

Effect of CPAP on acute aortic dissection with recanalisation

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Accepted 6 October 2016

DESCRIPTION

A man aged 55 years presented to the emergency room with acute back pain. Contrast-enhanced CT revealed thrombosed-type acute aortic dissection (AD) from the distal aortic arch to the level of the renal arteries. The patient was admitted to our intensive care unit, and continuous infusion of nicardipine and propranolol was started; this infusion was titrated to maintain blood pressure below 120/80 mm Hg. Although blood pressure was well controlled for 1-week as shown by the 24-hour blood pressure monitoring results (figure 1), the follow-up CT scans showed progression for three consecutive weeks (figure 2A–C). Since the blood pressure showed a non-dipping pattern during sleep (figure 1), we suspected that the patient had sleep apnoea (SA).¹

A sleep study revealed that the patient had severe SA (apnoea–hypopnoea index (AHI), 68.3/hour; lowest SpO₂, 83% (room air)). Continuous positive airway pressure (CPAP) therapy was initiated. One week after beginning CPAP therapy, the patient slept well with fewer respiratory events (residual AHI downloaded from the CPAP was 7.0/hour)

and the flow in the false lumen markedly decreased (figure 2D).

Delsart *et al*² reported that false lumen dilation during 1-year was related to the severity of SA. We recommended this patient to continue CPAP, because the final CT scan showed a slight expansion in the false lumen. The effect of CPAP on the progression of AD has not been determined, but this case suggests that CPAP is useful in the acute phase of AD as well as in the chronic phase.

Learning points

- ▶ Comorbid sleep apnoea (SA) should be suspected in aortic dissection (AD) patients whose blood pressure shows a non-dipping pattern during the night.
- ▶ Continuous positive airway pressure can be useful to prevent the acute progression of AD with SA, even if the blood pressure is within normal limits.

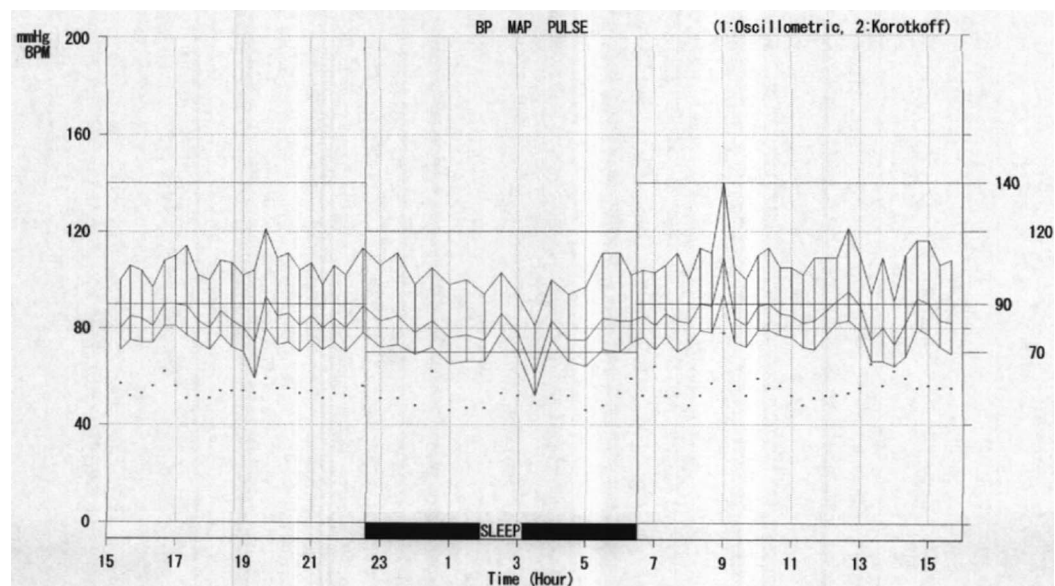


Figure 1 Blood pressure monitoring for 24 hours. Blood pressure was strictly controlled throughout the day and the night, but showed a non-dipping pattern during sleep.



To cite: Tomita Y, Kasai T. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-217070

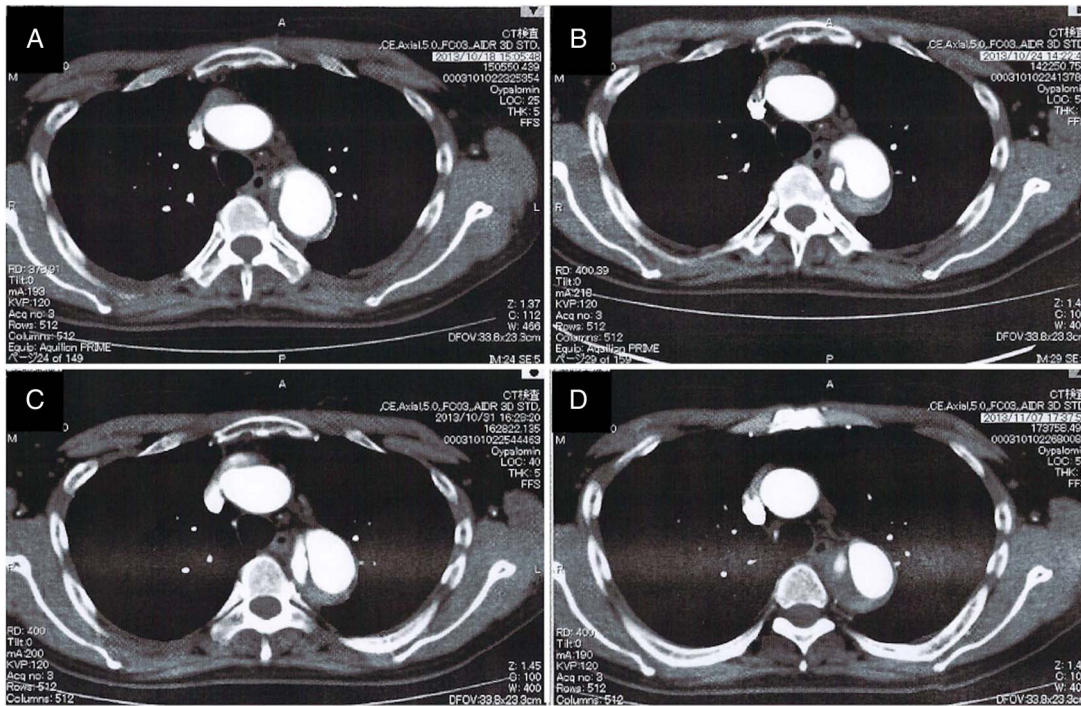


Figure 2 CT scans taken during the hospital stay. (A) An ulcer-like protrusion emerged in the distal aortic arch. (B) Recanalisation occurred in the false lumen. (C) The flow in the false lumen increased over the course of 1-week. (D) The flow in the false lumen markedly decreased after 1-week of continuous positive airway pressure therapy.

Contributors YT drafted the article; TK revised it critically.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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