



# DRUG ADDICTION. REPETITIVE INJECTIONS INTO CAROTID ARTERIES.

## A RARE CASE OF STROKE IN YOUNG ADULTS

Katalin Anna Béres-Molnár MD<sup>1</sup>, Pál Tamás Szabó<sup>1</sup>, Nadim Al-Muhanna MD<sup>1</sup>, Tamás Jarecsny MD<sup>1</sup>, Zsuzsanna Mihály MD<sup>2</sup>, Péter Sótónyi MD PhD<sup>2</sup>, András Folyovich MD PhD<sup>1</sup>

<sup>1</sup>Szent János Hospital Budapest, Department of Neurology and Stroke

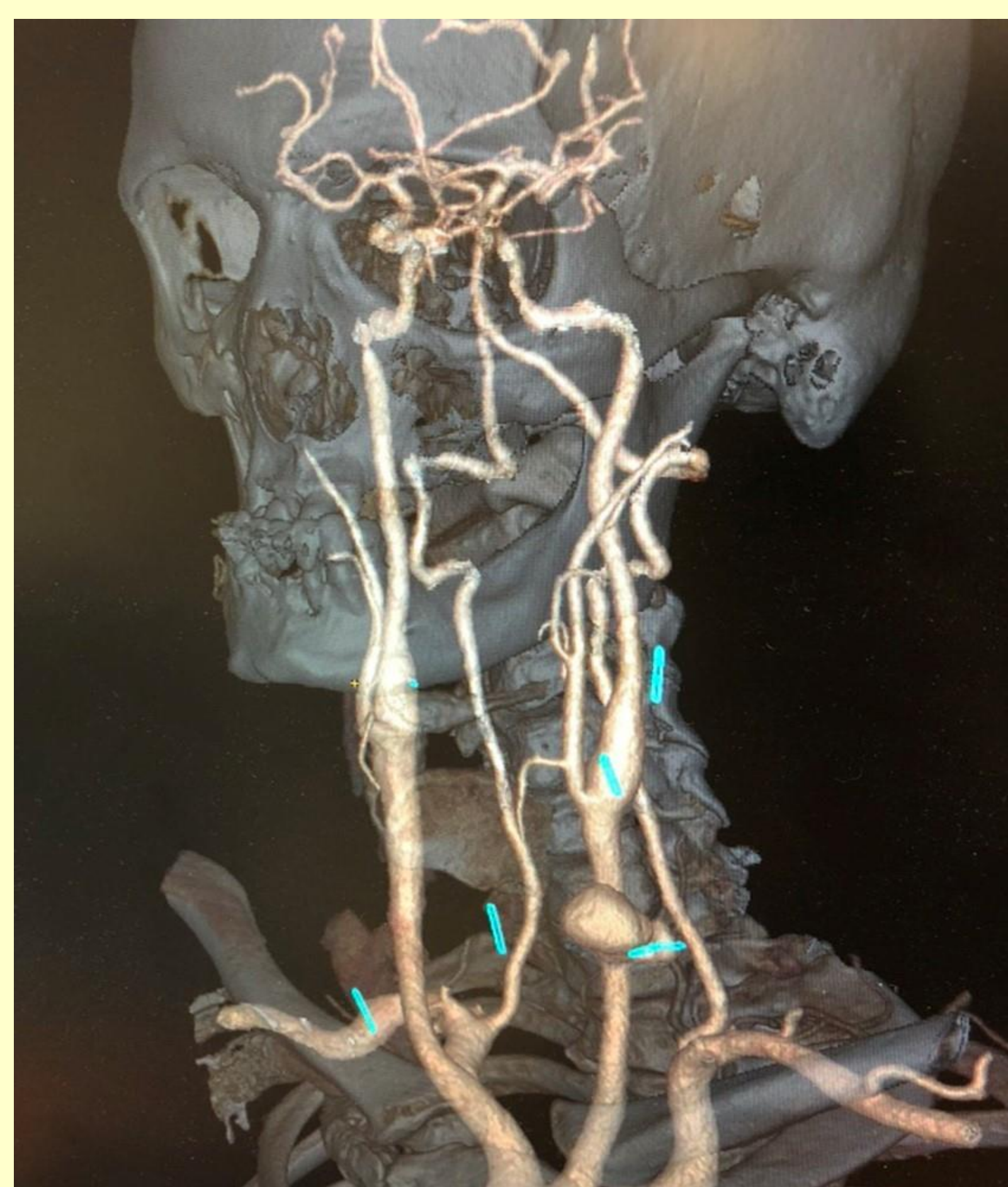
<sup>2</sup>Semmelweis University, Heart and Vascular Center

E-mail:beres.molnar@gmail.com



### INTRODUCTION

The cause of stroke in young adults is significantly different from cerebrovascular disorders in elderly. In many cases it is not possible to identify the etiology, or a risk factor. Sometimes unusual states are revealed. We report the medical history of our ischemic stroke patient who had the occlusion of left carotid and medial cerebral arteries caused by an extremely rare pathology.



