



## Séméiologie cardiaque

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8 sept 2004



Université de Montréal



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### 'ACC/AHA Task Force on perioperative evaluation of cardiac patients undergoing non cardiac surgery' (JACC 39:542,2002)

TABLE 25-8	Clinical Predictors of Increased Perioperative Cardiovascular Risk (Myocardial Infarction, Congestive Heart Failure, Death)
<ul style="list-style-type: none"> <li>• Unstable coronary syndromes</li> <li>• Recent (within 90 days) acute or subacute myocardial infarction (MI) or clinical syndrome or myocardial death</li> <li>• Unstable or recent angina pectoris (class II or III)</li> <li>• Myocardial infarction (MI) within 30 days</li> <li>• High-grade atherosclerotic CAD</li> <li>• Long-standing hypertension in the presence of underlying heart disease</li> <li>• Myocardial infarction with pathological myocardial necrosis</li> <li>• Congestive heart failure</li> </ul>	<ul style="list-style-type: none"> <li>• Myocardial infarction (MI) within 90 days</li> <li>• Recent (within 90 days) acute or subacute myocardial infarction (MI) or clinical syndrome or myocardial death</li> <li>• Unstable or recent angina pectoris (class II or III)</li> <li>• Myocardial infarction (MI) within 30 days</li> <li>• High-grade atherosclerotic CAD</li> <li>• Long-standing hypertension in the presence of underlying heart disease</li> <li>• Myocardial infarction with pathological myocardial necrosis</li> <li>• Congestive heart failure</li> </ul>

## Symptômes inquiétantes

- DRS ou inconfort
- Dyspnée (a l'effort, orthopnée, DPN)
- Toux, hémoptysies
- Palpitations
- Syncope (lipothymies)
- Fatigue et faiblesse

## DRS

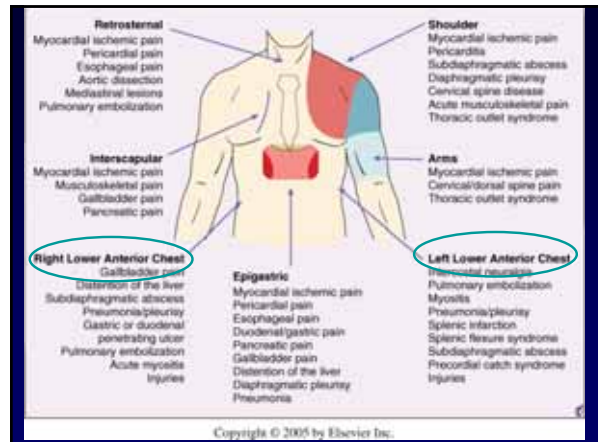
- Qualité
- Location
- Irradiation
- Mode d'apparition, disparition et durée
- Facteurs déclenchants
- Facteurs soulageantes
- Symptômes associés

## DRS

- Qualité
  - Profonde, non superficielle
  - Pas aigue, sourde
  - Signe de Levine
- Location
- Irradiation
- Mode d'apparition, disparition et durée
- Facteurs déclenchants
- Facteurs soulageantes
- Symptômes associés

## DRS

- **Qualité**
- **Location**
  - Extra thoracique très rare
- **Irradiation**
- **Mode d'apparition, disparition et durée**
- **Facteurs déclenchants**
- **Facteurs soulageantes**
- **Symptômes associés**



## DRS

- **Qualité**
- **Location**
- **Irradiation**
  - Plus rare vers le bras dte, région inter ou infra scapulaire, épigastre
- **Mode d'apparition, disparition et durée**
- **Facteurs déclenchants**
- **Facteurs soulageantes**
- **Symptômes associés**

## DRS

- **Qualité**
- **Location**
- **Irradiation**
- **Mode d'apparition, disparition et durée**
  - Apparition et disparition graduelle
  - Typiquement dure de 2-15 min
- **Facteurs déclenchants**
- **Facteurs soulageantes**
- **Symptômes associés**

## DRS

- **Facteurs déclenchants**
  - Les 4 E's- **e**ffort, **e**motion, **e**nvironnent (froideur, humidité), '**e**ating'
  - 'walk-through'
  - 'second wind'
  - Si matinale ou au repos,
    - pensez Prinzmetal's (associé avec tabagisme important, Raynaud's, migraines)

