

1 A case of hemorrhagic shock in a patient with neurofibromatosis type 1

2 Shock in neurofibromatosis type 1

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## **Abstract**

Neurofibromatosis type 1 (NF1) is not known to cause serious vascular complications. This report describes a 49-year-old man with NF1 who presented to our hospital in hemorrhagic shock due to vascular leakage within a neurofibroma tumor. Physicians should be aware that NF1 can cause a wide variety of vascular lesions.

## **Case presentation**

A 49-year-old man with neurofibromatosis type 1 (NF1) was brought to the emergency room for swelling and pain in the left side of his abdomen. He was in shock on arrival, and a large mass was observed in his lateral abdomen. Contrast-enhanced computed tomography (CT) was performed to identify the source of bleeding and search for other vascular lesions. It revealed vascular leakage within a neurofibroma tumor (Fig. 1A), leading to the observed hemorrhagic shock. An aneurysm of the left 4th lumbar artery was observed, but no cerebral aneurysms or other vascular abnormalities were found. Emergency interventional radiology (IVR) and vascular embolization of the left 1st, 3rd, and 4th lumbar arteries were performed (Fig. 1B). The aneurysm of the left 4th lumbar artery was treated conservatively.

NF1 is an autosomal-dominant inherited disease with an incidence of 1:3000.<sup>(1)</sup> The incidence of vascular lesions in patients with NF1 is reportedly 3.6%.<sup>2</sup> In this case, an aneurysm was found in the left 4th lumbar artery. Therefore, when emergency room physicians encounter shock patients with NF1, they should perform whole body contrast-enhanced CT to detect vascular lesions as well as other vascular malformations.

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## **CONFLICT OF INTEREST**

Authors declare no Conflict of Interests for this article.

## **AUTHOR CONTRIBUTIONS**

YS wrote the first draft of the manuscript. HO, TO, HM, and RF critically revised the manuscript. All authors read and approved the final version of the manuscript.

## **ETHICAL APPROVAL**

This article does not contain any studies involving human participants or animals.

## **INFORMED CONSENT**

Written consent was obtained from the patient to disclose the case details and images pertaining to diagnosis.

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