WEEKLY EPIDEMIOLOGICAL REPORT

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Brucellosis - Part II

This is the second article of two in a series on "Brucellosis"

Clinical manifestation

Brucellosis typically presents with a wide range of symptoms. The incubation period is often unclear but generally lasts between 2 to 4 weeks. The disease may begin gradually or suddenly, and subclinical infections are frequently observed. Common symptoms include fever, chills, loss of appetite, sweating, weakness, fatigue, and pain in the joints, muscles, or back, along with headaches. Brucellosis symptoms may come and go over weeks or months, and in some cases, individuals may develop chronic brucellosis, experiencing symptoms for years

even after treatment. Long-term symptoms may include persistent fatigue, recurring fevers, endocarditis, arthritis, spondylitis, and sacroiliitis. Due to the vague and often mild symptoms of brucellosis, diagnosis is frequently overlooked in many patients.

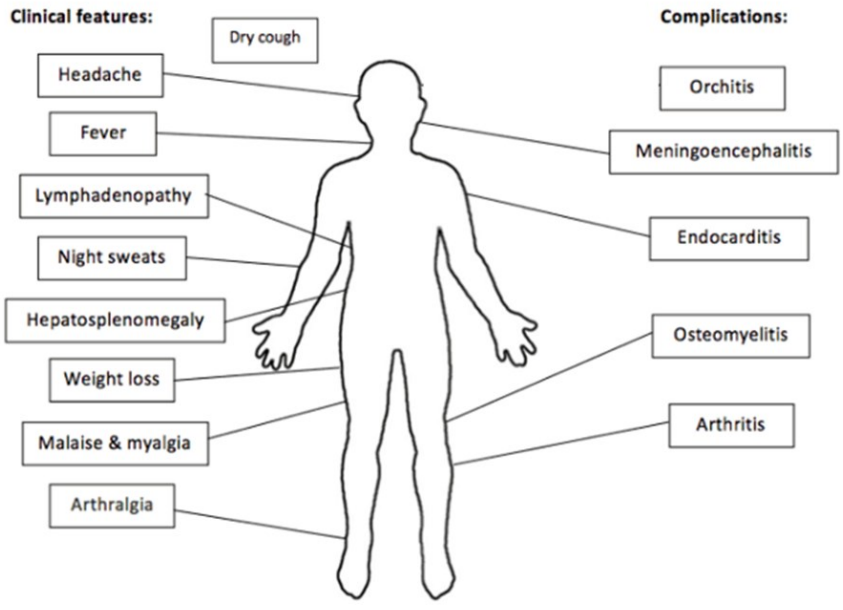

Photo credit- https://almostadoctor.co.uk/encyclopedia/brucellosis

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Complication

Brucellosis can lead to complications affecting various parts of the body, including the reproductive system, liver, heart, and central nervous system. Chronic cases may result in complications localized to a single organ or spread throughout the body. One of the most severe complications is endocarditis, which can damage or destroy heart valves if left untreated and is the leading cause of brucellosis-related deaths. Joint inflammation, particularly in the knees, hips, ankles, wrists, and spine, can cause pain, stiffness, and swelling, while spondylitis and sacroiliitis are especially difficult to treat. In males, brucellosis may infect the epididymis, potentially spreading to the testicles, and causing epididymo-orchitis. The disease may also affect the spleen and liver, causing enlargement, and in some cases, it can lead to life-threatening central nervous system infections like meningitis or encephalitis.

Diagnosis

A clinical diagnosis can be made if there is a history of exposure, but confirmation of Brucella infections requires laboratory tests such as culture, serological tests, or nucleic acid amplification assays. The gold standard is culture, where Brucella can be isolated from blood, bone marrow, or other body fluids, though this process can be time-consuming. Serological tests are widely used, including the Standard Agglutination Test (SAT) to detect antibodies, and ELISA to measure specific immunoglobulins like IgM and IgG. The Rose Bengal Test (RBT) is a rapid screening tool commonly used in resource-limited settings, while the Coombs test can be employed when agglutination test results are inconclusive. Nucleic acid amplification tests (NAATs) such as PCR are highly sensitive and specific, enabling rapid detection of Brucella DNA.

Treatment

Treatment options include doxycycline 100 mg twice daily for 45 days, combined with streptomycin 1 g daily for 15 days. An alternative regimen involves doxycycline for 45 days, paired with rifampicin for the same duration. While gentamicin may be used as a substitute for streptomycin, there is currently no direct study comparing these two regimens. The optimal treatment for pregnant women, neonates, and children under 8 remains uncertain. For children, treatment options may include co-trimoxazole in combination with an aminoglycoside (streptomycin or gentamicin) or rifampicin.

