

Vertebral body erosion secondary to aortoiliac aneurysm

Erosão de corpo vertebral secundário a aneurisma aortoiliaco

Lilian Aguiar Pupo Zanini¹, André Dubinco¹, Eduardo Kaiser Ururahy Nunes Fonseca¹, Fernando Ide Yamauchi¹, Ronaldo Hueb Baroni¹

¹ Hospital Israelita Albert Einstein, São Paulo, SP, Brazil.

DOI: 10.31744/einstein_journal/2019AI4550

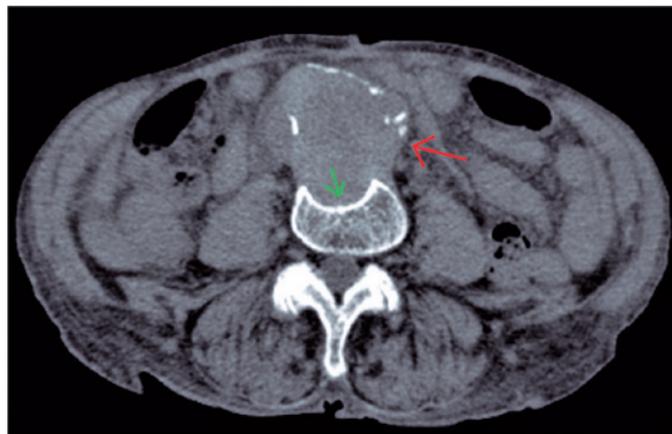


Figure 1. Axial computed tomography image of total abdomen with no contrast enhancement shows aortoiliac aneurysm with peripheral calcifications (red arrow), causing erosion of the anterior aspect of L4 vertebral body (green arrow)



Figure 2. Sagittal computed tomography reconstruction shows the aortoiliac aneurysm is in continuity with abdominal aorta (red arrow), as well as erosion and bone remodeling of the anterior aspect of L4 vertebral body (green arrow)

How to cite this article:

Zanini LA, Dubinco A, Fonseca EK, Yamauchi FI, Baroni RH. Vertebral body erosion secondary to aortoiliac aneurysm. *einstein* (São Paulo). 2019;17(4):eAI4550. http://dx.doi.org/10.31744/einstein_journal/2019AI4550

Corresponding author:

André Dubinco
Rua Inhambu, 942, apto. 81 – Moema
Zip code: 04520-013 – São Paulo, SP, Brazil
Phone: (55 19) 98124-4469
E-mail: dubinco@hotmail.com

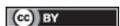
Received on:

Apr 25, 2018

Accepted on:

Sep 5, 2018

Copyright 2019



This content is licensed under a Creative Commons Attribution 4.0 International License.

A 75-year old female patient presenting chronic arterial hypertension, was admitted at the emergency department with moderate unspecific abdominal pain. A computed tomography of total abdomen with no contrast enhancement was requested due to altered renal function and suspicion of acute obstructive abdomen.

The computed tomography sections (Figures 1 and 2) showed a fusiform aneurysm in the aortoiliac bifurcation, extending up to the right iliac artery. This aneurysm was causing erosion of the anterior aspect of L4 vertebral body, with bone remodeling, marked by subjacent cortical sclerosis.

Vertebral collapse and lytic lesions are usually related to fractures, tumors, osteoporosis, spondylitis or spondylodiscitis. Nonetheless, the erosion in the anterior aspect of the vertebral body can also result from an abdominal aorta aneurysm, or even mimic tumors or infections.^(1,2)

A computed tomography finding suggestive of an impending rupture of an abdominal aorta aneurysm is the draped aorta sign, which refers to the loss of fat plan that separates the aorta from the anterior aspect of the spine and psoas muscle. Erosion of the anterior aspect of vertebral body, as observed in this case, is the most exuberant manifestation of this sign. The mechanism suggested in this context is repetitive mechanical pressure by arterial pulsation, which would cause chronic ischemia in the bone matrix, leading to bone lysis and remodeling.⁽²⁻⁵⁾ Preservation of the disk spaces decreases the risk of infection and helps in making differential diagnosis. This finding indicates an imminent risk of rupture, which must be promptly

identified. The attending physician of the patient should be informed about this risk, considering the mortality rates after complete rupture are approximately 90%.⁽⁶⁾

Therefore, radiologists should be familiarized with such images indicating an impending risk of rupture of abdominal aorta aneurysm, even in non-contrast enhancement exams.^(5,6)

AUTHORS' INFORMATION

Zanini LA: <http://orcid.org/0000-0002-1934-2006>

Dubinco A: <http://orcid.org/0000-0002-6017-8375>

Fonseca EK: <http://orcid.org/0000-0002-0233-0041>

Yamauchi FI: <http://orcid.org/0000-0002-4633-3711>

Baroni RH: <http://orcid.org/0000-0001-8762-0875>

REFERENCES

1. Mii S, Mori A, Yamaoka T, Sakata H. Penetration by a huge abdominal aortic aneurysm into the lumbar vertebrae: report of a case. *Surg Today*. 1999; 29(12):1299-300.
2. Usselman JA, Vint VC, Kleiman SA. CT diagnosis of aortic pseudoaneurysm causing vertebral erosion. *AJR Am J Roentgenol*. 1979;133(6):1177-9.
3. Diekerhof CH, Reedt Dortland RW, Oner FC, Verbout AJ. Severe erosion of lumbar vertebral body because of abdominal aortic false aneurysm: report of two cases. *Spine (Phila Pa 1976)*. 2002;27(16):E382-4.
4. González Gay M, Alonso Pérez M, Adeba Vallina E. Erosión vertebral en aneurismas de aorta abdominal como causa de dolor lumbar crónico. Serie de 5 casos. *Rev Esp Cir Ortop Traumatol*. 2012;56(6):478-81.
5. Fonseca EK, E Castro AD, Tames AV, Jayme EM, Paiva OA, Sokolowski LR. The draped aorta sign of impending aortic aneurysm rupture. *Abdom Radiol (NY)*. 2017;42(8):2190-1.
6. Sterpetti AV, Blair EA, Schultz RD, Feldhaus RJ, Cisternino S, Chasan P. Sealed rupture of abdominal aortic aneurysms. *J Vasc Surg*. 1990;11(3):430-5.