

Médecine Nucléaire

Infections cardio-vasculaires



Médecine Nucléaire

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Examens MN disponibles



TEP/TDM

- FDG



- Plus sensible

- Mais:

- Moins spécifique
- Préparation: jeûne prolongé, régime sans glucide, contrôle glycémique et pt diabétique



Scintigraphie TEMP/TDM

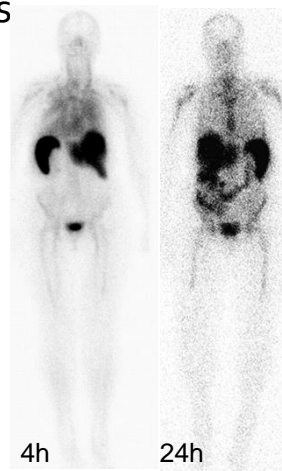
- Leucocytes*:

- In vitro: Tc-HMPAO-granulocytes
- In vivo: Ac anti-granulocytes (LeukoScan[®], Scintimum[®])

- Plus spécifique

- Mais:

- Moins sensible
- Examen sur 2j
- In vitro: labo, infectieux
- In vivo: Ac humains anti-Ac souris (HAMA)



Infections cardio-vasculaires

- Dispositifs implantables de rythmologie:
 - Boîtier
 - Sondes
- Valves prothétiques et plasties
- Prothèses vasculaires périphériques
- (Valve native)

Dispositifs implantables de rythmologie

DAI



PMK



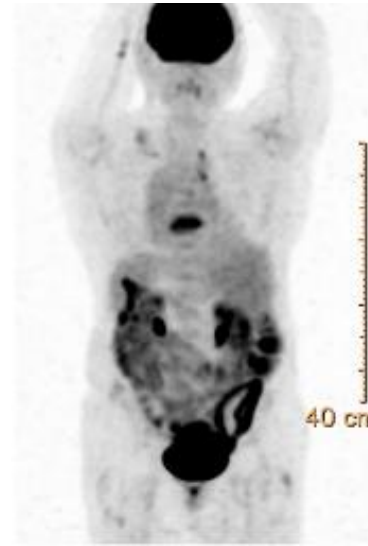
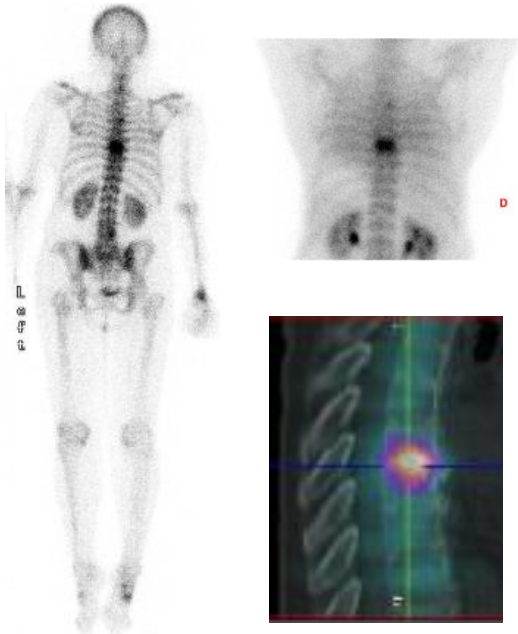
HI



Femme 71 ans, PMK en 2000

- **Février 2012: dorsalgie**

- **Scinti os: *med. poly.***
discopathie T7-T8



- **TEP: *med. poly.***
spondylodiscite T7-T8

- **Biopsie discale:**
S.Epidermidis
(lésions cutanées chroniques)