PREVENTION AND CONTROL

Brucellosis prevention relies on monitoring and mitigating risk factors. The most effective approach is to eradicate the infection in animals. Vaccination of cattle, goats, and sheep is advised in areas with high prevalence. In regions with lower prevalence, serological testing and culling can also be beneficial. In countries where vaccinating or removing infected animals is not practical, preventing human infection focuses on increasing awareness, ensuring food safety, and maintaining good hygiene practices in occupational settings and laboratories.

Pasteurizing milk—both for direct consumption and for making dairy products like cheese—is crucial to prevent transmission from animals to humans. Effective education campaigns and policies promoting the avoidance of unpasteurized milk products can help in this regard.
In agricultural and meat-processing environments, using protective measures (eg, masks, gloves, aprons, and eye protection) and properly handling and disposing of afterbirths, animal carcasses, and internal organs are key strategies for prevention.

Brucellosis is the most frequently reported bacterial infection associated with laboratory work. If you work in a lab, it's important to take precautions when handling samples to avoid infection

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References:

1. https://www.who.int/news-room/fact-sheets/detail/brucellosis
2. https://emedicine.medscape.com/article/213430-treatment?form=fpf
3. Yagupsky P, Morata P, Colmenero JD. Laboratory Diagnosis of Human Brucellosis. Clinical Microbiology Reviews. 2019 Dec;33(1):e00073–19.
4. Medical Microbiology. 4th edition. Chapter 28 Brucella, G.G. Alton and J.R.L. Forsyth.
5. Centres for Disease Control and Prevention. Estimates human Brucella infections could be four times higher than previously thought. Food Safety; 2023.
6. Pappas G, Papadimitriou P, Akritidis N, et al.. The new global map of human brucellosis. Lancet Infect Dis. 2006 Feb;6(2):91–99. doi: 10.1016/S1473-3099(06)70382-6
7. Long ignored but making a comeback: a worldwide epidemiological evolution of human brucellosis, Zhiguo Liu, a,* Liping Gao,b,* Miao Wang,c Min Yuan, a and Zhenjun Lia,d, Emerging Microbes Infection. 2024; 13(1): 2290839.
8. Madalagama R. Identification of biovars of Brucella abortus in aborted cattle and buffaloes herd in Sri Lanka. Veterinary World. 2011;4(12):542–545.
9. Rossetti CA, Maurizio E, Rossi UA.. Comparative review of Brucellosis in small domestic ruminants. Front Vet Sci. 2022;9:887671. doi: 10.3389/fvets.2022.887671
10. Lashley FR. Emerging infectious diseases at the beginning of the 21st century. Online J Issues Nurs. 2006 Jan 31;11(1):2. doi: 10.3912/OJIN.Vol11No01Man01

Table 1: Selected notifiable diseases reported by Medical Officers of Health 17th – 23rd Aug 2024 (35th Week)

