Acta Med. Okayama, 2021
Vol. 75, No. 4, pp. 539–542

Acta Medica Okayama
http://escholarship.lib.okayama-u.ac.jp/amo/

Case Report

An Elderly Male with Primary Sjögren's Syndrome Presenting Pleuritis as the Initial Manifestation

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Primary Sjögren's syndrome (SS) is an autoimmune disease that usually affects the exocrine glands in middle-aged women. Fifteen percent of SS patients experience severe systemic extraglandular complications, and pleuritis is one of the rare complications of SS. We report the case of an elderly Japanese man who initially presented with a prolonged fever and chest pain and was finally diagnosed with primary SS-associated pleuritis. Of the nine reported cases of primary SS that initially presented with pleuritis, up to six cases were elderly males. This case highlights the complication of pleuritis among elderly males with primary SS.

Key words: Sjögren's syndrome, pleuritis, elderly male

Primary Sjögren's syndrome (SS) is an autoimmune disease that generally affects the exocrine glands of middle-aged women. Fifteen percent of cases of SS are associated with systemic severe extraglandular complications such as synovitis, neuropathy, leukocytopenia, cutaneous vasculitis, and non-Hodgkin's lymphoma [1]. Roughly 82% of the pleural effusions in SS are exudative and must be considered as a potential cause of effusion, including infections, malignancies, systemic diseases, and autoimmune pleuritis [2]. Rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE) are the most common forms of autoimmune pleuritis, but primary SS rarely causes pleural effusion [3, 4]. We report the case of a 70-year-old man with primary SS initially presenting as pleuritis.

Case Presentation

A 70-year-old Japanese man consulted our hospital for a month-long history of fever and anterior chest pain, exacerbated by breathing. His medical history was unremarkable but he had smoked 20 cigarettes daily for 51 years. He denied any family history of autoimmune diseases.

His vital signs on admission were as follows: blood pressure, 110/70 mmHg; pulse rate, 93 beats/min; respiratory rate, 20/min; and axillary body temperature, 38.1°C. The physical examination revealed dullness on chest percussion of the patient's back at the bottom of the lungs. He denied a history of dry mouth but had multiple caries in the mouth. Conjunctival hyperemia and dryness were not observed. The laboratory examinations showed leukopenia and elevated C-reactive protein (CRP) levels (Table 1). Chest X-ray and computed tomography (CT) showed pleural effusions at the right and left-anterior thoracic cavities (Fig. 1). An additional laboratory examination revealed positive homogenous antinuclear antibody (ANA) and anti SS-A and SS-B antibodies (Table 1). Thoracentesis suggested aseptic exudative pleural effusion without

Received December 15, 2020; accepted March 3, 2021.
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Conflict of Interest Disclosures: No potential conflict of interest relevant to this article was reported.

Table 1 Laboratory Data on Admission

WBC (/uL)	2390	TP (g/dL)	6	Na (mmol/L)	138	ANA	320 (homo)
Lym (%)	15.4	Alb (g/dL)	2.3	K (mmol/L)	3.9	RF (U/mL)	155.3
Neu (%)	74.2	AST (U/L)	54	Cl (mmol/L)	104	Anti-RNPantibody	(−)
Mon (%)	10	ALT (U/L)	52	CRP (mg/dL)	5.1	Anti-Sm antibody	(−)
Eos (%)	0.2	ALP (U/L)	240	PCT (ng/mL)	0.137	Anti-ds-DNA antibody	(−)
Bas (%)	0.1	LD (U/L)	302	Ferritin (ng/mL)	614	Anti-SS-A antibody (U/mL)	>240
RBC (10^6/uL)	3.51	G-GT (U/L)	40	IgG (mg/dL)	1469.7	Anti-SS-B antibody (U/mL)	12.9
Hb (g/dL)	10.7	T.Bil (mg/dL)	0.39	IgA (mg/dL)	332.7	Anti-Scl-70 antibody	(−)
MCV (fL)	97.5	UN (mg/dL)	18.5	IgM (mg/dL)	68.5	Anti-Jo-1 antibody	(−)
MCHC (g/dL)	31.2	Cr (mg/dL)	0.89	C3 (mg/dL)	97.6	Anti-centromere antibody	(−)
Plt (10^4/uL)	31.5	CK (U/L)	86	C4 (mg/dL)	21.9	Anti-cardiolipin antibody	(−)
						PR3-ANCA	(−)
						MPO-ANCA	(−)