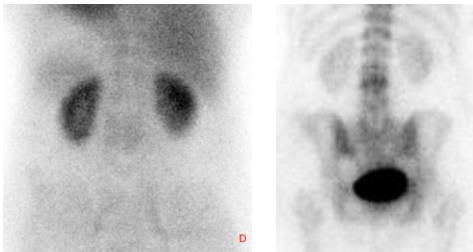


Femme 71 ans, PMK en 2000

- **Avril 2013:** lombalgie

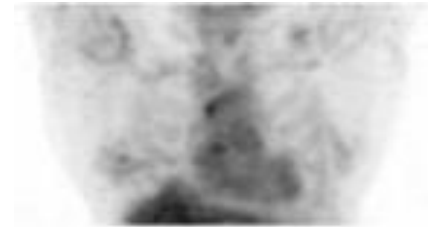
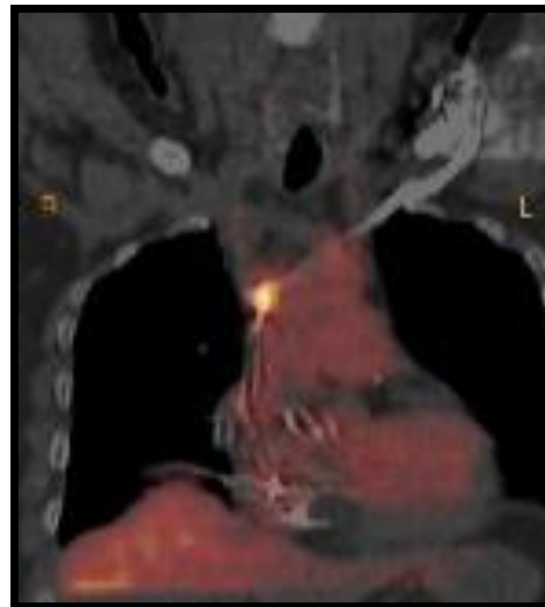
- **HemoC:** *rhumato*
S.Epidermidis
(ATBgramme #2012)

- **Scinti os:** *rhumato*
spondylodiscite L2-L3

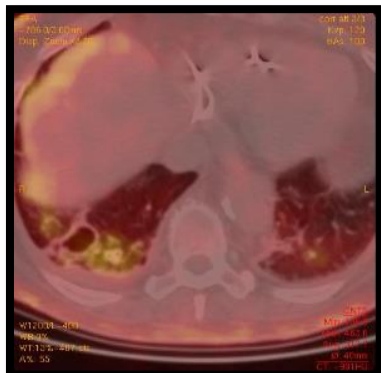


- **TEP:** *SMIT*

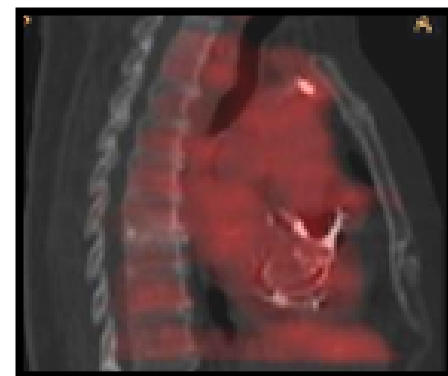
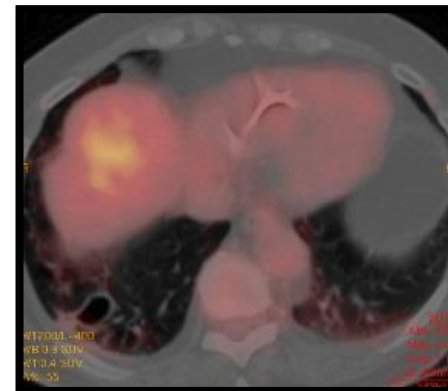
spondylodiscites récidivantes
ETT-/ ETO refusée



