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Case report

A case of Trousseau syndrome caused by pulmonary adenocarcinoma that was controlled for one year and 10 months with thrombosis treatment using an EGFR tyrosine kinase inhibitor and chemotherapy

Hiroaki Masubuchi*, Toshitaka Maeno, Megumi Uchida, Shunichi Kono, Masafumi Suzuki, Masao Takemura, Aya Yamaguchi, Koichi Yamaguchi, Masahiko Kanbe, Shinsuke Kitahara, Kenichiro Hara, Shiro Hara, Nozomi Aoki, Tatsuo Suga, Masahiko Kurabayashi

Department of Respiratory Medicine, Gunma University Graduate School of Medicine, Maebashi-shi, Gunma, Japan

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ABSTRACT

A 47-year-old female with no history of previous illnesses developed cerebral infarction and was diagnosed with lung cancer, specifically EGFR mutation-positive adenocarcinoma, and Trousseau syndrome.

The patient's response to anticoagulant therapy with non-fractionated heparin was very poor; however we were able to control the thrombosis with chemotherapy. She survived for one year and 10 months following treatment with gefitinib, CBDCA + PEM and erlotinib, without recurrence of thrombosis.

Trousseau syndrome carries a poor prognosis and controlling thrombosis is difficult. In this case, the administration of anticancer therapy allowed use to control the patient's thrombosis. Therefore, this case highlights the importance of treating cancer in patients with Trousseau syndrome. In addition, the FDP and D-dimer levels changed in parallel with changes in the CEA level, which suggests that the activity of cancer is related to an internal thrombotic tendency. Hence, changes in the FDP and D-dimer values are associated with the efficacy of treatment with EGFR tyrosine kinase inhibitors and chemotherapy and may function as markers of recurrence.

1. Introduction

Trousseau syndrome was first described by Armand Trousseau in 1865 as affecting “the patients with internal organ cancer with significant ambiguous phlebothrombosis” [1]. Since then, various reports have assessed the characteristics of whole body thrombosis as a form of paraneoplastic syndrome. Trousseau syndrome has a poor prognosis, and it is very difficult to control the thrombosis; however, it is unknown whether controlling the cancer, which is the original illness, can be used to control the thrombosis [2].

We experienced a case of EGFR mutation-positive pulmonary adenocarcinoma associated with Trousseau syndrome in which we were able to control the thrombosis by treating the cancer with an EGFR tyrosine kinase inhibitor and chemotherapy.

2. Case report

A 47-year-old female with back and muscle pain presented to a local general hospital. A diagnosis of infective endocarditis was suspected, based on the detection of a livedo-like eruption on the finger-tips and in the pericardial fluid on CT. The patient subsequently consulted the department of cardiology at our hospital and experienced left hemiplegia in the ambulatory waiting room. The findings on brain MRI showed acute cerebral infarction of the right frontal lobe. Moreover, deep vein thrombosis and splenic artery thrombosis were detected on contrast-enhanced CT. Based on the

* Corresponding author. 〒371-8511, 3-39-22, Showa-machi, Maebashi-shi, Gunma, Department of Respiratory Medicine, Gunma University Graduate School of Medicine, Japan.

E-mail addresses: hmasubuc@gunma-u.ac.jp (H. Masubuchi), mutoyu03@gunma-u.ac.jp (T. Maeno), m22_omegumi@yahoo.co.jp (M. Uchida), contra.since2005@gmail.com (S. Kono), masafumi.suzuki1229@gmail.com (M. Suzuki), takehope1111@yahoo.co.jp (M. Takemura), koity6_23dayo@yahoo.co.jp (A. Yamaguchi), ckpnt341@yahoo.co.jp (K. Yamaguchi), laihg_rd@yahoo.co.jp (M. Kanbe), shinkita.s50@gmail.com (S. Kitahara), pourta5311@yahoo.co.jp (K. Hara), hara4600@gmail.com (S. Hara), veuveclicquot@jcom.home.ne.jp (N. Aoki), sugat@gunma-u.ac.jp (T. Suga), mkuraba@gunma-u.ac.jp (M. Kurabayashi).

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Table 1
Laboratory findings on admission.

Hematology		Biochemistry		Serology	
RBC	389 × 10^4/μl	TP	6.7 g/dl	CRP	2.2 mg/dl
Hb	9.8 g/dl	Alb	3.5 g/dl	ESR	31 mm/h
Hct	31.8%	α1	5.5%	CEA	94.5 ng/ml
WBC	14000/μl	α2	9.3%	KL-6	2526U/ml
Neu	87.0%	β	11.8%	IgA	232 mg/dl
Eos	1.0%	γ	15.3%	IgM	71 mg/dl
Bas	0.0%	T-Bil	0.7 mg/dl	IgG	1074 mg/dl
Mo	2.0%	D-Bil	0.1 mg/dl	C3	132.0 mg/dl
Lym	5.0%	AST	41IU/l	C4	33.9 m
Plt	15.2 × 10^4/μl	ALT	19IU/l		
		LDH	872IU/l		
Coagulation-Fibrinolysis		ALP	3617IU/l		
Fib	165 mg/dl	γ-GTP	159IU/l		
PT	78%	Amy	306IU/l		
PT-INR	1.11	CPK	781IU/l		
APTT	35.9sec	UA	4.1 mg/dl		
AT-III	84.7%	BUN	10 mg/dl		
FDP	105.6 μg/ml	Cr	0.51 mg/dl		
D-dimer	53.6 μg/ml	Na	136mEq/l		
TAT	27.2 μg/ml	K	3.9mEq/l		
PIC	3.0 ng/ml	Cl	101mEq/l		
		Ca	9.1 mg/dl		
		FBS	85 mg/dl		
		HbA1c	5.4%		
		HDL-cho	38 mg/dl		
		LDL-cho	141 mg/dl		
		TG	159 mg/dl		

