Fatal cerebral air embolism complicating esophageal dilation

We present the case of a 72-year-old man with cardiac adenocarcinoma treated with a metal stent and radiation therapy for pulmonary metastases. After 6 months of this treatment he developed a malignant esophageal stricture. Endoscopy was carried out under moderate sedation and constant monitoring. Dilation with an over-the-scope balloon dilator (CRE sinus–straight sinus, great vein of Galen, and the cerebral venous network of the cortex.

The entry of air into the vascular system during endoscopy is a serious complication and is usually accompanied by interruption of the mucosal barrier [1–3]. Our patient developed pneumocephalus as a result of gas entry either directly into the arterial system or indirectly through the venous system. Paradoxical embolism via an intracardiac shunt [4] or pulmonary shunts due to metastases cannot be excluded, although hemodynamic instability was not observed. The esophagus is directly in contact with the posterior wall of the left atrium between the mid-posterior part of the atrium and the distal border of the inferior pulmonary veins [5]. Arterial gas entry may have occurred under positive air pressure due to proximity of malignant and radiation trauma. Cerebral air embolism during an endoscopic intervention has not been reported previously, but it should be suspected in case neurological deterioration ensues as the prognosis is poor.

Endoscopy_UCTN_Code_CPL_1AH_2AF

Competing interests: None

References

Bibliography
DOI http://dx.doi.org/10.1055/s-0033-1344409
Endoscopy 2013; 45: E358
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

Corresponding author
S. Michopoulos
Department of Gastroenterology
Alexandria University Hospital
80 Vas Sofias Ave, 11528 Athens
Greece
Fax: +30-213-2162895
michosp@hol.gr