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# A survivor with unexplained chest scars

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## Abstract

This case illustrates chest scars after piston-based chest compression device resuscitation and raises the awareness of the potential benefits of following up survivors of critical illness.

**Keywords** Cardiopulmonary resuscitation, Chest compression device, PICS (Post Intensive Care Syndrome), Keloid scar

## Case presentation

A 68-year-old woman enquires about the origin of painless circular scars over her anterior chest (Fig. 1) at the post ICU consultation. Seven months earlier, she was admitted into the Emergency Department for refractory cardiac arrest caused by a pulmonary embolism. She received intravenous thrombolysis, extracorporeal cardiopulmonary resuscitation (ECPR) and a total of 42 min of CPR.

## Diagnosis

*Keloid scar following CPR with a piston-based device and post-intensive care syndrome (PICS).*

Upon examination, the keloid scars exhibit the size and circular pattern typical of the suction cup of a piston-based chest compression device. A review of the medical chart confirms that a LUCAS<sup>®</sup>3 was used in the ED to provide CPR. As previously reported in one post-mortem study, piston-based chest compression devices

are associated with a higher rate of anterior chest lesions, such as hematomas and skin abrasions, compared to manual compression [1]. When using these devices, skin protection is however not recommended to avoid losing the suction effect and ensuring optimal performance.

The patient exhibits a cosmetic sequela as one element of a post intensive care syndrome (PICS). PICS encompasses new or worsening long-lasting physical, cognitive and mental health issues resulting from critical illness and adversely affecting quality of life in survivors [2]. Post-ICU follow-up programs serve to identify and address these issues.

Local steroids and laser therapy are cosmetic options to treat keloid scars. Surgical excision is usually avoided due to a high risk of recurrence. In this case, the patient was relieved to understand the origin of the scars and declined dermatological referral.

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**Fig. 1** Anterior chest scars, located over the mid sternum

#### Author contributions

VD and SC conceived the idea. VD and MA wrote the manuscript. SC and EI critically reviewed the manuscript. The patient was involved in the idea of the present manuscript and provided us with photos but prefers to remain anonymous.

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#### Data availability

Not applicable.

#### Declarations

#### Competing interests

The authors declare no competing interests.

#### Ethical approval

Not applicable.

#### Consent to participate

Not applicable.

#### Consent for publication

Written informed consent was obtained from the patient for publication of these images and the case description.

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