presence of a nodule in the right lung on CT and the systemic thrombosis, the patient was thought to have Trousseau syndrome due to lung cancer and was transferred to our department.

The patient had no past medical or family history. Her blood pressure was 156/100 mmHg and her body temperature was 37.3 °C. Her heart and lung sounds were normal and her SpO2 was 95% on room air. The serum FDP level was 105.6 mg/ml, and the D-dimer level was 53.6 mg/ml. The serum CEA level was also increased at 94.5 ng/ml (Table 1). In addition, a chest X-ray film showed a nodule in the hilum of the right lung (Fig. 1), and enhanced CT demonstrated a nodule in the right lower lobe S6, with a second nodule that suggested the presence of metastasis in the right lower lobe. Furthermore, there neoplastic lesions to the second and fourth ribs were detected, and a number of similar lesions were identified in the spine (Fig. 2). Although there were multiple sites of cerebral infarction on brain MRI images, no neoplastic lesions suspicious of metastasis were noted (Fig. 3).

Fig. 2. Chest high-resolution CT film. A nodule with marginal irregularity, internal heterogeneity and spiculation was found in the right lung lobs S6. In addition, neoplastic lesions were detected in the second and fourth ribs, with several similar lesions in the spine.

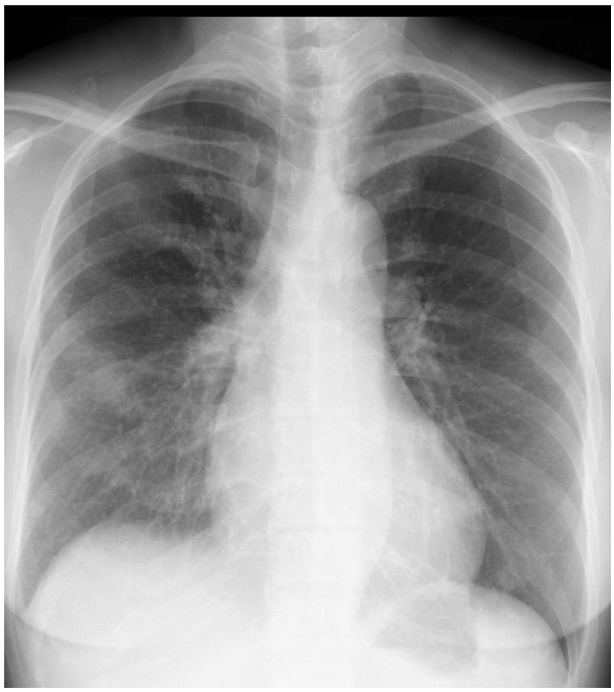

Fig. 1. Chest X-ray film. A nodulare shadow was seen near the hilum of the right lung. Neoplastic changes were also noted in the right fourth rib.

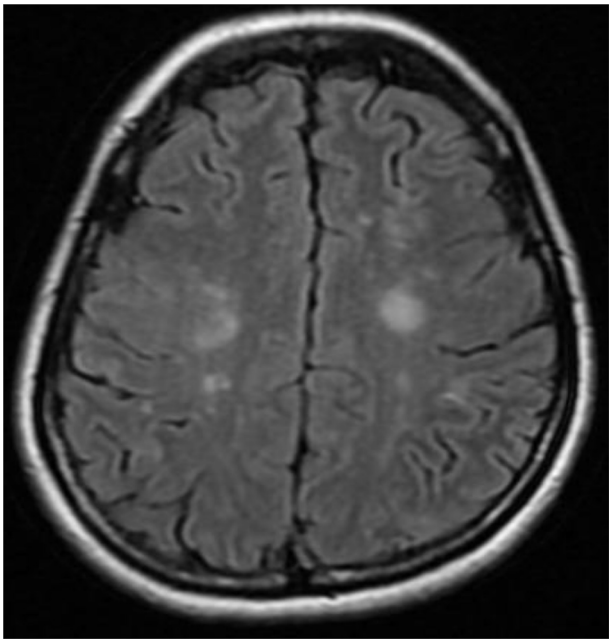

Fig. 3. Brain MRI film. Multiple sites of cerebral infarction were identified. However, no brain metastasis was observed.