Infarct in the territory of the left cerebral medial artery

CT angiography – Pseudoaneurysm of the left common carotid artery



### DEPARTMENT OF NEUROLOGY

Hepatitis and HIV serology, autoimmune laboratory examinations, thrombophilia: negative

Echocardiography: no sign of endocarditis.

### SPEECH THERAPY, NEUROPSYCHOLOGY

No spontaneous speech although a few short words could had been provoked. The auditory comprehension developed dramatically during the first month 3/36 to 11/36 points in the Token Test. Repetition, naming and short term verbal memory were also damaged.

Now the patient uses short sentences.

### ADDITIONAL HISTORY

The patient's original profession was an operating room nurse. One day his mother and wife suffered car accident together, both of them died. The patient began his addiction after it.

### NONSUICIDAL SELF-INJURY (DSM-5)

Proposed Criteria

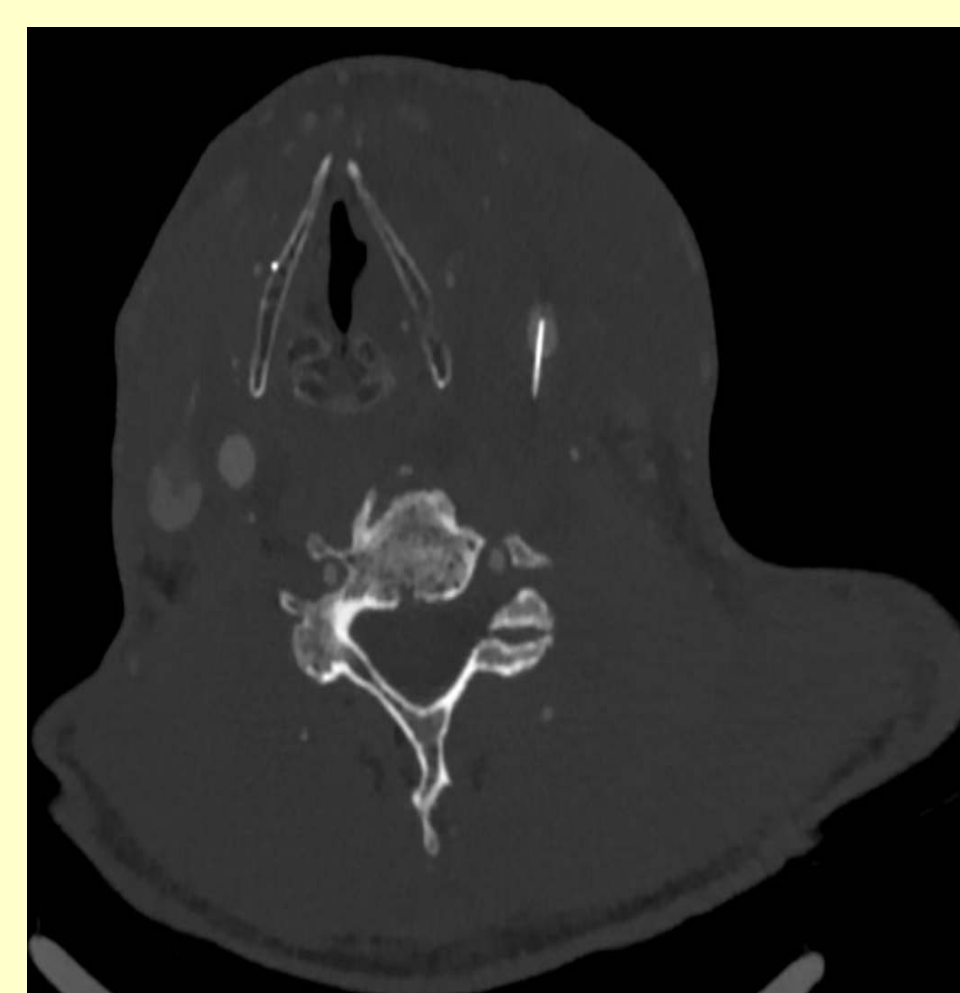
- A. In the last year, the individual has, on 5 or more days, engaged in intentional *self-inflicted damage to the surface of his or her body* of a sort likely to induce bleeding, bruising, or pain (e.g., cutting, burning, stabbing, hitting, excessive rubbing), with the expectation that the injury will lead to only minor or moderate physical harm (i.e., there is no suicidal intent).
- B. The individual engages in the self-injurious behavior with one or more of the following expectations:
  1. To obtain relief from a negative feeling or cognitive state.
  2. To resolve an interpersonal difficulty.
  3. To induce a positive feeling state.
- C. The intentional self-injury is associated with at least one of the following:
  1. *Interpersonal difficulties or negative feelings or thoughts*, such as depression, anxiety, tension, anger, generalized distress, or self-criticism, occurring in the period immediately prior to the self-injurious act.
  2. Prior to engaging in the act, a period of preoccupation with the intended behavior that is difficult to control.
  3. Thinking about self-injury that occurs frequently, even when it is not acted upon.
- D. ...E. The behavior or its consequences cause clinically significant distress or interference in interpersonal, academic, or other important areas of functioning.

