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Treatment of macrolide-containing regimens for Mycobacterium kansasii pulmonary disease

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Background/Aims: Mycobacterium kansasii is a major pathogen of nontuberculous mycobacterial pulmonary disease. For treatment of M. kansasii pulmonary disease, daily isoniazid, rifampin and ethambutol therapy has been traditionally recommended. Although regimen containing macrolide, instead of isoniazid, is recently recommended, supporting data is limited. We aimed to compare the treatment outcomes between isoniazid-containing and macrolide-containing regimens and evaluated the treatment outcome of thrice-weekly intermittent treatment containing macrolide in patients with non-cavitary M. kansasii pulmonary disease. **Methods:** A total 41 patients with M. kansasii pulmonary disease who underwent treatment for ≥ 12 months between January, 2002 and December, 2016 were reviewed retrospectively. Clinico-radiological and microbiological responses after 12 months of treatment were compared between isoniazid-containing group (*n*=19) versus macrolide-containing group (*n*=22). In addition, outcomes of five patients who received intermittent treatment containing macrolide were also analyzed. **Results:** Baseline characteristics were comparable between the isoniazid-containing and macrolide-containg groups. After 12 months of antibiotic treatment, there were no differences in symptomatic improvement (67% vs. 73%, *p*=0.677) and radiographic improvement (88% vs. 91%, *p* > 0.999) between isoniazid-containg and macrolide-containing groups, respectively. The total treatment duration did not differ between the isoniazid group (median 18 months) and the macrolide group (median 16 months; *p*=0.601). Finally, all patients in both groups, including five patients who received intermittent treatment containing macrolide, achieved negative culture conversion within 12 months of treatment and maintained negative cultures for ≥12 months. **Conclusions:** Both isoniazid-containing and macrolide-containing regimens can be effective for treatment of M. kansasii pulmonary disease. Intermittent therapy containing macrolide could be an alternative treatment option for non-cavitary M. kansasii pulmonary disease.

Table 1. Baseline characteristics of study population

	Total (n=41)	Isoniazid group (n=19)	Macrolide group (n=22)	*P* value
Age, years	52 (45-65)	52 (36-65)	52 (45-64)	0.835
Sex, male	30 (73)	14 (74)	16 (73)	0.945
Body mass index, kg/m^2	20.3(19.0-22.1)	21.8(19.1-22.2)	19.2(18.7-21.8)	0.089
Smoking				0.448
Never-smoker	13 (32)	4 (21)	9 (41)	
Ex-smoker	21 (51)	11 (58)	10 (46)	
Current smoker	7 (17)	4 (21)	3 (14)	
Underlying conditions				
Previous NTM lung disease	3 (7)	1 (5)	2 (9)	> 0.999
Bronchiectasis	16 (39)	7 (37)	9 (41)	0.790
Previous tuberculosis	14 (34)	7 (37)	7 (32)	0.735
COPD	6 (15)	3 (16)	3 (14)	> 0.999
Chronic pulmonary aspergillosis	4 (10)	2 (11)	2 (9)	> 0.999
Interstitial lung disease	2 (5)	1 (5)	1 (5)	> 0.999
Diabetes mellitus	4 (10)	3 (16)	1 (5)	0.321
Chronic heart disease	2 (5)	2 (11)	0 (0)	0.209
Chronic kidney disease	0 (0)	0 (0)	0 (0)	
Chronic liver disease	3 (7)	1 (5)	2 (9)	> 0.999
Malignancy	5 (12)	2 (11)	3 (14)	> 0.999
Type of disease				0.445
Fibrocavitary form	25 (61)	11 (58)	14 (64)	
Nodular bronchiectatic form	14 (34)	6 (32)	8 (36)	
With cavity	4/14 (29)	1/6 (17)	3/8 (38)	0.580
Without cavity	10/14 (61)	5/6 (83)	5/8 (63)	
Non-classifiable form	2 (5)	2 (11)	0 (0)	
Positive sputum AFB smear	25 (61)	11 (58)	14 (64)	0.707
CRP, mg/dL	0.3 (0.1-1.5)	0.4 (0.1 – 3.8)	0.3 (0.9 – 0.6)	0.131
Pulmonary function test				
FEV_1, %	81 (68-100)	76 (64-100)	86 (73 – 96)	0.608
FVC, %	83 (70-93)	78 (67-88)	87 (73 - 95)	0.275

Table 2. Treatment outcomes

	Total (n=41)	Isoniazid group (n=19)	Macrolide group (n=22)	*P* value
Symptomatic response at 12 months*				0.677
Improved	28/40 (70)	12/18 (67)	16 (73)	
Unchanged	12/40 (30)	6/18 (33)	6 (27)	
Worsened	0/40 (0)	0/18 (0)	0 (0)	
Radiographic response at 12 months †				> 0.999
Improved	34/38 (90)	14/16 (88)	20 (91)	
Unchanged	4/38 (10)	2/16(13)	2 (9)	
Worsened	0/38 (0)	0/16 (0)	0 (0)	
Microbiological response; Culture conversion at 12 months‡	41 (100)	19 (100)	22 (100)	> 0.999
Total treatment duration, months	18 (15 – 19)	18 (15-19)	16 (15-19)	0.601
Time to culture conversion, months	1.5 (0.9 – 3.0)	2.0 (0.9 - 3.3)	1.2 (1.0-2.9)	0.838
Recurrence	1	1	0	

HRCT, high-resolution computed tomography. * Symptomatic response was not recorded in one patient in isoniazid group. † Follow-up HRCT scans were available in 38 patients.

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A case of AL amyloidosis mimicking lymphoproliferative disease

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Background: Amyloidosis is a spectrum of disease associated with protein misfolding disorders in which proteins deposit extracellularly. Amyloid light-chain (AL) amyloidosis is pathologically characterized by deposition of amyloid fibrils arising from immunoglobulin light chain. Here, we report a rare case of AL amyloidosis manifesting as systemic lymphadenopathy mimicking lymphoproliferative disease. **Case:** A 74-year-old woman visited our clinic because of fever and dyspnea. Chest X-ray showed hilar enlargement. Chest computed tomography showed multiple irregular consolidations with small cavities on both lungs and multiple enlarged lymph nodes in mediastinum. Additional neck and abdominal computed tomography showed lymph node enlargement in both supraclavicular, paraaortic, portahepatis, portacaval, aortocaval, retrocarval, and left periaortic areas. Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) performed at mediastinal lymph nodes (7, 4R, 2R) showed grey-pink colored amorphous material positive for Congo Red staining with apple green colored birefringence. The amorphous material showed positive immunoreactivity for Lambda but negative for Amyloid A protein, compatible with AL amyloidosis. **Discussion:** Systemic AL amyloidosis affects lymph nodes in a frequency ranging from 17 to 37%. However, lymphadenopathy is rarely seen as an initial manifestation of this disease. The prognosis of lymphadenopathy due to AL amyloidosis is usually good irrespective of the presence of M-protein, although cases of respiratory failure due to rapid progression of lymphadenopathy despite conventional chemotherapies have been reported. Clinician should include amyloidosis in the differential diagnosis when they encounter patients with systemic lymphadenopathy.