

## Clinical significance of the ‘tennis ball sign’

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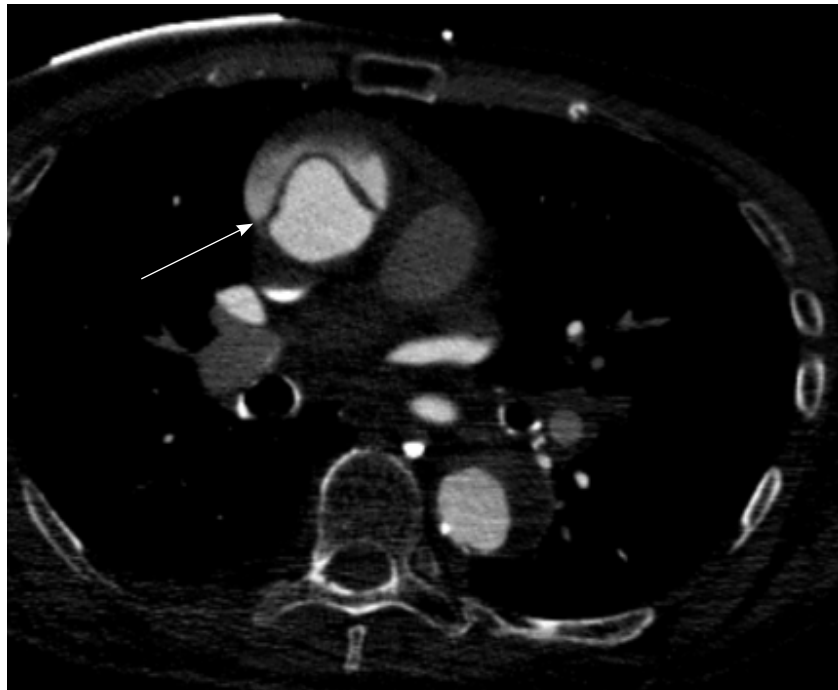
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An 84-year-old woman was admitted with a history of collapse following sudden onset chest pain. Her electrocardiogram was normal. Computed tomography angiogram of her aorta showed an intimal flap arising from the root of the aorta and extending into the ascending aorta, with two lumens within the aorta separated by a thin curved intimal flap. These findings were consistent with the ‘tennis ball sign’ indicating acute aortic dissection (**Figure 1**).



**Figure 1.** Axial contrast-enhanced computed tomography scan showing thoracic aortic dissection. The curved intimal flap in the ascending aorta (arrow), separating the two lumens, resembles a tennis ball.

The incidence of aortic dissection is estimated to be around 5–30 cases per 1 million population/year (Golledge and Eagle, 2008). About 20% of patients with aortic dissection die before reaching the hospital and the mortality rate is high, approaching up to 3%/hour during the first 24 hours (Farber, 2020).

The recognition of the tennis ball sign, initially reported by Patruno et al (2011), can help clinicians diagnose acute aortic dissection early and accurately, which is critical as the untreated condition can be rapidly fatal.

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### References

- Farber MA. Aortic Dissection. 2020. <https://www.msmanuals.com/en-gb/professional/cardiovascular-disorders/diseases-of-the-aorta-and-its-branches/aortic-dissection> (accessed 5 January 2021)
- Golledge J, Eagle KA. Acute aortic dissection *Lancet*. 2008;372(9632):55-66. [https://doi.org/10.1016/S0140-6736\(08\)60994-0](https://doi.org/10.1016/S0140-6736(08)60994-0)
- Patruno N, Pontillo D, Pajes G. Serve and surgery: type A acute aortic dissection CT imaging resembling a tennis ball. *J Cardiovasc Med*. 2011;12(4):270. <https://doi.org/10.2459/JCM.0b013e32833cdc89>

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