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Letter to the Editor
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Just think about pyogenic spondylodiscitis before performing the epidural steroid injection for low back pain

Yusuke Asakura

Department of Anesthesiology, Nagoya Kyoritsu Hospital, Aichi, Japan

An epidural steroid injection (ESI) is a commonly performed procedure to relieve low back pain (LBP) [1]. The underlying pathological condition of LBP encompasses a wide spectrum of diseases, and the clinical diagnosis requires a complex decision-making process. Among which, pyogenic spondylodiscitis entails major morbidity and mortality, and is an absolute contraindication for ESI [2]. The major clinical symptom of pyogenic spondylodiscitis is the pain, particularly LBP, with a prevalence >90% in patients [3]. Therefore, we preclude the presence of pyogenic discitis before performing an ESI.

To evaluate and understand more fully the clinical manifestations of pyogenic spondylodiscitis, we extracted all medical charts of patients in our facility diagnosed as such, based on International Classification of Diseases-10 coding, after Institutional Review Board approval was obtained. The following variables were reviewed retrospectively from the medical charts: age, sex, clinical manifestations, white blood cell (WBC) count, C-reactive protein (CRP), magnetic resonance imaging (MRI) findings, blood culture, and fluoroscopy-guided biopsy and tissue culture of infected discs.

We identified 26 patients during the 10-year period from 2006 to 2015. The following patients were excluded from the analysis: those who had already been diagnosed with pyogenic spondylodiscitis (recurrent cases) and those who had developed pyogenic spondylodiscitis following any spinal surgery (surgical site infection cases). Accordingly, 18 "*de novo*" cases were analyzed. The detailed characteristics of the patients are summarized in Table 1.

The chief complaint of 14 of the 18 patients was LBP. A WBC count ≧ 11,000 /μl was observed in six individuals and WBC counts were < 9,600 /μl in nine cases. Similarly, CRP level was < 3 mg/dl in six cases. In contrast, MRI findings suggesting the presence of pyogenic spondylodiscitis (T1 low/T2 high/fast imaging employing steady-state acquisition high) were detected in all cases. Fluoroscopy-guided biopsy and tissue culture of infected discs were carried out in 12 cases, and pathogenic microbes were detected in four cases. Only two cases were positive for blood culture. In all cases, the inflammation resolved without any neurological complications following administration of an appropriate antibiotic, and no surgical procedures were required. Notably, ESI had been performed for LBP before any diagnostic procedures had been performed either at the other department or at other facilities in eight of the 18 cases.

In conclusion, LBP is a common chief complaint of spinal infection. Blood examinations, such as WBC count and CRP, are of limited value, whereas the sensitivity of MRI findings is high. Fluoroscopy-guided biopsy and tissue culture of the infected disc (s) provide good clues for the diagnosis and treatment of pyogenic spondylodiscitis, but the sensitivity of a blood culture is not sufficient. Diagnostic procedures to identify the etiology of the corresponding LBP must be carried out before performing any interventional procedures, including ESI for LBP.

Corresponding author: Yusuke Asakura, M.D.
Department of Anesthesiology, Nagoya Kyoritsu Hospital, 1-172 Hokke, Nakagawa-ku, Nagoya, Aichi 454-0933, Japan
Tel: 81-52-362-5151, Fax: 81-52-353-9105
Email: yasakura@kaikou.or.jp
ORCID: https://orcid.org/0000-0003-3966-1757

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Table 1. Clinical Manifestations and Characteristics of the Patients with Pyogenic Spondylodiscitis

Sex	Age	Chief complaint(s)	Infected discs and vertebrates	WBC count	C-reactive protein	MRI findings	Biopsy of infected discs	Therapy and clinical outcome	Pre-diagnostic block therapy
Female	54	LBP	L4, L5	5200	0.05	Yes	Yes	Conservative	No
Female	84	LBP	L3	6300	0.1	Yes	No	Conservative	Yes
Male	59	LBP	L4, L5	7100	1.5	Yes	Yes	Conservative	No
Female	69	Backache	Th7, Th8	7200	1.3	Yes	No	Conservative	No
Male	55	LBP	L4, L5, S	7200	7.1	Yes	Yes	Conservative	Yes
Male	72	LBP	L4, L5	8100	7.0	Yes	Yes	Conservative	Yes
Male	73	LBP	L3	8300	4.8	Yes	No	Conservative	Yes
Female	75	LBP	L4, L5	9100	5.3	Yes	Yes	Conservative	Yes
Female	83	LBP	L5	9600	11.7	Yes	Yes	Conservative	No
Male	79	Fever	Th11, 12	10000	1.6	Yes	No	Conservative	Yes
Male	50	Cervical pain	C6, 7	10000	3.1	Yes	No	Conservative	No
Male	72	LBP	Th12, L1	10300	3.1	Yes	Yes	Conservative	No
Female	73	LBP	L2, 3	11000	25.8	Yes	Yes	Conservative	No
Male	74	LBP	L3, 4	12400	13.3	Yes	Yes	Conservative	No
Male	88	LBP	L4	12500	6.5	Yes	No	Conservative	No
Male	61	LBP	L1, L5, S1	13600	2.3	Yes	Yes	Conservative	Yes
Female	83	Fever	Th11-L1	14300	7.4	Yes	Yes	Conservative	No
Female	55	LBP	L4, 5	15800	24.4	Yes	Yes	Conservative	Yes

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