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A successful case of a para-aortic lymphocele treated with autologous peripheral blood injection

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ABSTRACT

A lymphocele is one of the complications of systematic pelvic or para-aortic lymphadenectomy. Although most patients are entirely asymptomatic, our patient exhibited an obstructive ileus at the jejunum compressed by a lymphocele. We report here a case of a subsequent para-aortic lymphocele treated with autologous peripheral blood injection. A 68-year-old woman with sigmoid colon cancer (T3N2bM1a) underwent laparoscopic sigmoidectomy. After 4 courses of chemotherapy (CapeOX + Bmab), para-aortic lymphadenectomy was additionally performed. One month later, an obstructive ileus occurred suddenly due to a lymphocele. A drainage catheter was placed into the lymphocele and a total of 35 mL of autologous peripheral blood was injected in 4 divided doses through the catheter. The volume of the lymphocele gradually reduced and the ileus improved after blood injection. This is the first report of a successful case of a subsequent para-aortic lymphocele treated with autologous peripheral blood injection without any complications.

Informed consent statement: Informed consent was obtained from all participants in the study.

Authors' contributions: Keiji Nishibeppu and Tomohiro Arita clinically treated with informed consent and wrote this paper. Tomohiro Arita, Masayoshi Nakanishi, Yoshiaki Kuriu, and Yasutoshi Murayama planned the treatment. Katsutoshi Shoda, Toshiyuki Kosuga, Hirotaka Konishi, Ryo Morimura, Shuhei Komatsu, Atsushi Shiozaki, Hisashi Ikoma, Daisuke Ichikawa, Hitoshi Fujiwara, Kazuma Okamoto, and Eigo Otsuji were the clinical advisers.

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Introduction

A lymphocele is a well-known complication of systematic pelvic or para-aortic lymphadenectomy performed for the staging of urological or gynecological malignancies and renal transplantation [1,2]. A lymphocele is defined as a lymph-filled extraperitoneal collection with a fibromembranous wall devoid of any epithelial lining [3–5]. Although a variety of approaches have been attempted to treat this problem, a standard approach for the treatment of symptomatic cases is not well defined yet. Management options include aspiration, open or laparoscopic surgical marsupialization, and percutaneous sclerotherapy using different chemical agents. These act by irritating the walls of the lymphocele, inducing local inflammation and fibrosis of the lymphatic channels, thereby obliterating the lymphatic leak; therefore, these chemical agents are not applicable when inflammation is not preferred. We present a case of a lymphocele close to the jejunum, treated with autologous peripheral blood injection.

Case report

A 68-year-old woman underwent laparoscopic sigmoidectomy for sigmoid colon cancer (T3N2bM1a). For the remaining para-aortic lymph node metastasis, 4 courses of chemotherapy using capecitabine, oxaliplatin, and bevacizumab were performed. Subsequently, para-aortic lymph nodes were dissected radically without perioperative complications. One month after the lymphadenectomy, the patient presented with intractable vomiting. The abdominal computed tomography (CT) scan demonstrated a small intestine ileus due to compression by a para-aortic lymphocele (Fig. 1). The ileus was unresponsive to less invasive therapies, such as fasting and aspiration of stomach contents; therefore, drainage or sclerotherapy was considered. A pigtail catheter was placed into the lymphocele under ultrasonic guidance and a total of 100 mL of serous fluid was aspirated (Fig. 2). Cytological and bacteriological examination results were negative. As lymphatic drainage was observed continuously for 5 days after catheter insertion, sclerotherapy was performed. Autologous peripheral blood was selected for sclerotherapy because it was less invasive for the jejunum, which was located close to the lymphocele. A total of 35 mL of autologous peripheral blood was injected in 4 divided doses through the catheter. After sclerotherapy, the abdominal CT scan demonstrated a decreasing volume of the lymphocele (Fig. 3) and oral ingestion difficulty disappeared. The CT scan 2 months after sclerotherapy showed a further reduction in the size of the lymphocele (Fig. 4).