## DRS

- **Qualité**
- **Location**
- **Irradiation**
- **Mode d'apparition, disparition et durée**
- **Facteurs déclenchants**
- **Facteurs soulageantes**
  - Pas la position déclive
- **Symptômes associés**

## DRS

- Qualité
- Location
- Irradiation
- Mode d'apparition, disparition et durée
- Facteurs déclenchants
- Facteurs soulageants
- **Symptômes associés**
  - Nausées, vomissements, sudations, dyspnée, lipothymies, faiblesse

## DRS

- **Attention!**
  - La femme
    - MCAS se manifeste 10 ans plus tard
    - La cause le plus fréquent de mortalité
  - Le diabétique
  - Le vieillard
  - Le jeune avec une histoire significatif d'usage des drogues

## DRS non-angineuse

- Coup de poignard
- Début soudain, durée des secondes ou des heures
- Capable de la pointer avec un doigt

## DRS typiques mais non coronariennes

- Sténose aortique
- IHSS
- Hypertension pulmonaire

## Dyspnée (a l'effort, orthopnée, DPN)

- Non spécifique!
- Anxiété → « air hunger »
- Cherche orthopnée et DPN
- Dyspnée a l'effort peut être un symptôme d'ischémie
- Angor nocturne peut être un symptôme de l'insuffisance cardiaque

## IVG (autres présentations)

- Toux
  - Sèche
  - Arrive en décubitus ou post effort (la dyspnée précède la toux, tandis que en MPOC, la toux et l'expectoration précèdent la dyspnée)
  - Peut être secondaire aux IECA's
- Hémoptysies (œdème alvéolaire)
- Sibilances
- Chêyne-Stokes

## Palpitations

- Déterminer
  - La nature du début et de la fin
  - La fréquence
  - La régularité
  - La durée
  - Les symptômes accompagnatrices

## Palpitations

- Déterminer

Chercher TV, torsades de pointes

- histoire de MCAS, infarctus ancien
- lipothymies, syncope (histoire familiale)
- désordres électrolytiques (hypo K<sup>+</sup>, Mg<sup>++</sup>)
- histoire médicamenteuse (anti-arythmiques, anti-psychothiques)

## Palpitations

- Si les palpitations sont accompagnées de la dyspnée intense ...
  - Tachyarythmie avec condition cardiaque qui nécessite une association AV (le 'kick' auriculaire)
    - VG non compliant (SA, IHSS)
    - Sténose mitrale
- Si les palpitations sont suivies par de la polyurie ...
  - Suggère un mécanisme supraventriculaire

## Palpitations

TABLE 7-4 Issues to be Covered in History of Patient with Palpitation	
Does the Palpitation Occur?	If So, Suspect?
Is it isolated "swoops" or "skips"?	Extrasystoles
Do attacks always begin abruptly, with a brief run of 1:1 beats in a run, with regular or irregular rhythm?	Paroxysmal rapid heart action
Independent of position or movement adequate to account for the symptoms?	Atrial fibrillation, atrial flutter, supraventricular tachycardia, atrioventricular nodal reentrant tachycardia
Do attacks develop gradually though not absolutely abruptly, unrelated to exertion or excitement?	Heart failure, hyperthyroidism, anemia of the adrenal medulla
Do symptoms occur with the taking of drugs?	Tobacco, coffee, tea, alcohol, sympathomimetic sympatholytic agents, thyroid extract, vasoactive intestinal peptides
Do attacks occur?	Postural hypotension
Do symptoms occur in connection with flutters and skips?	Myocardial dysfunction
When the time is known to be normal and the rhythm regular?	Arrhythmic state

See Goldman L, Roizen S. Chest discomfort and palpitation. In: Goldman L, Roizen S, et al. (eds). Harrison's Principles of Internal Medicine, 19th ed. New York, McGraw-Hill, 2001.