Février 2012



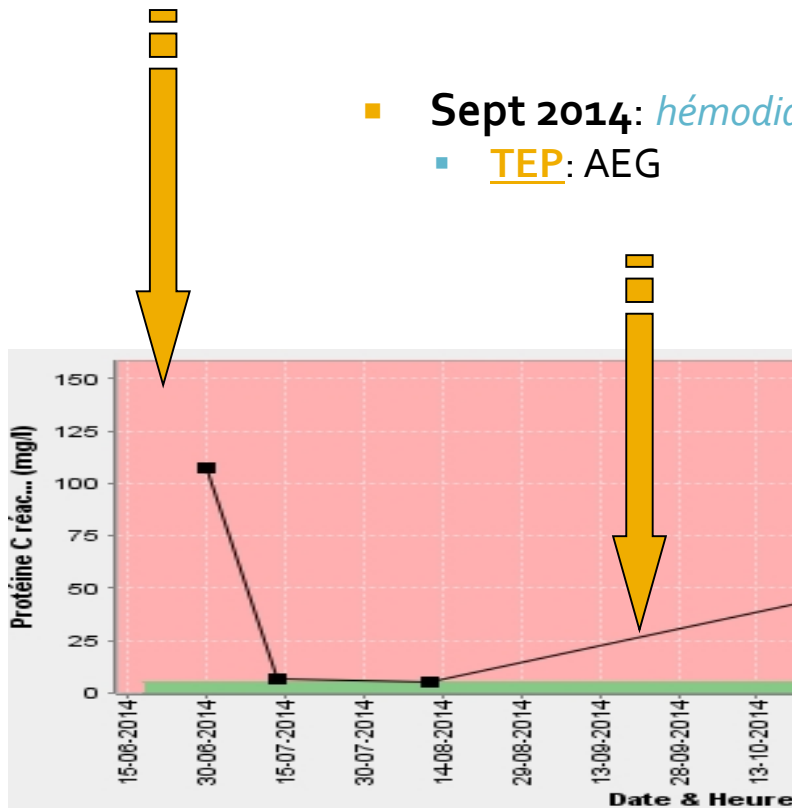
Avril 2013



Homme 82 ans, PMK sept. 2012

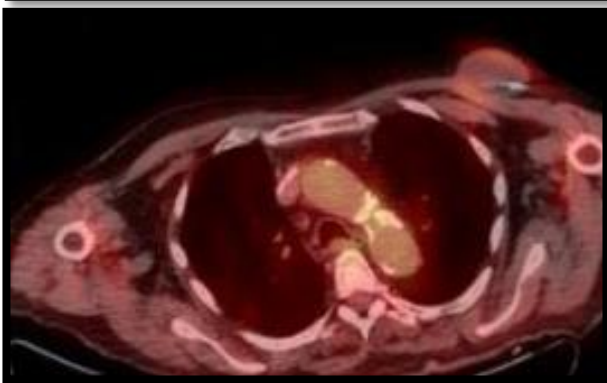
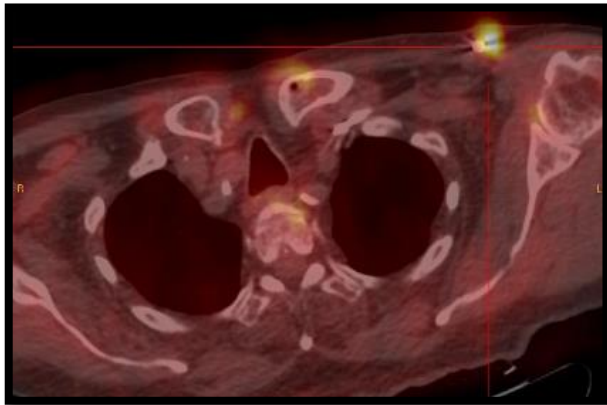
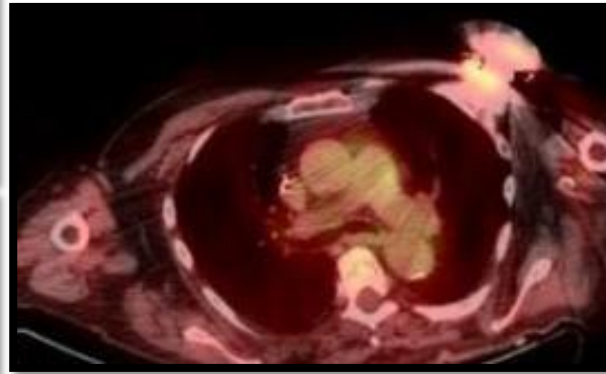
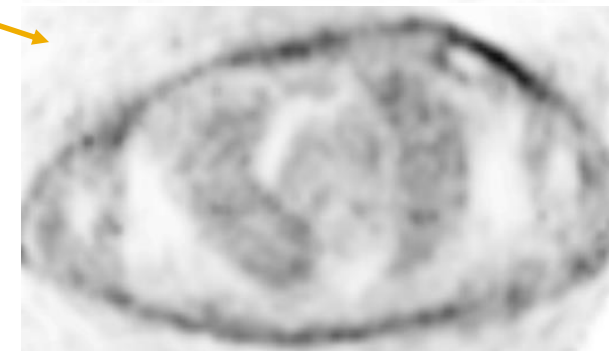
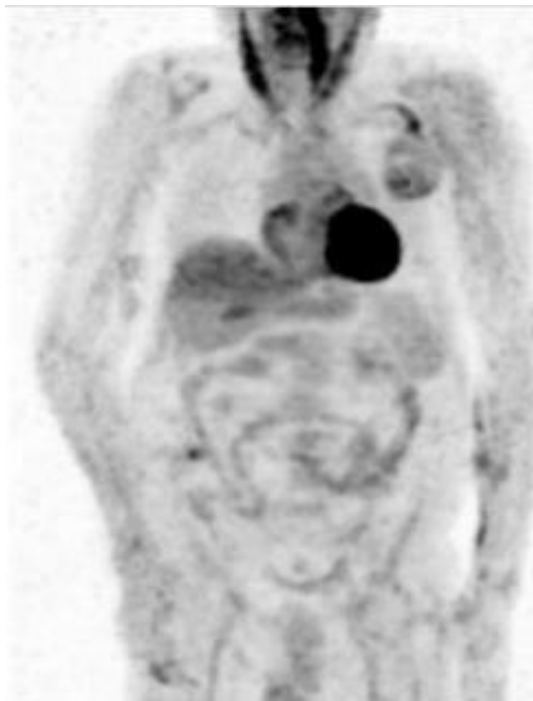
- Juin 2014: *néphro*
 - Sepsis
 - Hemoc SAMS

