



## Pathology Page

## Coronary artery atheroma with thrombosis



Yung-Hsiang Hsu\*

Department of Pathology, Buddhist Tzu Chi General Hospital and Tzu Chi University, Hualien, Taiwan

## ARTICLE INFO

## Article history:

Received 6 August 2012

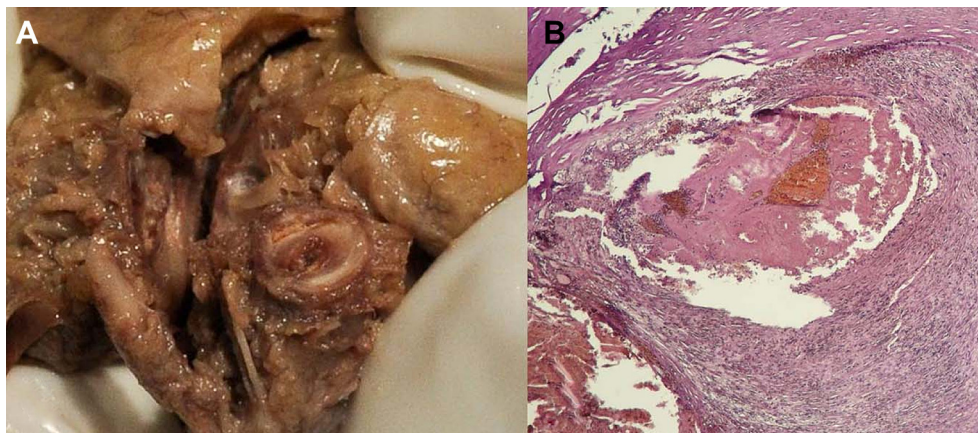
Received in revised form

20 August 2012

Accepted 21 August 2012

A 61-year-old man with a 10-year history of hypertension, who had been generally well previously, noted intermittent non-radiating substernal discomfort with no dyspnea, diaphoresis, orthopnea, paroxysmal nocturnal dyspnea, or coryza-like symp-

An autopsy showed the arterial wall of the left anterior descending coronary artery was completely occluded (Fig. 1A). Histopathology revealed a ruptured atherosclerosis plaque with fresh thrombi formation (Fig. 1B), which was the cause of his AMI.



**Fig. 1.** (A) Grossly, an atheroma totally occludes the left anterior descending coronary artery. (B) Histopathology reveals a ruptured atherosclerosis plaque with fresh thrombi formation (hematoxylin and eosin  $\times 100$ ).

toms. The discomfort was not related to exercise and was self-limited. The patient fell suddenly while talking with friends. He was transferred to the ER after cardiopulmonary cerebral resuscitation because of sudden cardiac arrest and died of acute myocardial infarction (AMI).

AMI, commonly known as a heart attack, results from interruption of the blood supply to a part of the heart, causing heart cells to die. This is most commonly due to occlusion (blockage) of a coronary artery following the rupture of the artery with thrombus formation by a vulnerable atherosclerotic plaque, which is an unstable collection of lipids (cholesterol and fatty acids) and white blood cells (especially macrophages) in the wall of an artery. The resulting ischemia (restriction of blood supply) and ensuing oxygen shortage, if left untreated for a sufficient period of time, can cause damage or death (infarction) of the heart muscle tissue (myocardium).

\* Corresponding author. Department of Pathology, Buddhist Tzu Chi General Hospital, 707, Section 3, Chung-Yang Road, Hualien, Taiwan. Tel.: +886 3 8565301x2190; fax: +886 3 8574265.

E-mail address: [yhhsu@mail.tcu.edu.tw](mailto:yhhsu@mail.tcu.edu.tw).

### Further reading

- [1] Sarmiento RA, Blanco F, Parisi C, Riccitelli MA, Gigena G, Gagliardi JA. Instability in multiple atherosclerotic plaques in patients who died of acute myocardial infarction. *Medicina (B Aires)* 2011;71:317–22 [in Spanish].
- [2] Ueda M. Clinical relevance of coronary artery calcification, as a risk factor for plaque rupture: viewpoint from pathology. *Clin Calcium* 2010;20:1656–62.
- [3] Ueda M. Pathology of AtheroThrombosis (ATIS). *Drugs* 2010;70(Suppl. 1):3–8 [in Japanese].