

Summary of all reported cases of thoracic sarcoidosis with miliary nodules on High-resolution Computed Tomography ^S

Author	Year	Age/ Gender	Symptom duration, Country	Clinical Features					Radiology findings			Histo- patholog y site	Outcome	Comments
				Fever/ Night sweats	Weight loss	Respiratory symptoms	Renal, electrolytes	Others	Miliary	Other distributions seen	Adenopat hy			
Kazerroni et al	1995	43/M	No symptoms, U.S	Asymptomatic; diagnosed on surveillance TBLB post-BLTx and HRCT images. In both cases, granulomas preceded the findings on HRCT (by 1 year in patient 1 and 2 years in patient 2)					No	Y; PL, UL pred	No	TBLB	Better; steroids @ 3 months	15 months post-BLTx
		44/F							No	Y; PL, IL, Peripheral	No	TBLB	No change, asymptomatic	27 months post-HBLTx
Gupta et al	1996	24/M	2 months, India	Fever +	No	Dyspnea, cough	No	Exposure to mines	No	Y, PL, Fissural, vessels	No	TBLB	Steroids; better @2 months	Misdiagnosed at TB. HRCT clear perilymphatic pattern
Chugh IM et al	1997	46/F	4 months, India	No	No	Dyspnea, cough	No	HTN	NA	Could not be assessed ^S	Yes; (R) H, PT	TBLB	Steroids, Better	Misdiagnosed at TB; given ATT
Voloudaki et al	1999	Mean 45/M (2); F(1)	This was a radiological series from Greece; clinical finding are not described. In "miliary" sarcoidosis, a clear subpleural, perilymphatic pattern with Fissural (beaded septum) is seen					No	IL+, Fissural nodules	Yes; all three	TBLB (1), SLBx (2)	3/7 with miliary nodules**, 1/3 miliary TB followed by "miliary" sarcoidosis		
Hatzakis	2000	47/M	NA, Greece	No	No	Cough	No	CAD/MI	Yes	Random nodules	SC nodes	SLBx	Steroids, better	**Miliary TB followed by miliary sarcoidosis (1 yr)
Kline et al	2005	53/F	4 months, U.S	No	No	No	No	Dizziness, Liver, skeletal lesions	No	Yes; PL	No	Calvarial Bx, Liver	Alive, better	%Pulmonary TB followed by multisystem sarcoidosis
Criado et al	2010	One case in a series on atypical findings of sarcoidosis; no clinical findings are reported						Yes	Y, Fissural nodules+, vessels	No	NA	NA	Image alone available	
Stroebe et al	2012	53/F	4 months, U.S	Fatigue	27 Kgs	No	No	DM, HTN, COPD	NA	Y; Images not provided	Y; ML, H, HL	TBLB	Better, steroids	No images provided
Hodges et al	2013	15/M	3 months, U.S	Fatigue, nausea	No	No	AKI, Hypercalcemia	Skin, nephrocalcinosis, Gen LNE	Yes	Random	RP LNE	TBLB, Lymph node	Better, steroids @ 4 months	Truly miliary nodules on HRCT
Kumar et al	2013	45/M	3 months, India	Fatigue	No	Cough	Hypercalcemia	Sicca syndrome	Yes	Random	ML, HL, RP LNE	TBLB, Lip Bx	Better, steroids	Hepatic disease, glands
Bostantzoglu et al	2014	48/M	1 month, Greece	Fever	No	Cough, dyspnea	No	Thalassemia	Yes	Random	HL, (R)PT	TBLB, EBBx	Better, relapsed 18 months	#TB (clinical) followed by sarcoidosis
Mandal et al	2014	38/F	1 month, India	Fever	No	Cough, dyspnea	Hypercalcemia	Concurrent TB and sarcoidosis	Yes	Random	No	TBLB, Bone marrow+	Better on ATT & steroids	#TB 1 yr earlier, TB concurrent with sarcoidosis
Luetkens et al	2014	37/M	2 months, Germany	Fever, night sweats	Yes	No	No	INH resistant MTB spinal abscess+	Yes	Random, along vessels, fissures+	No	TBLB	Steroids, better @ 4 months	###TB followed by miliary sarcoidosis (8 weeks)

