxiety	1	(0.7)	134	3	(10.7)	28	15.5 (1.2, 843.8)	.03	1	(15.4)	12	11.6 (.1, 956.0)	.3
Headache	2	(1.5)	132	5	(17.9)	28	13.8 (2.1, 152.6)	<.01	2	(15.4)	13	11.4 (.8, 171.2)	.1
Severe headache	0	(0)	134	0	(0)	28	N/A	N/A	1	(7.7)	13	10.3 (.5, ∞)	.09
Abdominal pain	0	(0)	135	0	(0)	28	N/A	N/A	2	(15.4)	13	26.8 (3.1, ∞)	<.01
Vomiting, emesis, nausea	0	(0)	133	6	(21.4)	28	46.7 (8.5, ∞)	<.0001	3	(23.1)	13	45.7 (6.7, ∞)	<.001
Vitals													
Fever ($>38^{\circ}\text{C}$)	20	(47.6)	42	8	(80.0)	10	4.3 (.7, 46.1)	.1	3	(60.0)	5	1.6 (.2, 21.4)	1.0
Tachycardia ($>90\text{bpm}$)	8	(53.3)	15	5	(71.4)	7	2.2 (.2, 29.0)	.7	1	(50.0)	2	0.8 (.1, 78.4)	.1
Systolic hypotension ($<90\text{ mmHg}$)	2	(18.2)	11	4	(66.7)	6	7.6 (.6, 151.7)	.1	0	(0)	1	0.4 (0, 4.7)	.7
Diastolic hypotension ($<60\text{mmHg}$)	1	(10.0)	10	5	(83.3)	6	29.2 (1.6, ∞)	.02	0	(0)	1	5.0 (0, 95.0)	.8
Skin													
Lymphadenopathy	21	(15.7)	134	12	(42.9)	28	3.9 (1.5, 10.6)	<.01	0	(0)	13	0.3 (0, 1.5)	.1
Lesion characteristics													
Eschar													
1	110	(84.0)	132	21	(75.0)	26	Reference	-	9	(69.2)	13	Reference	-
2+	22	(16.8)	131	4	(15.4)	26	0.9 (.2, 3.2)	1.0	4	(30.8)	13	2.2 (.5, 8.8)	.4
Head or neck lesion	52	(39.4)	132	5	(20.0)	25	0.4 (.2, 1.2)	.1	6	(46.2)	13	1.3 (.3, 5.1)	.9
Head or neck edema	47	(35.1)	134	5	(17.9)	28	0.4 (.1, 1.2)	.1	5	(41.7)	12	1.5 (.4, 5.7)	.6
On or crosses a joint	59	(44.7)	132	15	(60.0)	25	1.8 (.7, 5.0)	.2	4	(30.8)	13	0.6 (.1, 2.1)	.5
Skin trauma ^b	8	(5.9)	135	6	(21.4)	28	4.9 (1.2, 19.0)	.02	2	(15.4)	13	3.3 (.3, 20.4)	.4
Thoracic edema	9	(6.7)	135	7	(25.0)	28	4.6 (1.3, 15.7)	.02	3	(23.1)	13	4.1 (.6, 20.5)	.1
Malignant pustule edema ^c	16	(12.0)	133	8	(34.8)	23	3.9 (1.2, 11.7)	.02	4	(50.0)	8	7.4 (1.2, 42.5)	.03
Neurologic													

Non-headache non-meningeal signs ^d	1	(0.7)	135	18 (64.3)	28	221.9 (29.9, ∞)	<.0001	3	(23.1)	13	37.0 (2.8, ∞)	.01
Other												
Evidence of coagulopathies	1	(0.7)	135	4 (16.0)	25	24.7 (2.3, ∞)	<.001	0	(0)	12	11.3 (0, 213.8)	.9
Laboratory												
Leukocytosis (>12×10 ³ /μL)	36	(46.8)	77	6 (100.0)	6	8.9 (1.6, ∞)	.01	0	(0)	3	10 (0, 190.0)	.9
Thrombocytopenia (<130×10 ³ /mm ³)	1	(20.0)	5	1 (50.0)	2	4.9 (.1, 389.5)	.6	0	(0)	0	0.2 (0, 1.8)	.1
Hemoconcentration ^e	5	(27.8)	18	1 (25.0)	4	0.9 (0, 14.3)	1.0	0	(0)	3	0.8 (0, 5.8)	.4
Complications												
Bacteremia												
At presentation	1	(0.7)	135	1 (3.6)	28	4.9 (.1, 392.4)	.6	0	(0)	13	10.4 (0, 197.3)	.9
Throughout hospitalization	1	(0.7)	135	11 (39.3)	28	82.5 (10.9, ∞)	<.0001	3	(23.1)	13	37.6 (2.8, ∞)	<.01

Abbreviations: CI, confidence interval; N/A, not applicable; OR, Odds Ratio.

^a Geographic regions of countries based on World Health Organization classification system.

^b Skin trauma is defined as the presence of insect or other bites, lacerations, or other open wounds.

^c Cases demonstrating symptoms of shock or treatment with vasopressors excluded (n=10).

^d Non-headache, non-meningeal signs include seizure, cranial nerve signs, limb weakness, papilledema.

^e Hemoconcentration defined by sex specific elevations in hemoglobin (male 14.0-18.0 g/dL; female 11.5-15.5 g/dL) or hematocrit (male 39-49%; female 33-43%) values.