### MEDICAL HISTORY

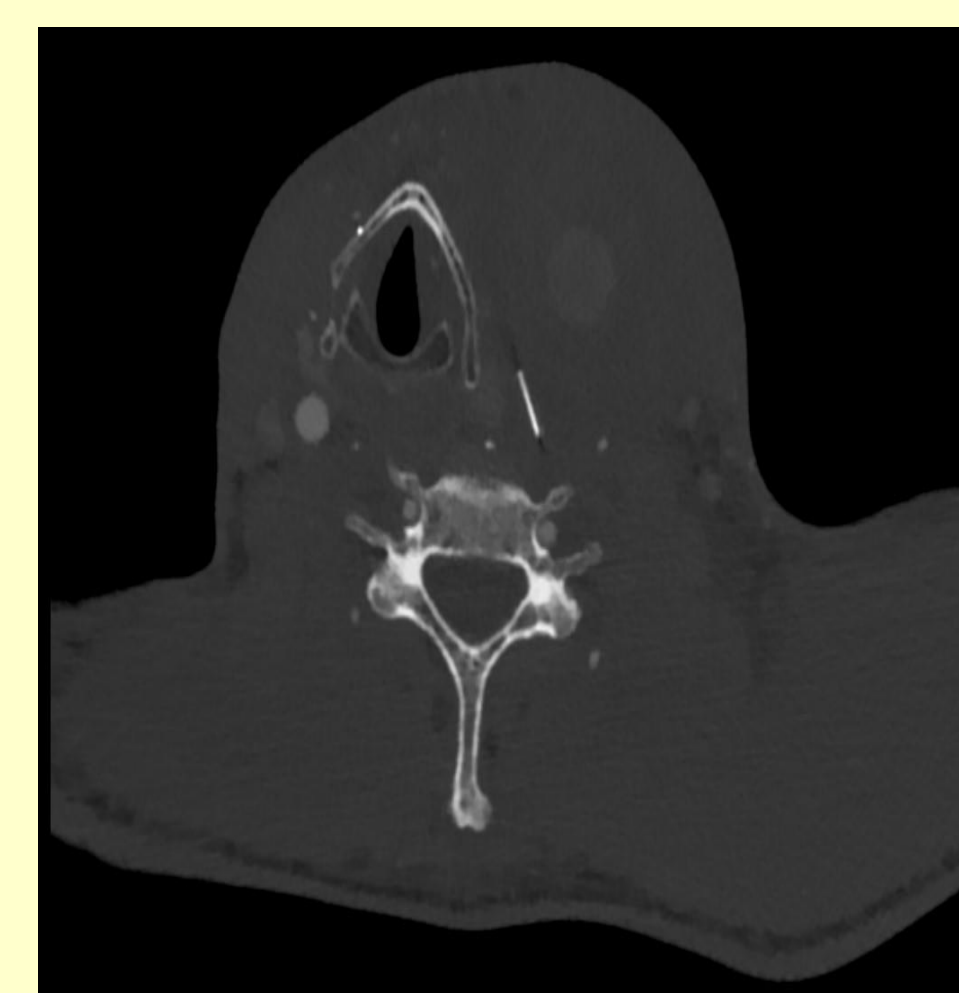
The 45-year-old male patient had a history of repetitive intravenous *and intraarterial* drug injection into the carotid artery. He was admitted to the Department of Vascular Surgery of Semmelweis University because the left cervical region became swollen causing dyspnea and showed pulsation. The CT angiography revealed broken needles in both cervical regions and a left common carotid artery pseudoaneurysm caused dislocation of the trachea. Urgent resection of the pseudoaneurysm and reconstruction with a human arterial allograft was performed.

*Two months later* the patient returned to the Vascular Surgery with dyspnea, fever and a pulsating cervical mass at the operative site. Carotid ultrasound showed a contained rupture at the proximal anastomosis.