Author	Year	Age/ Gender	Symptom duration	Clinical Features					Radiology findings			Histo- pathology Site of diagnosis	Outcome	Comments
				Fever/ Night sweats	Weight loss	Respiratory symptoms	Renal, electrolytes	Others	Miliar y	Other distributions seen	Adenop athy			
Taki et al	2015	40/F	6 months, Japan	No	No	Dyspnea	No	Ocular	Yes	Random, upper & mid- zone, Fissural nodules +	HL, ML	TBLB	Better, steroids @1 year	Complete Clearing of nodules on CT at 1 year
Enomoto et al	2015	69/M	2 weeks, Japan	No	No	Dyspnea	No	Bilateral exudative, lymphocytic effusion	No	Upper, mid- zone, sub- pleural nodules+	No	TBLB inconclusive, thoroscopic pleural Bx	Steroids, better	Clear subpleural pattern on CT and Pathology
Bhalla et al	2017	Radiological collection of thoracic sarcoidosis; no clinical information is provided. One image of miliary sarcoidosis included							Yes	Random, Fissure+, along vessels	BHL	NA	NA	Image alone available
Matsuura et al	2017	78/F	2 months, Japan	No	No	Cough	No	Right pleural effusion	Yes	PL, fissural, sub-pleural nodules+	No	EUS-FNA, TBLB, EBBx	No treatment, better @1 year	Pancreatic mass, endobronchial nodules, effusion
Chaddha et al	2017	58/M	6 months	Night sweats, Fatigue, no fever	18 Kgs	None	Hyper- calcemia	Arthralgia, RA, Hypothyroid ism, A,F	Yes	Along vessels, Fissural nodules+	Y; SC, PT R, L	EBUS-FNA, TBLB	Better	Family history of sarcoidosis
Arar et al	2018	55/M	NA, India	Fever	No	Dyspnea	No	None	Yes	Random	No	TBLB, caseating granulomas	NA	?#concurrent TB, sarcoidosis
Joshi et al	2018	40/M	3 months, India	Fever	Anorexia	Cough	Hypercalci uria, normal serum Calcium	Hepatosplen omegaly, Skin; Nausea, vomiting	Yes	Fissural nodules+	BHL	Skin, BMA, TBLB negative; Liver Bx Granulomas	Better at 6 months of steroids	Diabetes, Psoriasis; empiric ATT
Rajagopala et al	2018	65/F	2 months, India	Night sweats	No	Dyspnea	No	Hypertensio n	Yes	Random, Fissural nodules+	No	TBLB negative; SLBx+	Better on steroids @ 1 year	#Prior diagnosis of tuberculosis
		40/M	20 days, India	Fatigue	Yes	Dyspnea	AKI, Hypercalce mia	Polyuria, nausea, skin lesions	Yes	Random	BHL	TBLB, Skin Bx	Better on MTX	Multi-system sarcoidosis, relapse@ 1 year
		55/M	1 month, India	No	Yes	Dyspnea	No	Ocular	Yes	Random	No	TBLB	Better on MTX @ 9 months	#Concurrent TB-sarcoidosis
		48/M	2 weeks, India	Fatigue	No	No	Hypercalce mia	Ocular	Yes	Random, IL+	No	TBLB	Better, steroids @8 months	

[§]Poor quality HRCT images precluded assessment of type of nodules; ^{**}In one miliary sarcoidosis followed miliary tuberculosis; [¶]Concurrent tuberculosis and miliary sarcoidosis with organomegaly, neurologic and bone involvement; [#]Tuberculosis was diagnosed based on pathology, radiology and clinical response; ATT stopped at 5 months due to liver injury; ^{###}Tb was diagnosed microbiologically based on mycobacterial cultures

Abbreviations: M Male, F Female, U.S United States, NA Not available, BLTx Bilateral lung transplantation, HBLTx Heart and lung transplantation, HRCT high resolution computed tomography, UL Upper lobe, PL Peri-lymphatic pattern, IL Interlobular nodules, ILo, Intralobular septal thickening, CAD coronary artery disease, MI Myocardial infarction, TB tuberculosis, DM Diabetes mellitus, HTN hypertension, COPD Chronic obstructive pulmonary disease, AKI acute kidney injury, INH isoniazid, ML Mediastinal, BHL bilateral Hilar lymphadenopathy, RPT Right paratracheal, LNE lymphadenopathy, Y Yes, Kgs kilograms, Bx biopsy, TBLB Transbronchial lung biopsy, SLBx surgical lung biopsy, EBUS-FNA endobronchial ultrasound guided fine needle aspiration, ATT Anti-tuberculosis treatment, MTX-Methotrexate