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## Insuffisance cardiaque droite

- Aug poids, aug abdomen
- Enflure des jambes, chevilles
  - **Attention** varices, obésité, obstruction locale, hypoprotéinémie, antag de Ca<sup>++</sup>
  - TVC nécessaire a voir pour différencier
  - Avant d'être visible, il faut accumuler entre 6-10 livres...
- Nausées, sensibilité a l'hypochondre droite

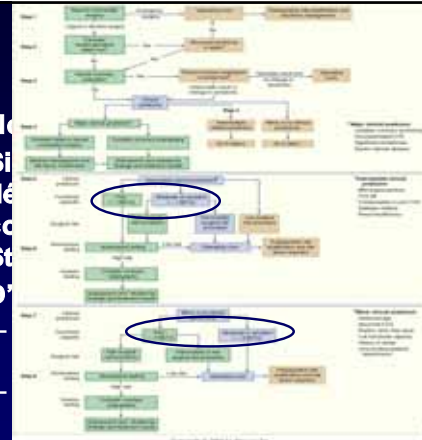
TABLE 7-5 Principal Causes of Generalized Edema: History, Physical Examination, and Laboratory Findings			
Edema System	History	Physical Examination	Laboratory Findings
Cardiac	Dyspnea with exertion prominent—often associated with orthopnea—nocturnal paroxysmal dyspnea	Elevated jugular venous pressure; central (S <sub>2</sub> ) gallop; rales—occasionally with displaced or dyskinetic apical pulse, peripheral cyanosis, and edematous, small pulse pressure when sitting	Elevated venous saturation—correlation with pulmonary edema; elevated urea and creatinine unless diuretic; liver enzymes usually elevated; low albumin occasionally associated with hepatic congestion
Renal	Dyspnea antecedent, recent if associated with a significant degree of anasarca; acute onset a history of reduced urine	Frequently associated with acute; jugular venous pressure usually normal or low; blood pressure typically lower than in patients with renal or cardiac disease; low or near-normal values of serum total protein; proteinuria; hematuria; oliguria; anuria; azotemia; and other signs of nephropathy may be present	If severe, reductions in serum albumin, cholesterol, other hepatic proteins (albumin); oliguria; low serum urea or may not be elevated, depending on the cause and acuity of the renal injury; tendency toward hypokalemia, respiratory alkalosis; magnesium and phosphate levels often markedly reduced if associated with ongoing chronic renal urea and typically low; anasarca from renal deficiency
Hepatic	Usually chronic; associated with ascites; signs and symptoms including decreased appetite, altered mentation or focal neurologic signs, asterixis, fetor hepaticus, difficulty concentrating, swollen legs or anasarca; dyspnea can be present, but is generally less prominent than in patients with heart failure	Blood pressure often high; hepatomegaly or splenomegaly; rales in advanced cases; asterixis may predominate; peripheral edema less in advanced cases with anasarca	Elevation of serum creatinine and urea nitrogen most prominent after frequent hypokalemia, metabolic alkalosis, hypocalcemia, hypophosphatemia, hypomagnesemia, anemia (usually normochromic)

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## Syncope (signes de sévérité)

- Au repos
  - (arrêt sinusal, BAV complet, tachyarythmie, longue QT)
- A l'effort
  - (SA, IHSS, HTTP, MCAS critique)
- Chez quelqu'un avec dysfonction VG ou infarctus ancien
- Les causes de syncope sont d'origine cardiaques >> neurologiques

- N
- Si
- dé
- co
- St
- D



**TABLE 77-2 Estimated Energy Requirement for Various Activities\***

1 MET	Can you take care of yourself? Eat, drink, or use the toilet? Walk unaided around the house? Walk a block or two on level ground at 3-4 mph or 2.0-2.5 km/hr? Do light work around the house like dusting or washing dishes?	4 METs	Climb a flight of stairs or walk up a hill? Walk on level ground at a jog or 6 km/hr? Push a lawn mower? Do heavy work around the house like scrubbing floors or lifting or moving heavy furniture? Participate in moderate recreational activities like golf, bowling, dancing, doubles tennis, or throwing a baseball or football?
6 METs		10-12 METs	Participate in strenuous sports like swimming, singles tennis, football, basketball, or tennis?

\*Adapted from the Duke Activity Status Index and AHA Exercise Standards: MET - metabolic equivalent.

From Eagle KA, Berger PR, Cannon DL, et al. ACC/AHA guideline update for prognostic cardiovascular evaluation for noncoronary aortic dissection: Executive summary: A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines Committee to Update the 2004 Guidelines for the Management of Aortic Dissection. Copyright © 2005 by Elsevier Inc.

