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Title: An unusual case of acute cholecystitis and bradycardia (Cope's sign)

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INTRODUCTION- Patients with acute cholecystitis present with right upper quadrant or epigastrium pain, nausea and vomiting. Fever, leukocytosis and a positive Murphy's sign support the diagnosis. Oftentimes, acute cholecystitis may mimic cardiovascular disease. Bradycardia is one of the rare presentations of cholecystitis and is called the "Cope's sign." Sir Zachary Cope was the first patient who presented with cardio-biliary reflex in 1970. Very few cases have been reported.

CASE PRESENTATION- 55 year old male presented with retrosternal chest pain, diaphoresis and vomiting followed by epigastric pain. Symptoms started one night before and were attributed to raw chicken. Examination showed a diaphoretic man with abdominal tenderness and bradycardia. His symptoms were concerning because the chest pain and bradycardia were compatible with inferior-wall MI. Troponins were negative. EKG showed sinus bradycardia with 42 beats/min. Abdominal US revealed gallstones, pericholecystic fluid and gallbladder wall thickening. He was managed as acute cholecystitis with IV fluids, pain control and antibiotics. Surgery recommended urgent cholecystectomy.

DISCUSSION- Cardio-biliary reflex exists and can result in serious consequences. Bradyarrhythmia is the most common presentation of cardio-biliary reflex. Cardio-biliary reflex is believed to be vagally mediated and notably has been triggered by pain in the gallbladder via autonomic vagal innervations. A case-control study by Kaufman and Lubera reported that the increased vagal tone caused by the gallbladder could mimic myocardial infarction or cause bradyarrhythmia and even complete heart block. Patients with acute cholecystitis having abnormal ECG changes should be managed cautiously to avoid possible complications."