RDHS	Dengue Fever		Dysentery		Encephalitis		En. Fever		F. Poisoning		Leptospirosis		Typhus F.		Viral Hep.		H. Rabiies		Chickenpox		Meningitis		Leishmania-		Tuberculosis		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	250	8448	2	26	0	7	0	46	0	19	16	369	0	8	0	8	0	0	17	383	1	30	1	2	43	1479	89	100
Gampaha	122	3867	0	33	1	26	0	13	1	73	16	530	0	8	0	8	0	0	1	298	2	99	3	19	26	831	100	99
Kalutara	57	2137	0	21	0	2	0	30	1	36	8	535	1	8	0	8	0	1	22	462	1	46	0	1	2	420	93	100
Kandy	94	3406	0	32	0	2	0	9	0	54	7	191	2	28	1	11	0	1	3	307	0	13	8	41	17	452	100	100
Matale	8	567	0	11	1	1	0	7	0	20	1	78	0	2	0	5	0	0	2	117	1	11	15	229	3	88	100	100
Nuwara Eliya	4	279	2	109	0	7	0	9	1	201	0	143	1	34	0	6	0	0	7	186	0	15	0	1	3	185	85	100
Galle	50	1591	0	41	0	20	1	10	4	84	20	562	7	91	2	9	0	1	24	565	0	65	0	3	7	302	75	100
Hambantota	15	671	1	26	0	3	0	5	1	45	5	363	0	40	0	6	0	2	6	250	0	23	2	361	22	115	100	100
Matara	13	741	0	8	0	6	0	2	0	26	14	355	0	20	2	6	0	0	9	270	1	63	2	90	7	111	82	100
Jaffna	15	5208	2	52	0	2	0	23	1	34	0	17	1	441	2	7	0	1	1	162	1	18	0	1	7	187	93	93
Kilinochchi	1	286	2	13	0	0	0	2	0	2	0	18	1	11	0	0	1	2	1	8	1	6	1	1	0	18	100	100
Mannar	8	246	0	7	0	0	0	1	0	0	0	21	0	11	0	1	0	0	1	7	0	3	0	1	0	41	100	100
Vavuniya	0	162	0	12	0	1	0	1	0	21	0	76	0	4	0	4	0	0	0	33	1	19	1	9	0	26	100	100
Mullaitivu	2	194	1	8	0	0	0	0	0	17	1	67	0	11	0	0	1	1	0	4	0	5	1	10	0	23	100	100
Batticaloa	29	1368	3	99	0	10	0	6	1	53	1	61	0	2	0	17	0	2	3	93	1	39	0	4	2	109	79	100
Ampara	5	222	0	27	0	3	0	0	0	17	6	158	0	1	0	5	0	1	0	95	1	32	0	20	1	94	57	100
Trincomalee	8	617	0	13	0	1	0	3	2	7	0	131	0	12	0	3	0	0	5	67	2	14	1	16	0	79	92	100
Kurunegala	20	1866	0	38	2	31	0	3	1	346	11	482	1	20	0	4	0	4	9	393	2	209	9	452	3	364	100	100
Puttalam	17	900	0	7	0	3	0	3	0	3	2	189	3	27	1	4	0	1	2	107	0	54	1	28	0	146	100	100
Anuradhapura	8	623	2	25	0	6	0	2	0	38	6	333	1	28	1	11	0	1	4	205	1	41	13	643	6	206	96	100
Polonnaruwa	7	310	0	18	1	2	0	1	0	7	4	217	0	2	4	45	0	0	6	113	1	26	8	389	0	80	100	100
Badulla	20	701	0	26	1	6	0	5	0	31	2	399	2	32	1	24	0	0	2	273	1	28	1	31	2	163	88	100
Monaragala	18	636	0	15	0	3	0	3	0	84	5	568	0	25	4	33	0	1	4	97	7	78	8	187	2	84	100	100
Ratnapura	48	2169	4	85	0	5	0	8	0	15	30	1320	1	22	0	20	0	2	4	246	3	102	0	132	12	232	95	100
Kegalle	23	1628	0	13	0	6	0	9	0	11	10	531	0	23	0	9	0	1	12	652	0	51	0	21	9	255	80	100
Kalmunai	12	655	0	16	0	0	0	1	8	16	0	62	0	5	0	4	0	0	7	179	0	12	0	0	3	98	85	100
SRILANKA	**854**	**39498**	**19**	**781**	**6**	**153**	**1**	**202**	**21**	**1260**	**165**	**7776**	**21**	**916**	**18**	**258**	**2**	**22**	**152**	**5572**	**28**	**110**	**75**	**2692**	**177**	**6122**	**92**	**99**

Source: Weekly Returns of Communicable Diseases (esurvillance.epid.gov.lk). T=Timeliness refers to returns received on or before 23rd Aug, 2024 Total number of reporting units 358 Number of reporting units data provided for the current week: 357 **C****-Completeness *

A = Cases reported during the current week. B = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

24th – 30th Aug 2024 (35th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2024	Number of cases during same week in 2023	Total number of cases to date in 2024	Total number of cases to date in 2023	Difference between the number of cases to date in 2024 & 2023
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	01	00	00	00	00	00	00	01	02	01	50	65	-35.9 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	00	02	02	00	00	02	00	01	06	06	196	161	22.6 %
Measles	01	00	00	00	00	00	00	00	00	01	40	283	371	-14.8 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	02	03	-33.3 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	05	06	-16.6 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Enceph-alitis	00	00	00	00	00	00	00	00	00	00	00	06	02	200 %
Whooping Cough	01	00	00	01	00	00	00	00	00	02	00	41	06	550 %

Key to Table 1 & 2

Provinces: **W**: Western, **C**: Central, **S**: Southern, **N**: North, **E**: East, **NC**: North Central, **NW**: North Western, **U**: Uva, **Sab**: Sabaragamuwa.

RDHS Divisions: **CB**: Colombo, **GM**: Gampaha, **KL**: Kalutara, **KD**: Kandy, **ML**: Matale, **NE**: Nuwara Eliya, **GL**: Galle, **HB**: Hambantota, **MT**: Matara, **JF**: Jaffna, **KN**: Killinochchi, **MN**: Mannar, **VA**: Vavuniya, **MU**: Mullaitivu, **BT**: Batticaloa, **AM**: Ampara, **TR**: Trincomalee, **KM**: Kalmunai, **KR**: Kurunegala, **PU**: Puttalam, **AP**: Anuradhapura, **PO**: Polonnaruwa, **BD**: Badulla, **MO**: Moneragala, **RP**: Ratnapura, **KG**: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS =**Congenital Rubella Syndrome

NA = Not Available

Take prophylaxis medications for leptospirosis during the paddy cultivation and harvesting seasons.

It is provided free by the MOH office / Public Health Inspectors.

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

ON STATE SERVICE

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