Discussion

A lymphocele is a well-known complication of systematic pelvic or para-aortic lymphadenectomy. It may be associated with a high body mass index, the use of postoperative radiotherapy, the total number of lymph nodes, and the surgical technique

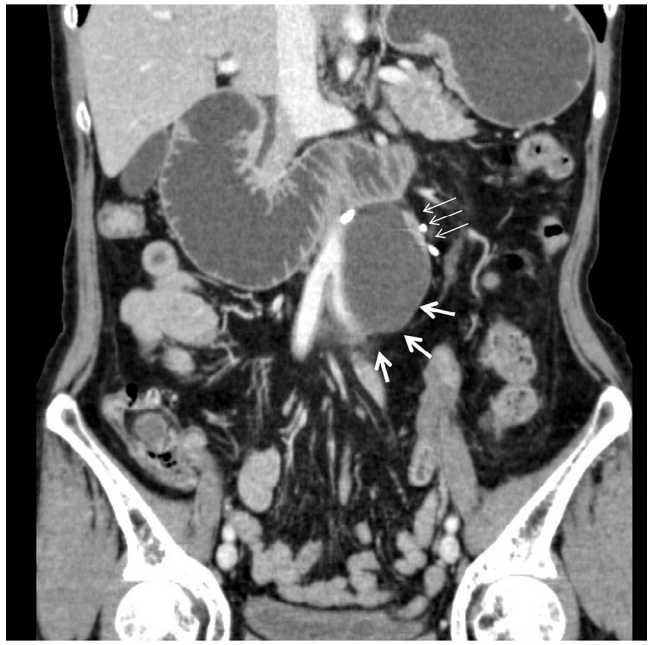

Fig. 1 – Enhanced abdominal computed tomography scan at the onset of ileus. Computed tomography demonstrated a smooth and thin-walled cavity filled with a fluid, which was sharply demarcated from its surroundings (white arrows). The jejunum was compressed by the para-aortic lymphocele (thicker white arrows).

[4,6]. There are several methods for the treatment of lymphoceles, including simple aspiration, percutaneous catheter drainage, and sclerotherapy. Simple aspiration should be performed only in small lymphoceles because of the high risk

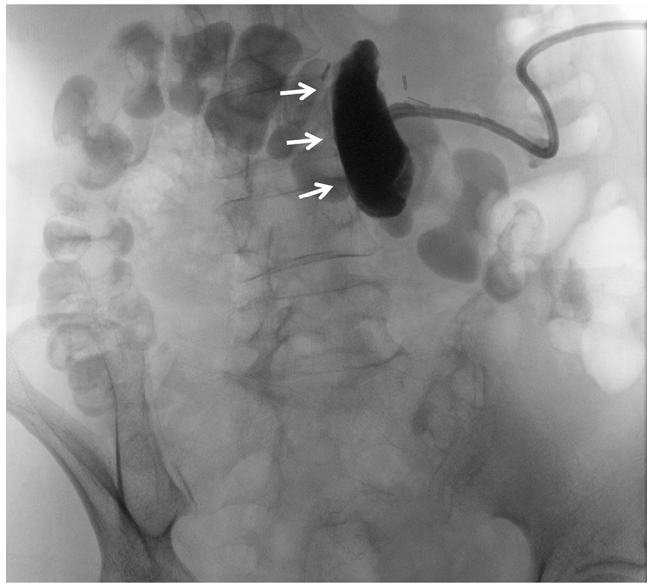

Fig. 2 – Radiographic contrast study. A drainage catheter was inserted in the lymphocele under ultrasonic guidance. The lymphocele was contrasted through the catheter and a total of 100 mL of serous fluid was aspirated (white arrows).