## Examen physique

- Infarctus récent
- Angine instable
- Insuffisance cardiaque récemment ou actuellement décompensé
- Arythmies malignes
- Maladie valvulaire significative
- HTA non contrôlé

## Examen physique

- Infarctus récent
- Angine instable
- Insuffisance cardiaque récemment ou actuellement décompensé
- Arythmies malignes
- Maladie valvulaire significative
- HTA non contrôlé

## Examen physique

OUBLIE LE CŒUR!!

## Pouls jugulaire

TABLE 5. Clinical clues to the diagnosis of heart disease from jugular venous pulsations and pressure

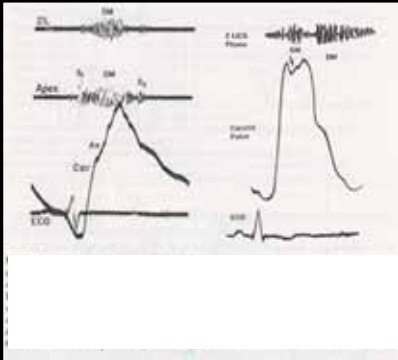
Abnormal findings	Clinical significance
Large A waves	
Canon A waves	
Absent A waves	
Large V waves	
Fixed V waves	
"M" or "W" shapes	
Deviated JVP	
Kussmaul's sign	
Positive abdominojugular (hepatojugular reflux) test	

## Pouls artérielle

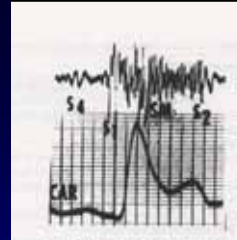
TABLE 6. Clinical clues to the diagnosis of heart disease from blood pressure and arterial pulse

Abnormal findings	Clinical significance
Pulsus alternans	
Pulsus paradoxus	
Small, slow-rising, late-peaking pulse ("pulsus parvus et tardus")	
Rapid or quick-rise ("flip") pulse	
Wide pulse pressure	
Radial or brachial-femoral delay	
Small, weak, low-volume pulse	
Narrow pulse pressure	
Abnormal rate or rhythm	

## Pouls artérielle



## Pouls artérielle



'Spike and Dome'

## Choc de pointe

TABLE 7. Clinical clues to the diagnosis of heart disease from precordial movements and pulsations

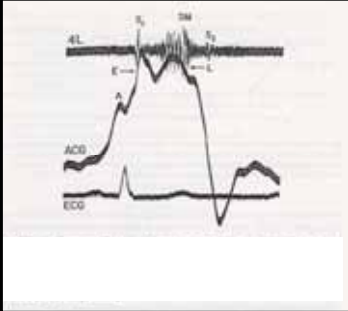
Abnormal findings	Clinical significance
Upright or heave	
Early diastolic impulse (S <sub>2</sub> ) and leftward displacement of LV impulse	
Pre systolic impulse (S <sub>1</sub> )	
Pre systolic and double systolic impulses (S <sub>1</sub> )	
"Tombstoning" heave (S <sub>1</sub> )	
Exaggerated (S <sub>1</sub> )	
Wide	
Wide	
Pulsus area	
Left sternal heave	
Carotid heave	

## Choc de pointe



FIG 12. Major types of LV precordial movements. A, Normal impulse; B, hyperkinetic (hyperkinetic) impulse; C, sustained impulse (or LV heave) with polyploid systolic activity in the latter half of systole. A pre-systolic A wave (S<sub>1</sub>) perceived as a "break on the upstroke," and/or an early-diastolic filling wave (S<sub>2</sub>) are often palpable in the left lateral position. (From Abrams J. First Cardiol 1993. With permission.)

## Choc de pointe



## Souffle 'innocent'

- Ejectionnelle
- Proto, mid systolique
- RSG
- Moins que III/VI
- Restant de l'examen normale
- ECG et R-X pulmonaire normale chez patient asymptomatique

## Echocardiogramme quand?

- RAREMENT!!
- Si la pathologie soupçonnée va nécessiter l'annulation de la chirurgie
  - Valvulopathie sévère (surtout SA, IHSS)
  - HTP sévère
  - Dysfonction VG sévère

You see only what you look for, you recognize only what you know