WBC, white blood cell; Lym, lymphocyte; Neu, neutrophil; Mon, monocyte; Eos, eosinophil; Bas, basophil; RBC, red blood cell; Hb, hemoglobin; MCV, mean corpuscular volume; MCHC, mean corpuscular hemoglobin concentration; Plt, platelet; TP, total protein; Alb, albumin; AST, aspartate aminotransferase; ALT, alanine aminotransferase; ALP, alkaline phosphatase; LD, lactate dehydrogenase; G-GT, gamma-glutamyl transpeptidase; T-Bil, total bilirubin; UN, nrea nitrogen; Cr, creatinine; CK, creatine kinese; Na, sodium; K, potassium; Cl, chloride; CRP, c-reactive protein; PCT, procalcotonin; IgG, immunoglobulin G; IgA, immunoglobulin A; IgM, immunoglobulin M; C3, complemen 3; C4, complemen 4; ANA, antinuclear antibody; homo, homogenous pattern; RF, rheumatoid factor; PR3-ANCA, proteinase-3 antineutrophil cytoplasmic antibody; MPO-ANCA, myeloperoxidase antineutrophil cytoplasmic antibody

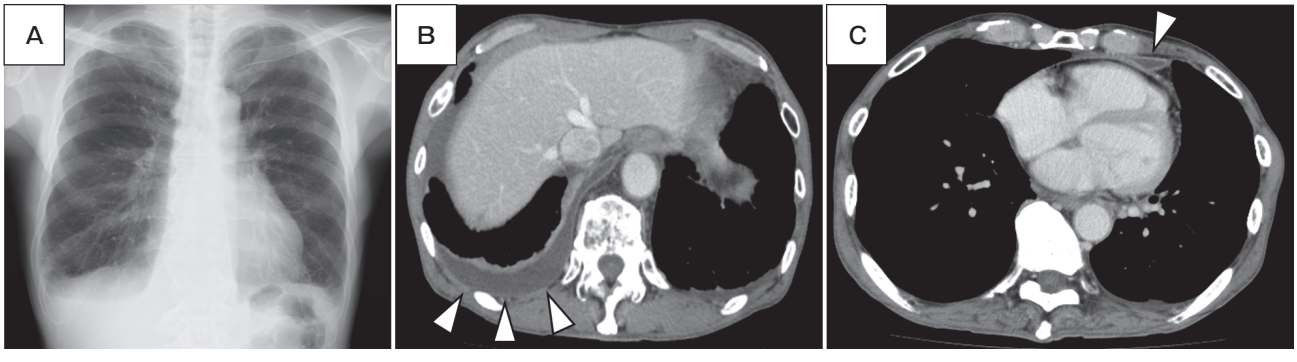

Fig. 1 Chest X-ray (**A**) and CT (**B**, **C**, *arrowheads*) showing pleural effusions at the right-side and left-anterior thoracic cavities.

Table 2 Analysis of pleural effusion

Cell count (/μL)	2000
mononuclear cells (%)	20
multinuclear cells (%)	80
TP (g/dL)	3.3
LD (U/L)	477
Malignant cells	(−)
Bacteria culture	(−)
ADA	(−)

TP, total protein; Alb, albumin; LD, lactate dehydrogenase; ADA, adenosine deaminase.

malignant cells (Table 2).

Although Schirmer's test was negative (right eye 6 mm/5 min, left eye 11 mm/5 min), lymphocyte infiltration around the salivary gland ducts was observed on lip biopsy. Intravenous antibiotics could not relieve the patient's fever. Using the serological and biopsy findings, we made the diagnosis of primary SS accompanied by pleuritis based on the classification criteria for primary SS [5]. Although the patient was positive for rheumatoid factor, there were no RA-like symptoms, and there were no serological characteristics of SLE, scleroderma, polymyositis, dermatomyositis, or mixed connective tissue disease; there was little reason to suspect secondary SS. After initiating oral prednisolone 40 mg per day, the prolonged fever promptly subsided and the pleural effusion disappeared (Fig. 2). The prednisolone dosage was gradually tapered at 17.5 mg per day on 105 days after the initiation, which is the day on which we planned to reduce the dose by following the

