

Conclusion. Contrary to what is expected, *Mtbdsl* did not significantly contribute to better treatment outcomes. High-risk mutation *gyrA* 94Gly was prevalent and associated with poorer outcomes. Small sample size and a wide variety of mutations preclude generalizability of our results.

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1364. Pretreatment Chest X-ray Stability Duration and Tuberculosis Disease in San Diego County, 2012–2017

Casey Barber, BS¹; Eyal Oren, PhD²; Yi-Ning Cheng, MD, MPH³; Madeline Slater, MD⁴; Susannah Graves, MD, MPH⁵; ¹San Diego State University, San Diego, California; ²School of Public Health, San Diego State University, San Diego, California; ³County of San Diego, Health and Human Services Agency, Public Health Services, San Diego, California; ⁴San Diego County Department of Health and Human Services, Carlsbad, California; ⁵County of San Diego Department of Health and Human Services Agency, San Diego, California

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Background. Repeated chest X-rays serve as an essential screening tool to identify and describe new or stable (i.e., unchanged) lung abnormalities suggestive of pulmonary tuberculosis (TB) disease. The time for which a patient's chest X-ray has not demonstrated appreciable change prior to treatment, or pretreatment chest X-ray stability duration, has been considered clinically useful in distinguishing inactive from active disease at four or 6 months. This relationship, however, has not been previously quantified.

Methods. This study relied on retrospective medical record review to assess the relationship of documented pretreatment chest X-ray stability duration thresholds relative to four and 6 months with a future clinical or culture-confirmed (Class 3) diagnosis of pulmonary TB disease. Multivariable logistic regression quantified this association among 146 patients who were evaluated and started on treatment for pulmonary TB disease in the San Diego County tuberculosis clinic between May 2012 and March 2017.

Results. After adjusting for age and Class B1 TB, Pulmonary status, a CXR stability duration of 4 months or more was not significantly associated with a Class 3 pulmonary TB diagnosis (adjusted odds ratio [AOR], 0.830; 95% confidence interval [CI], 0.198–3.48). Results were similar for the 6-month cut-point after adjusting for age and Class B1 Pulmonary status (AOR, 0.970; 95% CI, 0.304–3.10). Compared with less than 4 months, CXR stability durations of four to 6 months (AOR, 0.778; 95% CI, 0.156–3.89) and greater than 6 months (AOR, 0.875; 95% CI, 0.187–4.10) were also not significantly associated with a Class 3 TB diagnosis after adjusting for covariates.

Conclusion. Repeated chest X-rays remain a valuable tool for clinicians identifying and describing new or unchanged lung abnormalities suggestive of pulmonary TB disease. This study found no statistically significant association between pretreatment chest X-ray stability duration and subsequent TB disease diagnosis, with a wide range of estimates compatible with the data, suggesting the stability duration cut points relative to four and 6 months may not be as informative as previously understood.

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1365. Profiling Extrapulmonary Nontuberculous Mycobacteria Infections and Predictors for rapid-growing Species: A Multi-Center Retrospective Study

Jung Ho Kim, MD¹; Woon Ji Lee, MD¹; Hye Seong, MD¹; In Young Jung, MD²; Eun Jin Kim, MD³; Je Eun Song, MD⁴; Jin young Ahn, MD¹; Su Jin Jeong, MD, PhD⁵; Nam su Ku, MD, PhD¹; Jun yong Choi, MD, PhD¹; Joon-Sup Yeom, MD, PhD⁶; Young Goo Song, MD, PhD²; ¹Yonsei University College of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea; ²Yonsei University Wonju College of Medicine, Wonju, Kangwon-do, Republic of Korea; ³Ajou University School of Medicine, Suwon, Kyonggi-do, Republic of Korea; ⁴Inje University Ilsan Paik Hospital, Goyang, Kyonggi-do, Republic of Korea; ⁵Yonsei University College of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea; ⁶Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea

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Background. Nontuberculous mycobacteria (NTM) disease is increasing worldwide and is an important cause of morbidity and mortality. It is found that 20 to 30% of NTM isolates are of extrapulmonary origin. However, Studies about extrapulmonary NTM infections have been limited. Thus, we aim to describe the diversity of NTM infections and correlate these observations with clinical data.

Methods. We analyzed all symptomatic patients with positive NTM cultures in sterile extrapulmonary sites at three tertiary care centers in South Korea between January 2006 and June 2018. We collected patient information including predisposing factors, diversity of NTM isolates, antimicrobial susceptibility testing, treatment regimens, and outcomes.

Results. A total of 117 patients (46 males vs. 71 females) were included. The median age of the patients was 54 years. There are a lot of infections associated with medical procedures like surgery, but about half of cases (54.7%) are unknown origin. Skin and soft-tissue infections predominated (34.2%), followed by bone and joint infections (28.2%). Of 117 NTM isolates, 66 NTM subspecies were identified. Mycobacterium intracellulare (34.8%) was the most common species identified, followed rapid-growing NTM (RGM) species such as *M. fortuitum* complex (21.2%), *M. abscessus* (15.2%), *M. massiliense* (10.6%), and *M. chelonae* (9.1%). In skin and soft-tissue infections,

RGM species were predominantly identified (26/28, 92.9%), whereas slow-growing NTM (SGM) species were mainly identified in bone and joint infections (18/26, 69.2%). The difference of isolated sites was verified by post hoc test and female sex (OR 4.72; $P < 0.001$) and skin and soft-tissue infections (OR 25.33; $P < 0.001$) were identified as predictors of RGM by logistic regression analysis. Based on antimicrobial susceptibility testing, fluoroquinolone and macrolide were mainly used for RGM treatment, and rifamycin-ethambutol-macrolide-based regimen was predominantly used for SGM treatment.