- Sept 2014: *hémodialyse*
 - TEP: AEG



Indication: AEG

Pas de régime sans glucide



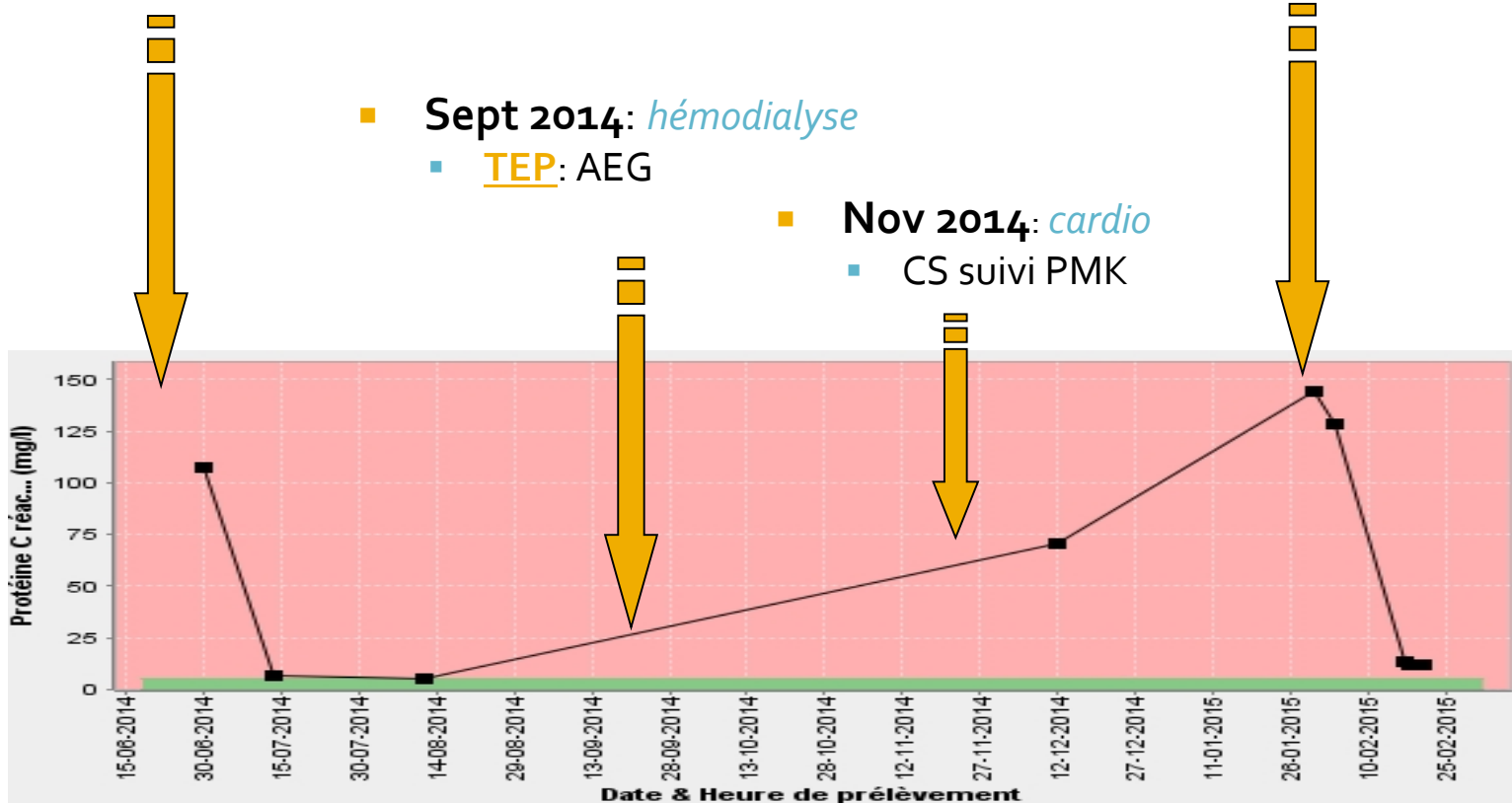
Homme 82 ans, PMK sept. 2012

- **Juin 2014: néphro**
 - Sepsis
 - Hémoc SAMS

- **Sept 2014: hémodialyse**
 - TEP: AEG

- **Nov 2014: cardio**
 - CS suivi PMK

- **Janv 2015: cardio**
 - dl loge PMK: abcès
 - ETT/ETO –
 - Hémoc SAMS



TEP et PMK/DAI

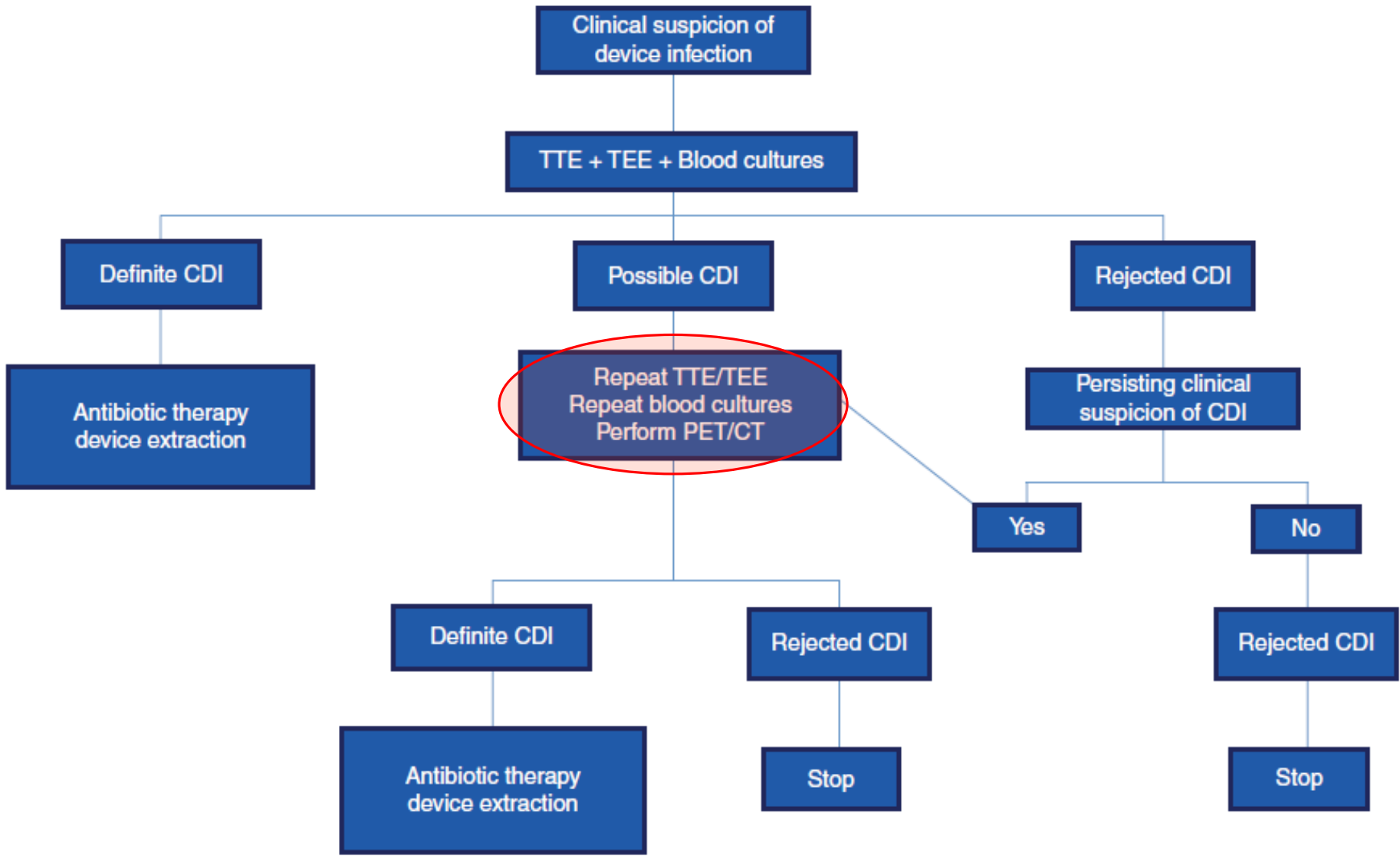
■ Attention:

- Inflammation post-implantation (SQR <1.5, jonction connecteur-sondes)
- Enveloppes (Dacron, ATB...)



■ Idéalement:

- attendre 6 mois post implantation (min 1 mois)
- ATB <1 semaine



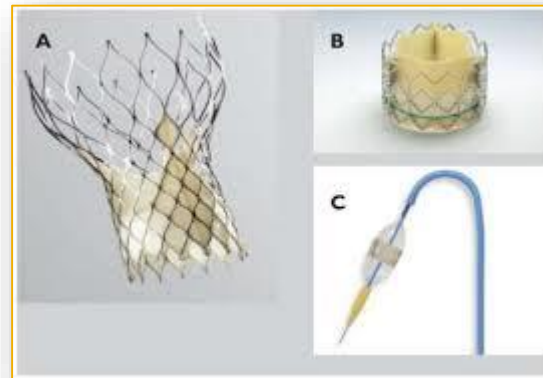
Valves: prothèses et plasties



Anneau pour plastie



Tube aortique valvé



Valve trans-cathétère



Bentall



Prothèses valvulaires biologique/ mécanique

Femme 80 ans, bioprothèse aortique en 2010

Dorsalgie

Bilan endocardite (Echo+)

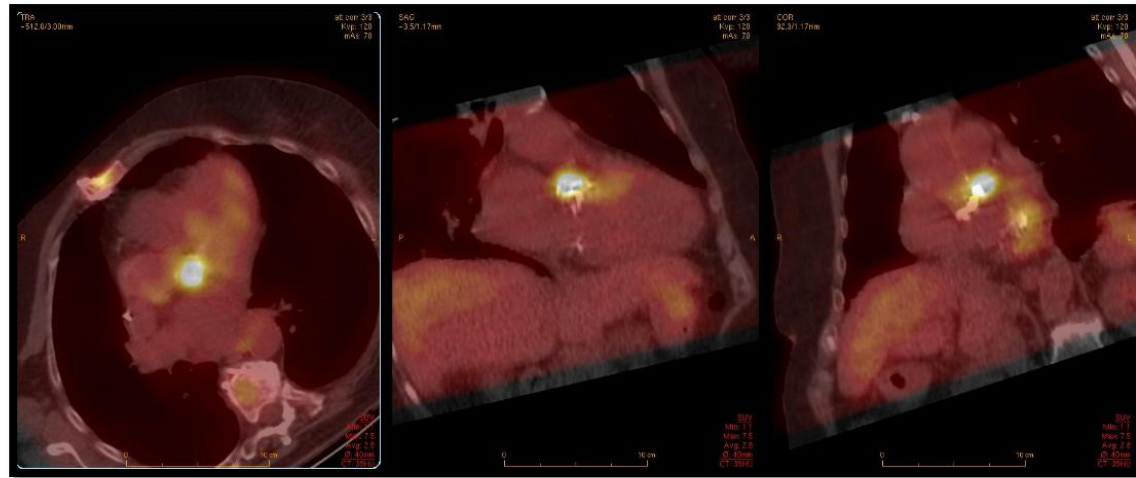
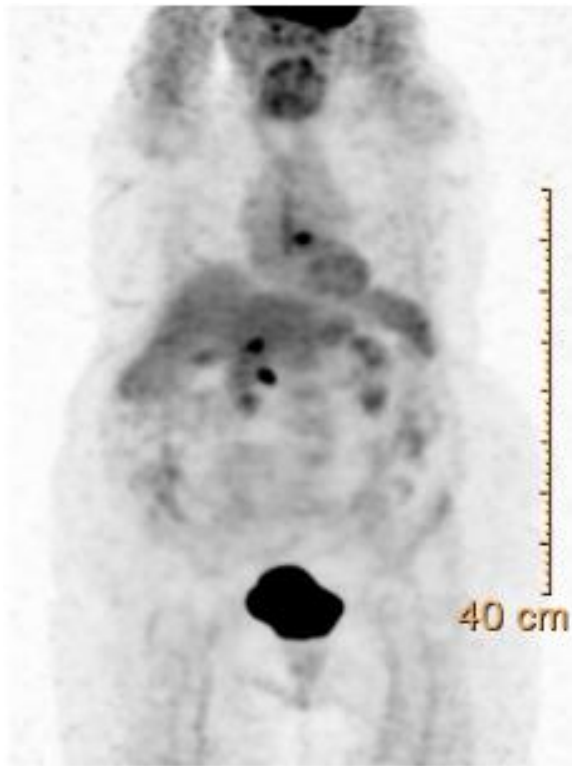


Table 1

Definition of Prosthetic Valve Endocarditis According to the Proposed Modified PET/CT Duke Criteria

Definite infective endocarditis

Pathological criteria

1. Microorganisms demonstrated by culture or histological examination of a vegetation, a vegetation that has embolized, or an intracardiac abscess specimen or
2. Pathological lesions; vegetation or intracardiac abscess confirmed by histological examination showing active endocarditis

Clinical criteria

1. 2 major criteria or
2. 1 major criterion and 3 minor criteria or
3. 5 minor criteria

Possible infective endocarditis

1. 1 major criterion and 1 minor criterion or
2. 3 minor criteria

Rejected infective endocarditis

1. Firm alternate diagnosis explaining evidence of infective endocarditis or
2. Resolution of infective endocarditis syndrome with antibiotic therapy for ≤ 4 days or
3. No pathological evidence of infective endocarditis at surgery or autopsy, with antibiotic therapy for ≤ 4 days or
4. Does not meet criteria for possible infective endocarditis, as above

TEP: Se 73% Sp 80%

Critères: Se 70% → 97%

Sp 50% → 40%

Major criteria

Blood culture positive for infective endocarditis

Typical microorganisms consistent with infective endocarditis from 2 separate blood cultures

Viridans streptococci, *Streptococcus bovis*, HACEK group, *Staphylococcus aureus* or

Community-acquired enterococci, in the absence of a primary focus or

Microorganisms consistent with infective endocarditis from persistently positive blood cultures, defined as follows

≥ 2 positive cultures of blood samples drawn >12 h apart or

all of 3 or a majority of ≥ 4 separate cultures of blood (with first and last sample drawn at least 1 h apart)

Single positive blood culture for *Coxiella burnetii* or antiphase I IgG antibody titer $>1:800$

Evidence of endocardial involvement

Echocardiogram (TTE and/or TEE) positive for infective endocarditis defined as follows

Oscillating intracardiac mass on valve or supporting structures, in the path of regurgitant jets, or on implanted material in the absence of an alternative anatomic explanation or

Abscess or

New partial dehiscence of prosthetic valve

New valvular regurgitation (worsening or changing of pre-existing murmur not sufficient)

