SPINAL CORD ISCHEMIA FOLLOWING ENDOVASCULAR REPAIR OF INFRARENAL ABDOMINAL AORTIC ANEURYSM: A RARE COMPLICATION

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Introduction:

Paralysis secondary to spinal cord ischemia following Endovascular repair of infrarenal abdominal aortic aneurysm is extremely rare complication, the reported incidence in the literature is 0.21%.

Case report:

Our patient is an 85-year old female patient who presented to the emergency department with abdominal pain radiating to the back. Abdominal examination showed mild epigastric tenderness. Laboratory work up was within the normal limits, and she had Computed Tomography Angiography of the abdomen and pelvis which showed impending rupture of 5.8 cm abdominal aortic aneurysm. The anatomic configuration of the AAA fulfilled the requirements for EVAR.

The patient underwent endovascular repair of her abdominal aortic aneurysm under general anesthesia. An infrarenal endovascular bifurcated graft with main body graft measuring 28 x 14 x 16 mm, along with right iliac limb extension graft measuring 14 x 14 mm that was followed by angioplasty of proximal, gate, at the bifurcation and distally in the iliac in a standard fashion. A completion angiogram revealed excellent seal with no leak.

The patient was admitted to the intensive care unit for observation. On post-operative day one she was complaining from lower limb weakness which she did not have prior to the surgery. Her neurological exam revealed bilateral lower limb paralysis with intact sensation. Her femoral pulses were present. Magnetic resonance imaging showed evidence of infarction of the distal spinal cord. The patient was discharged on post-operative day five to neurological rehabilitation facility.

Discussion:

The etiology of spinal cord ischemia following endovascular repair of infrarenal abdominal aortic aneurysm is not fully understood. Multiple factors has been described for the development of this rare complication in the endovascular setting those include; atheromatous embolization, or interruption of the great radicular artery (artery of Adamkiewicz) or the collateral circulation from the internal iliac and lumbar arteries. Multiple treatment methods has been suggested to manage this condition like the use of cerebrospinal fluid drainage, steroids, hypothermia, and spinal cord perfusion pressure augmentation.

Conclusion:

Neurological deficit after infrarenal aortic aneurysm repair is an extremely rare complication unlike thoracic aortic aneurysm. It usually results from alteration of the blood supply to the distal spinal cord by different not fully understood mechanisms. There is generally a lack of data to support the optimal way to manage this condition for these subset of patients.

This research was supported (in whole or in part) by HCA Healthcare and/or an HCA Healthcare affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities.