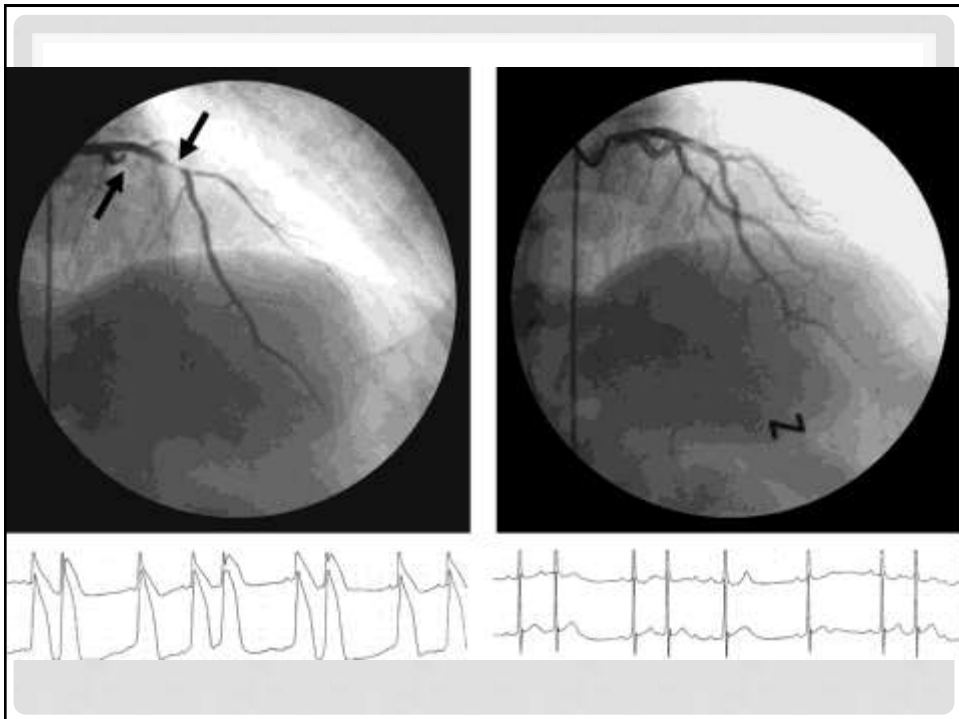


CORONARY ARTERY SPASM

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NHI



CAUSES

- Coronary artery spasm can be invoked by cigarette smoking ,cocaine use , alcohol , intracoronary irradiation ,and administration of catecholamines during general anesthesia
- Although the ST-segment elevation is often striking , it rapidly reverts to normal when the pain disappears spontaneously or is terminated by the administration of nitroglycerin .

COMPLICATIONS

- Coronary artery spasm may be accompanied by atrioventricular block ,ventricular ectopic activity ,ventricular tachycardia ,or ventricular fibrillation
- Myocardial infarction and death are rare manifestations of coronary artery spasm
- Coronary artery spasm can also be superimposed on the presence of an intramyocardial bridge .

DIAGNOSIS

- On rare occasions , there may be reduced velocity of coronary flow in the absence of a fixed coronary obstruction or coronary vasospasm
- Coronary arteriography is useful in patients with suspected coronary artery spasm to exclude the presence of concomitant CAD and to document an episode of coronary artery spasm by use of provocative intravenous medications.

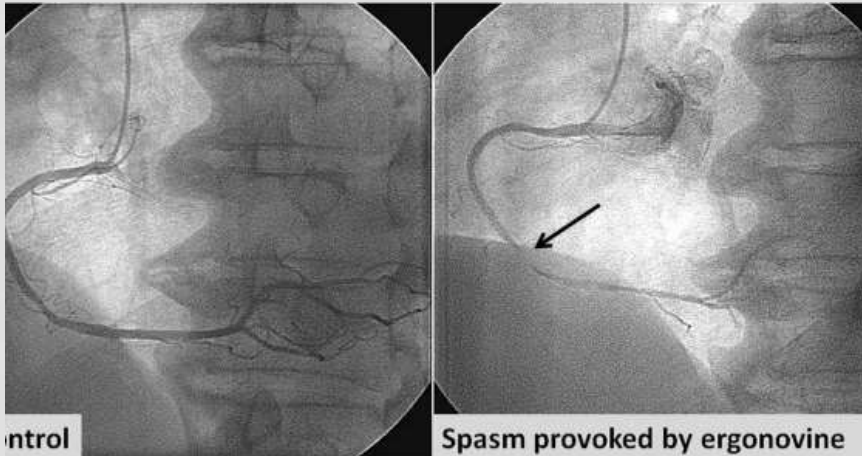
CONTINUED

- Three provocative tests can be performed to detect the presence of coronary artery spasm
- 1st, Intravenous ergonovine maleate can elicit two types of responses
- A diffuse coronary vasoconstriction that occurs in all the epicardial arteries is a physiologic response to ergonovine not diagnostic of coronary artery spasm.
 - The second response to ergonovine is a focal ,occlusion spasm of the epicardial artery that is associated with chest pain and ST-segment elevation
 - Nitroglycerin should be administrated directly into the coronary artery to relieve the coronary spasm

CONTINUED

- A second provocative test is the use of intravenous acetylcholine. Although it is more sensitive than ergonovine, it may be less specific because of the positive response in patients with atherosclerotic CAD.
- The final provocative test is hyperventilation during coronary arteriography, which is less sensitive but highly specific for the presence of coronary artery spasm.

ERGONOVINE TEST



TREATMENT

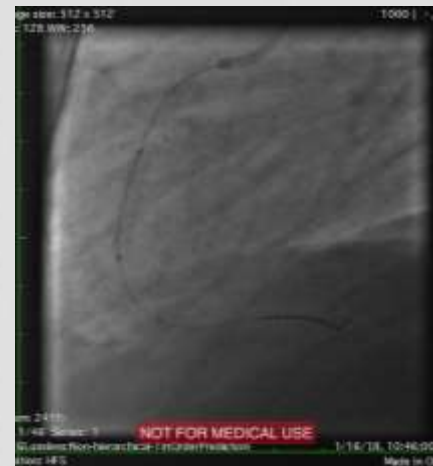
- The diagnosis of coronary artery spasm must rely instead on clinical features and response to treatment with nitrates and calcium channel blockers
- Sole therapy with beta blockers should be avoided because it can worsen the occurrence of coronary artery spasm.
- Coronary artery spasm that is refractory to conventional therapy with long-acting calcium channel blockers and nitrates can be treated with coronary stenting.

CASE PRESENTATION 1

SUBTOTAL OCCLUSION OF DISTAL RCA



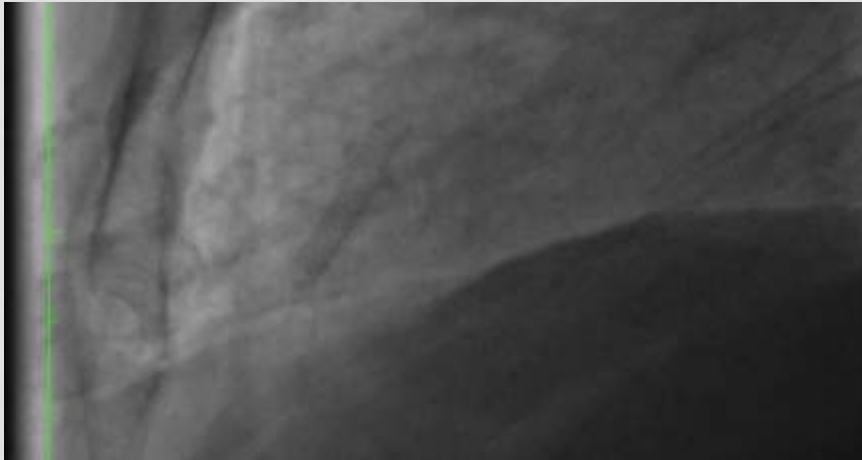
STENTING OF THE RCA BY 3X18MM DES



BEFORE AND AFTER NITROGLYCERINE INFUSION



FINAL RESULT



CASE PRESENTATION 2

TIGHT LESION BEFORE PATENT STENT IN THE LAD

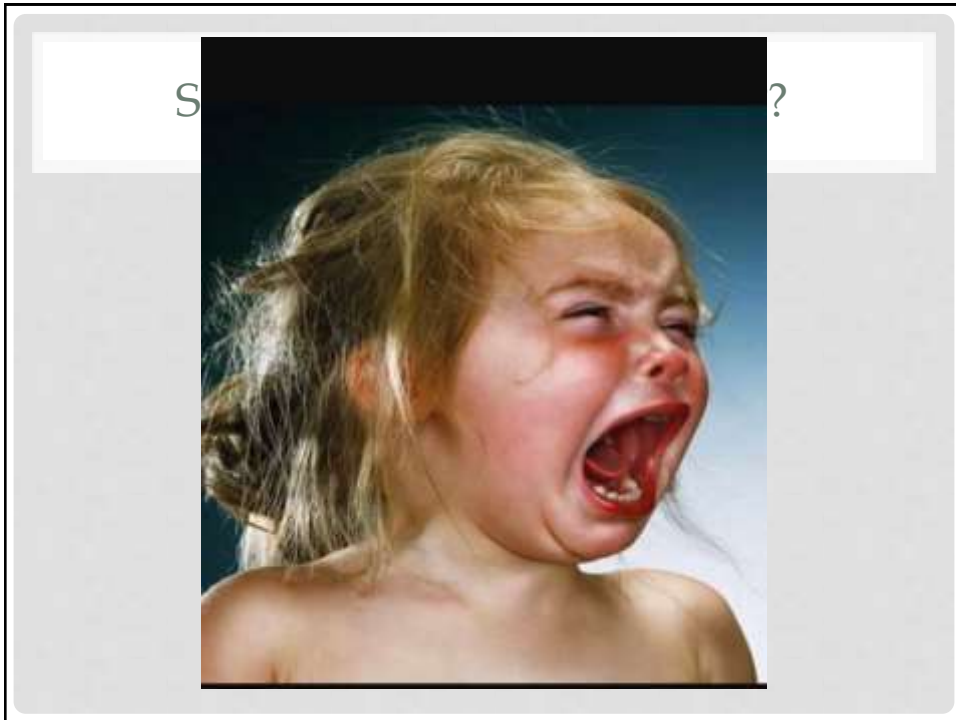


BEFORE AND AFTER IC NITROGLYCERINE



AFTER WIRING AND NITROGLYCERINE





POINTS TO REMEMBER

- Spasm might lead to myocardial ischaemia without visible coronary pathology.
- Coronary spasm can cause infarction, LV impairment and sudden cardiac death.
- Efforts should be done to exclude coronary artery spasm.