Conclusion. Skin and soft-tissue infection were predominantly caused by RGM, whereas bone and joint infection is mainly caused by SGM. Species-specific and region-specific data that integrate clinical and microbiologic information is crucial in determining treatment direction.

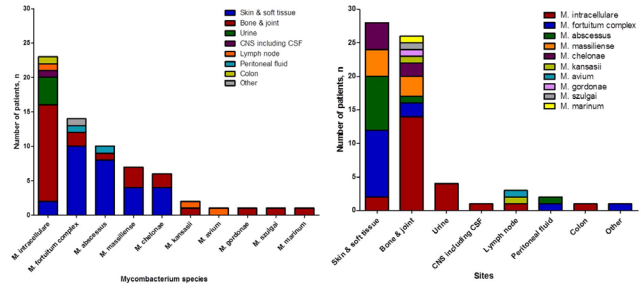


Table Antimicrobial regimens chosen in patients treated for nontuberculous mycobacteria infections

	N ¹	Duration of treatment ²	Numbers of antimicrobial use ³	Amik. acid	Cefox. fita	Ethamb. utol	Fluoroqui. nolone ⁴	Imige. nem	Isonia. zid	Liazid. old	Macr. olide ⁵	Pyrazin. amide	Rifam. ycin ⁶	Tetracy. cine ⁷	TMP. SMX
Rapid growing NTM															
M. fortuitum complex	13	9.0	3.0	4	0	4	10	1	3	0	8	0	5	4	3
M. abscessus	8	12.0	3.1	2	2	1	5	2	1	1	8	1	2	3	0
M. massiliense	7	10.5	2.6	0	2	1	4	1	0	0	7	0	1	0	2
M. chelonae	6	10.5	2.8	0	0	1	4	1	0	1	7	0	1	2	0
Slow growing NTM															
M. intracellulare	18	12.0	2.9	2	0	13	7	1	3	1	15	2	16	1	1
M. kansasii	2	18.0	3.5	0	0	2	0	0	2	0	1	0	2	0	0
M. goodii	1	14.0	4.0	0	0	1	1	0	0	0	1	0	1	0	0
M. marinum	1	6.0	4.0	1			1				1		0	1	
Unspecified	12	11.0	2.1	1	0	3	3	1	1	0	8	0	3	4	1

¹Indicates the number of patients for whom there is treatment regimen data available.

²Indicates median duration months of treatment

³Indicates mean numbers of antimicrobial used

⁴Macrolide includes azithromycin (5 patients) or clarithromycin (51 patients).

⁵Fluoroquinolone includes ciprofloxacin (17 patients) or moxifloxacin (10 patients) or levofloxacin (10 patients).

⁶Tetracycline includes doxycycline (12 patients) or minocycline (3 patients).

⁷Rifamycin includes rifampicin (29 patients) or rifabutin (3 patients).

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1366. Prognostic Factors for Unfavorable Outcomes of Patients with Spinal Tuberculosis in a Country with an Intermediate Tuberculosis Burden: a Multi-Center Cohort Study

Jung Ho Kim, MD¹; Jin young Ahn, MD¹; Su Jin Jeong, MD, PhD¹; Nam su Ku, MD, PhD²; Jun yong Choi, MD, PhD²; Young Keun Kim, MD, PhD²; Joon-Sup Yeom, MD, PhD⁴; Young Goo Song, MD, PhD²; ¹Yonsei University College of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea; ²Yonsei University College of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea; ³Yonsei University Wonju College of Medicine, Wonju, Kangwon-do, Republic of Korea; ⁴Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea

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Background. Spinal tuberculosis (TB) remains an important concern. Although spinal TB often has sequelae such as myelopathy after treatment, the predictive factors affecting such unfavorable outcomes are not yet known. Therefore, we investigated the clinical manifestations and predictors of unfavorable treatment outcomes in patients with spinal TB.

Methods. We performed a multi-center retrospective cohort study of patients with spinal TB. The clinical features, comorbidities, laboratory data, imaging findings and treatment outcomes of the patients were analyzed. The unfavorable outcome was defined according to previous studies. The prognostic factors for unfavorable outcomes as the primary outcome were determined using multivariate logistic regression analysis and a linear mixed model were used to compare time course of inflammatory markers during treatment.

Results. A total of 185 patients (85 males and 100 females) were included. The mean age of the patients was 57.2 years. Of them, 115 underwent surgery during treatment, with a median treatment duration of 12 months. Fifty-nine patients had unfavorable outcomes. In multivariate regression analysis, the factors associated with unfavorable outcome were old age (odds ratio [OR], 2.51; $P = 0.034$), acid-fast bacilli (AFB) smear positivity in specimens obtained through biopsy (OR, 3.05; $P = 0.039$), and elevated erythrocyte sedimentation rate (ESR) at the end of treatment (OR, 3.85; $P = 0.002$). Patients with unfavorable outcomes had a significant trend toward higher ESR during treatment compared with patients with favorable outcome ($P = 0.009$). Duration of anti-TB and surgical treatment did not affect prognosis.