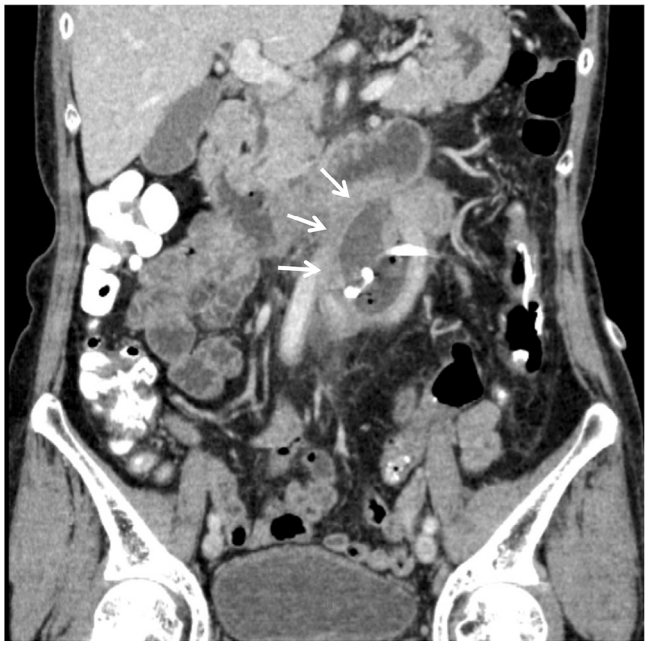

Fig. 3 – Enhanced abdominal computed tomography scan after autologous peripheral blood injection. The size of the lymphocele was gradually decreased (white arrows).

of recurrence [3,7]. Percutaneous catheter drainage has a variable success rate of 87% [8]. The option of adding sclerosing agents may be a considerable improvement over aspiration [9]. There is no consensus on the optimal sclerosing agent: povidone-iodine, sodium tetradecyl sulfate, talcum, fibrin sealant, ethanol, tetracycline, doxycycline, or bleomycin [9–17].

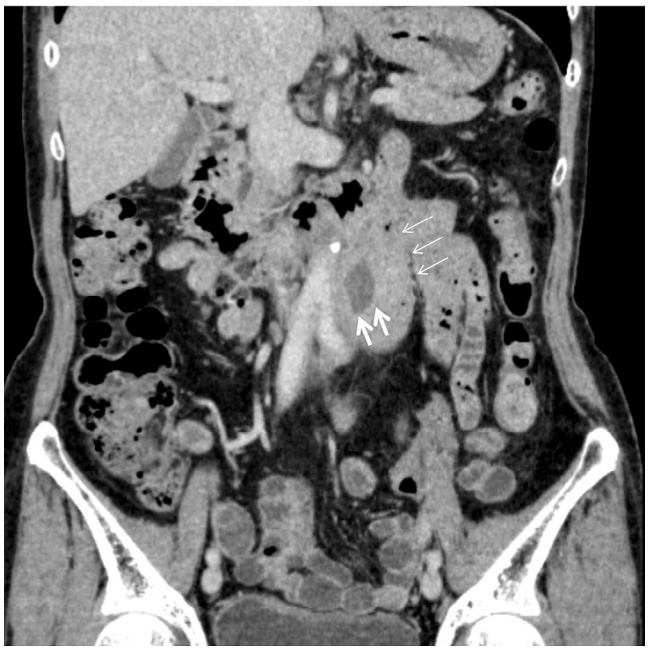

Fig. 4 – Enhanced abdominal computed tomography scan 2 months after sclerotherapy. The size of the lymphocele further improved (white arrows) and the compression of the jejunum disappeared (thicker white arrows).

These agents act by irritating the walls of the lymphocele, inducing local inflammation and fibrosis of the lymphatic channels, and obliterating the lymphatic leak [12]. Autologous peripheral blood is well used for the treatment of pneumothorax or malignant pleural effusion. It is known that the coagulated blood adheres to the lung as a patch and seals the air leak directly [18,19]. In this case, autologous peripheral blood was selected for sclerotherapy because it was less invasive for the jejunum, which was located close to the lymphocele. This is the first report of a successful case of a subsequent para-aortic lymphocele treated with autologous peripheral blood injection without any complications.

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