

Clinical-Medical Image

## Shock Induced by Iatrogenic Azygos Vein Penetration by Orthopaedic Spine Infusion Procedure

Tomohiro Nakajima\*, Tsuyoshi Shibata, Yutaka Iba, Nobuyoshi Kawaharada, Naomi Yasuda, Akihito Ohkawa, Itaru Hosaka and Riko Umeta

Department of Cardiovascular Surgery, Sapporo Medical University, Hokkaido, Japan

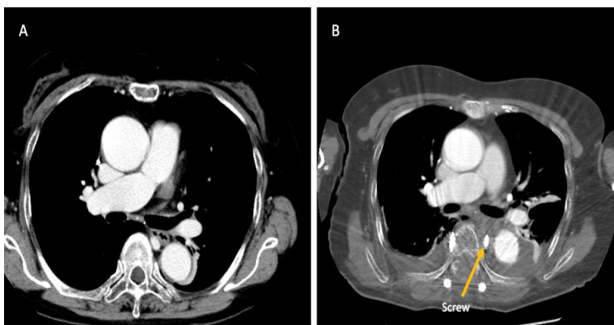


Figure 1: Enhanced computer tomography.

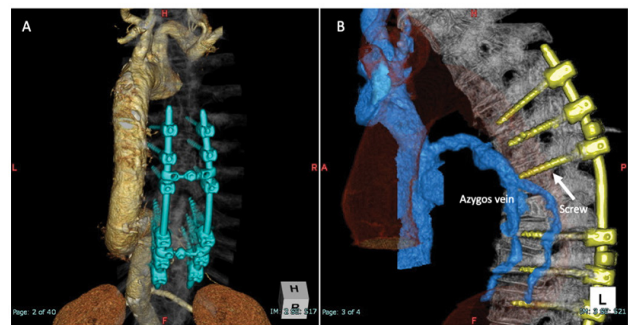


Figure 2: Computer tomography of the patient.

### Clinical-medical Image

A 76-year-old woman was scheduled for a thoracic spine fusion procedure for a spinal bone tumour due to multiple myeloma. At the time of pre-operative computer tomography, no effusion was detected around the descending aorta (Figure 1A). She underwent the procedure and twelve screws were pinned bilaterally from Th5 to Th9. Systemic blood pressure decreased from 120 mmHg to 80 mmHg and serum haemoglobin decreased from 9.4 g/dL to 5.2 g/dL. Red blood cell was infused, and serum haemoglobin didn't decrease any further. A routine computer tomography on POD1 revealed that three screws were penetrated into the left thoracic cavity. Enhanced computer tomography was performed, and effusion was detected around the descending aorta (Figure 1B). Orthopaedic surgeons planned to conduct spine fusion procedure emergently and asked us to conduct thoracic endovascular aortic repair (TEVAR) to prevent arterial bleeding. We planned TEVAR according to the preference of the orthopaedic surgeons. Emergently we conducted TEVAR by using TGM 343410 GORE C-Tag (W. L. Gore and Associates, Flagstaff, Ariz). No arterial bleeding was detected by aortography. After TEVAR, orthopaedic surgeons performed the procedure again. The left sided screws were moving slightly along with the arterial pulse. But after removing the screws, blood pressure and serum haemoglobin didn't decrease. On POD 2, volume rendering computer tomography was completed. CT showed that screws didn't penetrate the descending aorta, although these screws were placed just along the aorta (Figure 2A). The third screw was slightly penetrated the azygos vein (Figure 2B).

**Keywords:** Iatrogenic bleeding; TEVAR; Azygos vein

### Declaration of conflicting interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

\*Corresponding author: Tomohiro Nakajima, Department of Cardiovascular Surgery, Sapporo Medical University Hospital, 291, Minami 1-jo Nishi 16-chome, Chuo-ku, Sapporo-shi, Hokkaido 060-8543, Japan, Tel: +09027870561; E-mail: : t.nakajima@sapmed.ac.jp and t.nakajima329@gmail.com

**Citation:** Nakajima T, Shibata T, Iba Y, Kawaharada N, and Yasuda N, et al. (2021) Shock Induced by Iatrogenic Azygos Vein Penetration by Orthopaedic Spine Infusion Procedure. *Int J Clin Med Imaging* 8:803.

**Copyright:** © 2021 Nakajima T, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.