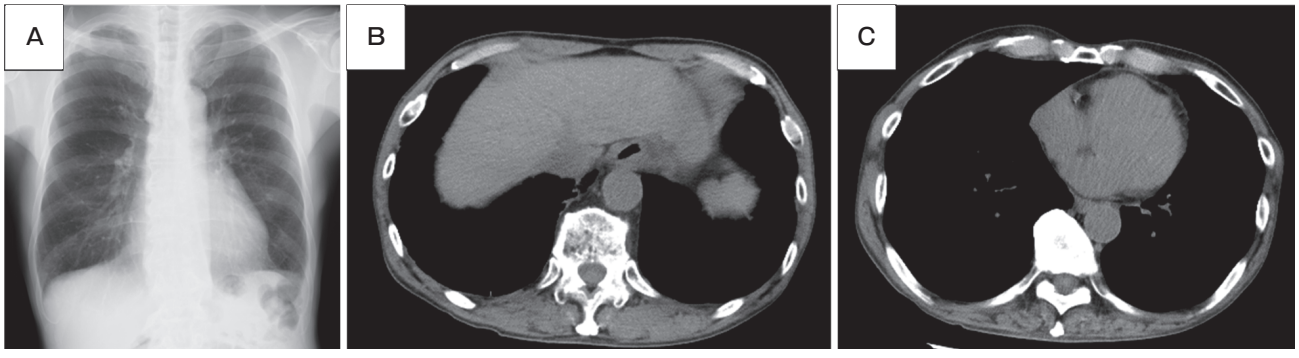

Fig. 2 Pleural effusion disappeared after the initiation of oral prednisolone on chest X-ray (**A**) and CT (**B**, **C**).

Table 3 Reported cases of pleuritis as an initial manifestation of primary Sjögren's Syndrome

Case No. (Reference)	Age, Sex	Chief complaint	Pleural effusion	Anti SS-A anitbody	Anti SS-B anitbody	ANA	RF	Other extraglandular complications
1. (8)	62, male	fever	right	×4	×8	×40	591 (U/mL)	(−)
2. (10)	70, male	—	left	(+)	(−)	×1280	80.9 (U/mL)	—
3. (12)	73, male	dyspnea	bilateral	25.9 (U/mL)	59.1 (U/mL)	×320	×160	Nephrotic syndrome
4. (13)	65, male	cough, dyspnea	bilateral	>500 (U/mL)	49 (U/mL)	×320	(−)	(−)
5. (14)	63, male	cough, dyspnea, chest pain	bilateral	×256	(−)	×320	15 (U/mL)	(−)
6. (7)	40, female	fever	bilateral	×64	×8	×80	(−)	(−)
7. (15)	58, female	dyspnea	bilateral	(+)	(−)	×1280	—	(−)
8. (17)	42, female	chest tightness	bilateral	×320	×320	(+)	—	(−)
This case	70, male	chest pain, fever	bilateral	>240 (U/mL)	12.9 (U/mL)	×320	155.3 (U/mL)	(−)

ANA, antinuclear antibody; RF, rheumatoid factor.

patient's clinical course.

Discussion

We report the details of the case of a 70-year-old male with primary SS complicated with pleuritis. Sjögren's syndrome is a systemic autoimmune disorder which occurs nine times more frequently in women than men [6,7]. Primary SS is defined as SS that occurs without accompanying collagen diseases such as SLE or RA [6,7]. Primary SS affects mainly exocrine glands such as the lacrimal and salivary glands, and extraglandular involvement is less frequently observed [1]. Pleuritis is a rare complication with only 14 reported cases to date [8-21]. Among these, eight (57.1%) patients presented with pleuritis as the initial manifestation, as did our patient. For the remaining cases, pleuritis occurred after the patient was diagnosed with primary SS [8-21].

Of the nine patients with SS presenting with pleuritis as the initial manifestation (including our patient), six are males over 60 years old (Table 3). This is interesting because primary SS more frequently develops in middle-aged women. It is known that male patients with primary SS are more likely to experience extraglandular systemic complications such as interstitial pneumonia and vasculitis [22,23]. The cases of male patients with other common autoimmune diseases such as SLE and RA have tended to be complicated with pleuritis more often compared to female patients [24,25]. To the best of our knowledge, no previous reports have discussed a difference in the incidence of pleuritis between male and female patients with primary SS.

Male and elderly patients with primary SS are more likely to test negative for anti-SS-A/SS-B antibodies, ANA, and rheumatoid factors [22,26]. However, all nine of the patients mentioned above were positive for anti-SS-A antibodies and ANA. Among patients with

RA and SLE, high titers of autoantibodies were associated with the complication of pleuritis [27,28]. Thus, elevated serum levels of autoantibodies may suggest the occurrence of pleuritis. Further studies are required to test this possibility.

In conclusion, we have reported the case of an elderly man who initially presented prolonged chest pain and was finally diagnosed with primary SS-associated pleuritis. Unlike typical cases of primary SS, pleuritis possibly be the associated complication of primary SS among elderly male patients. Physicians should consider primary SS as a differential diagnosis of prolonged fever accompanying chest pain.

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