

## Case Report

## Case report Gas with cardiac arrest due to decompression illness

Ken-ichi Muramatsu MD.<sup>1</sup>, Hiroki Nagasawa MD.<sup>1</sup>, Youichi Yanagawa MD. PhD<sup>1</sup><sup>1</sup>Department of Acute Critical Care Medicine, Juntendo Shizuoka Hospital, Izunokuni City, Shizuoka Prefecture, Japan

\*Corresponding Author

Youchi Yanagawa

**Abstract:** A 52-year-old male lost consciousness after 46 minutes of diving at a maximum depth 21 m. On arrival, he was in cardiac arrest. Advanced cardiac life support failed to obtain spontaneous circulation. Whole-body computed tomography (CT) immediately after ceasing resuscitation revealed multiple gas molecules in the thoracic wall, right ventricle, portal vein, inferior vena cava, descending aorta and spinal canal. We present a rare case of gas in the inferior vena cava, aorta or spinal canal after DCI. This unique case adds one more cause to the list of documented distribution of gas after DCI.

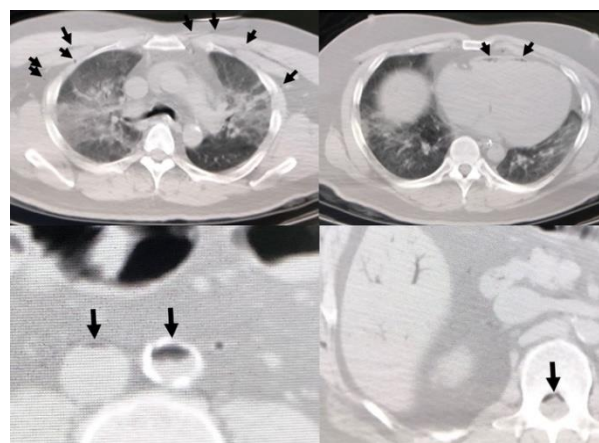
**Keywords:** cardiac arrest, spontaneous circulation, spinal canal.

## INTRODUCTION

Decompression illness (DCI) is caused by bubbles that appear in either the bloodstream or in other tissues in the body by ascending too fast from either underwater to the surface or from the surface to a high altitude (Torp KD et al, 2018). Postmortem computed tomography can easily demonstrate gas collections after diving accidents (Ozdoba C et al 2005). However, there has been no reports concerning gas in the inferior vena cava, aorta or spinal canal.

## CASE REPORT

A 52-year-old male lost consciousness after 46 minutes of diving at a maximum depth 21 m. On arrival, he was in cardiac arrest. Advanced cardiac life support failed to obtain spontaneous circulation. Whole-body computed tomography (CT) immediately after ceasing resuscitation revealed multiple gas molecules in the thoracic wall, right ventricle, portal vein, inferior vena cava, descending aorta and spinal canal (**Figure 1**).



**Figure 1: Whole-body computed tomography (CT) immediately after ceasing resuscitation.**

The CT reveals multiple gas molecules in the thoracic wall, right ventricle, portal vein, inferior vena cava, descending aorta and spinal canal (arrow).

Gas in the inferior vena cava, aorta or spinal canal is rare even after DCI (Yanagawa Y et al, 2016, , Eroglu U et al, 2016). Postmortem putrefaction has been confirmed and putrefaction that occurred three hours postmortem in animal models using CT (Laurent PE, 2013). The present patient had been in a compressive situation and showed gas at one hour from collapse. The gases in the present case were diagnosed as having been induced by DCI.

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We present a rare case of gas in the inferior vena cava, aorta or spinal canal after DCI. This unique case adds one more cause to the list of documented distribution of gas after DCI.

#### **Disclosure**

Conflict of Interest: The all authors declare no conflicts of interest in association with this study.

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