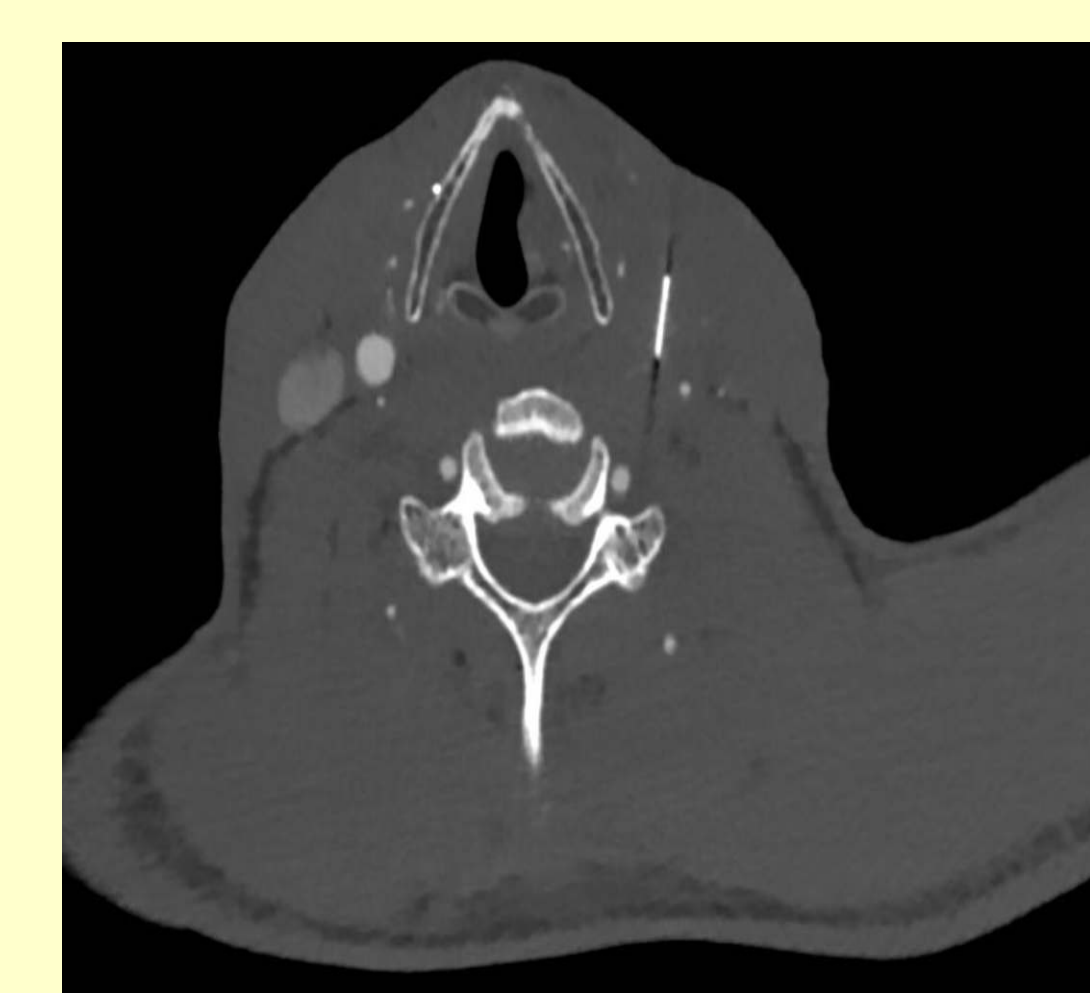
Before the next operation he suffered a *stroke* causing right hemiplegia and aphasia.



Homograft with needle



Evacuated hematoma to prevent cervical phlegmone



Occlusion of the left carotid artery and haematoma

CT scan showed and extended ischemic lesion in the territory of left sided medial cerebral artery. Occlusion was seen from the the pseudoaneurysm to the syphon. The broken needles from the repetitive self-punctures were visible in the arteries by the CT-angiography. The closing of the communicating carotid artery was carried out. After, he was transmitted to our department. Withdrawal symptoms were not observed. Thrombophilia, autoimmune disease were not proved. After speech therapy and complex rehabilitation his state remarkable improved.



Occlusion of th the common carotid artery with an Amplatzer II plug

### NEUROLOGICAL FOLLOW UP

The patient's neurological function slowly improved due to the intensive rehabilitation program.

### CONCLUSION

The history of the patient is rare. The broken needles in the carotid artery caused multiple vascular risks: toxic effect, source of embolism, inflammation. The pseudoaneurysm changed the circulation. The psychotherapy is a question for the future (and the result of the speech rehabilitation).