

A Non-Operative Survival Case of an 84-Year-Old Patient with Type A Acute Aortic Dissection Complicated by Pulseless Tamponade

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An 84-year-old woman was hospitalized in hemodynamic shock due to type A acute aortic dissection (AAD) complicated by pulseless tamponade. She was treated conservatively as her family refused emergency surgery. In spite of warning her family that lack of intervention may possibly lead to an early death, she gradually improved and went home without any further problems. Emergency surgery for octogenarians remains controversial, however. We report the first surviving, non-operative case of an octogenarian with pulseless shock due to aortic dissection. (Ann Thorac Cardiovasc Surg 2006; 12: 297–9)

Key words: aortic dissection, cardiac tamponade, octogenarian

Introduction

According to the international registry of type A acute aortic dissection (AAD), the mortality rate for emergency surgical intervention for AAD was reported to be about 25%.¹⁾ Recent advances in surgical techniques, anesthesia, and perioperative medical management are likely to have lowered the mortality rate associated with emergency surgery. However, with an aging society, elderly patients with cerebrovascular or respiratory disorders undergoing emergency procedures are ever increasing and may negate the impact of the beneficial advances. Although elderly patients may survive because of advances in surgical techniques, the patient's family may be severely stressed because of postoperative complications such as postoperative stroke, depression, and bed rest. It therefore remains controversial whether emergency surgery for octogenarian with aortic dissection is justified. We here report the first octogenarian to hospitalized with pulseless

shock due to aortic dissection that survived without surgical intervention.

Case

An 84-year-old unconscious woman was hospitalized in our emergency department. Her family reported that she had previously complained of back pain. On admission, her blood pressure and heart rate were 120/70 mmHg and 110 beats per minute (BPM) respectively and contrast computed tomography (CT) revealed AAD with an extensive hemopericardium (Fig. 1). Immediately after being transferred to the cardiac unit for emergency surgery, her condition became complicated by pulseless shock due to cardiac tamponade. Her heart rate came up to 160 BPM and she finally lost consciousness. She was intubated, cardiopulmonary resuscitation was initiated, and the surgical theater prepared. Her blood pressure came back to 60/40 mmHg by effective resuscitation. However, her family denied emergency surgical treatment and pericardiocentesis. We therefore treated her conservatively with intravenous administration of inotropes (dopamine 5 $\mu\text{g}/\text{kg}/\text{min}$ and nor-adrenaline 0.05 $\mu\text{g}/\text{kg}/\text{min}$), and diuretic (human atrial natriuretic peptide 0.05 $\mu\text{g}/\text{kg}/\text{min}$), and she was put on a mechanical ventilator. She had been in hemodynamic shock for 2 hours but her blood pres-

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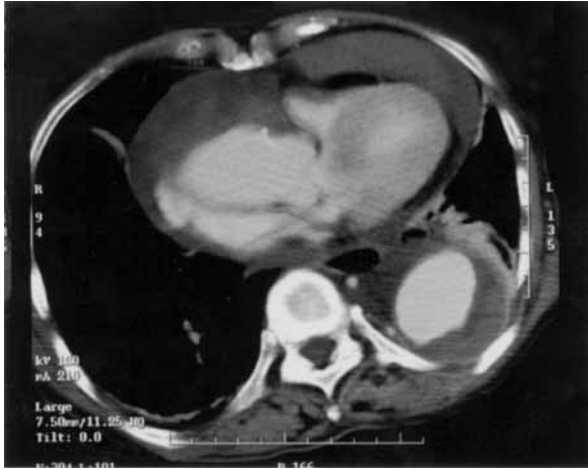


Fig. 1. Contrast CT on admission. Extensive hemopericardium and dissecting cavity are found.



Fig. 2. Contrast CT before discharge from the hospital. Hemopericardium has completely disappeared.

sure was increasing gradually. Finally, her blood pressure rose to 120/90 mmHg, and urine output also rose to 100 ml/min at 5 hours after administration of inotropes and diuretics. She woke up 3 days after admission. Surprisingly, her condition completely improved 5 days after admission, in spite of warning her family that lack of surgical intervention may possibly lead to an early death. Seven days after onset, the mechanical ventilator and all catecholamine were stopped. Fourteen days after the onset, she started light exercise. Two months later, contrast CT showed that hemopericardium had completely disappeared (Fig. 2), she was therefore discharged from hospital without any complications and to date has been very well.

Discussion

With a growing aging population, cardiovascular surgeons are faced with treating an increasing number of elderly patients. The efficacy of emergency surgical intervention for AAD is well accepted, but its role in the treatment of octogenarians with AAD remains unclear. Previous studies have demonstrated that surgical mortality and morbidity rates in elderly patients with AAD are higher than those in younger patients.^{2,3} In elderly patients, this may be attributed to high prevalence of chronic obstructive pulmonary disease and fragility of the dissected wall. In our institution, emergency surgery is recommended as soon as possible for octogenarian patients with AAD, unless the patient or patient's family refuse the surgery. How-

ever, elderly patients are a high-risk group for neurological complications and sometimes dementia also develops in the very elderly even though the surgery was successful. The patient has to rely on family to look after them during the day. Therefore, in this era of diminishing economic resources for health care, the question of whether such expensive surgery should be offered to such elderly patients is extremely relevant.⁴

Medical treatment for the patients with AAD has been analyzed previously including elderly patients with this condition.⁴ In this case, the patient was in hemodynamic shock complicated by pulseless tamponade. In AAD, tamponade is present in most cases. It does not always mean aortic rupture, but is life threatening and may be fatal, if not relieved. A previous study demonstrated that preoperative severe cardiac tamponade without a palpable pulse was associated with preoperative death.⁵ Based on this report, we informed this patient's family that her chance of survival was slim irrespective of the treatment strategy. Based on the information presented to them, her family refused surgical treatment. We believed that she was dying but surprisingly, she gradually improved and finally went home without any complications and has to date been very well. A review of the current literature reveals this is the first non-operative survival case of an octogenarian with pulseless shock due to aortic dissection. We now believe that there is hope for octogenarians suffering with pulseless tamponade as a result of AAD who for one reason or another are denied appropriate surgical intervention.

Conclusion

We have reported the first non-operative survival case of an octogenarian with pulseless shock due to aortic dissection; the use of emergency surgical intervention for this condition in octogenarians remains controversial.

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