Positive ^{18}F -FDG PET/CT: abnormal FDG uptake at the site of prosthetic valve

Minor criteria

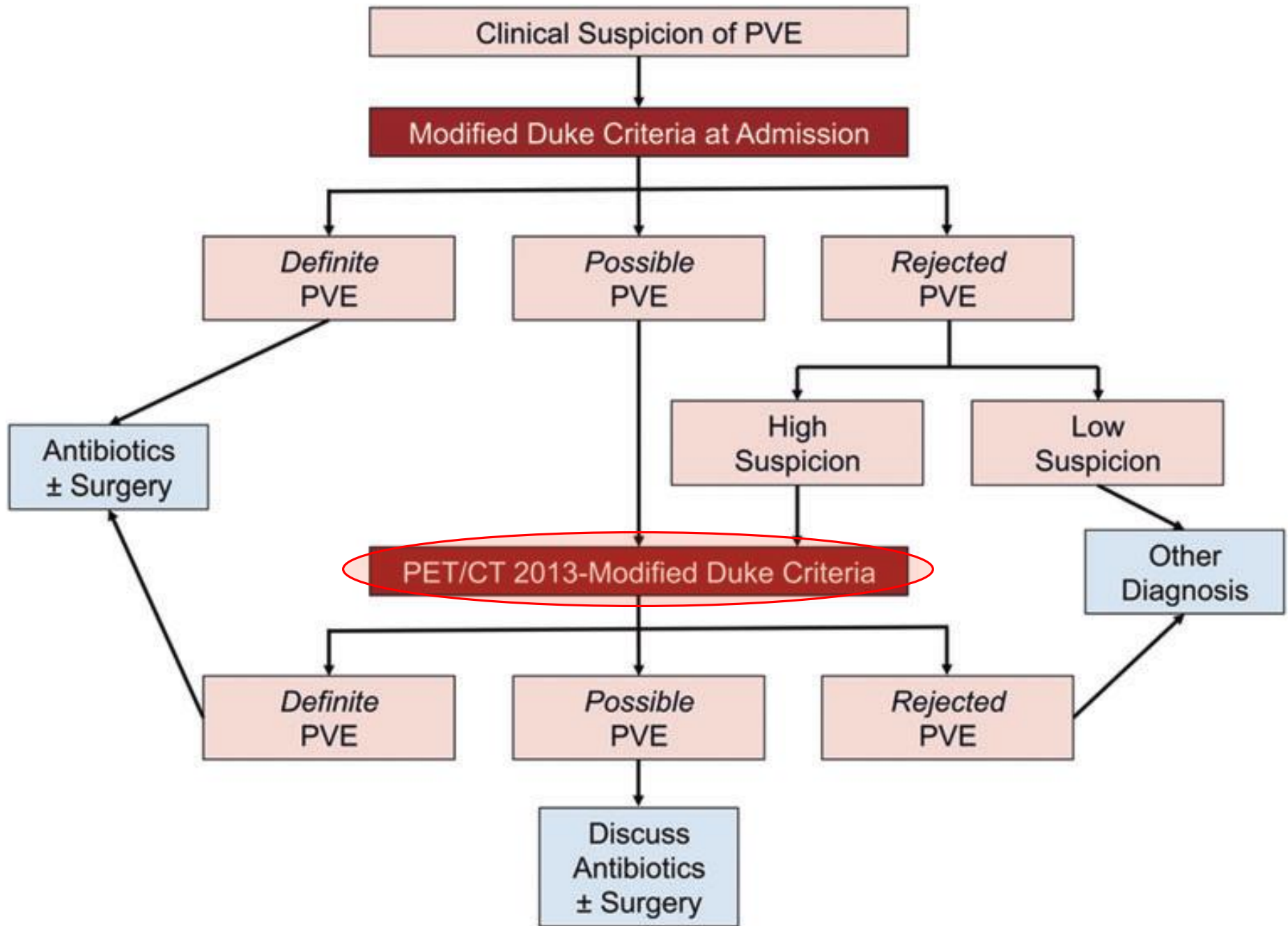
Predisposition, predisposing heart condition, or injection drug use

Fever, temperature $>38^\circ\text{C}$

Vascular phenomena: major arterial emboli, septic pulmonary infarcts, mycotic aneurysm, intracranial hemorrhage, conjunctival hemorrhages, Janeway lesions

Immunological phenomena: glomerulonephritis, Osler nodes, Roth spots, rheumatoid factor

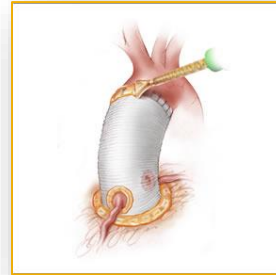
Microbiological evidence: positive blood culture but does not meet a major criterion as noted above or serological evidence of active infection with organism consistent with infective endocarditis



TEP et valves prothétiques

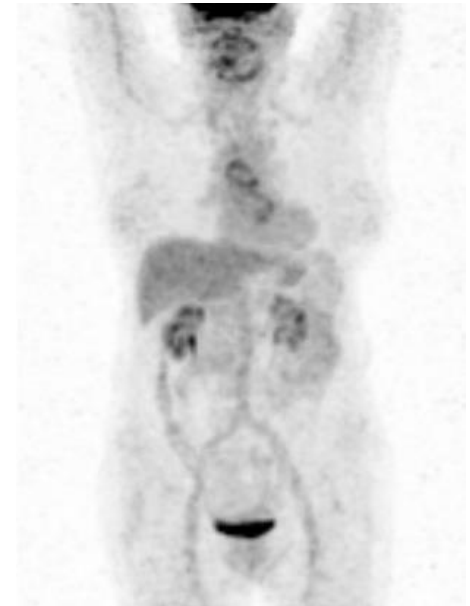
■ Attention:

- BioGlue[®]
- remplacement racine Ao
- thrombose prothétique importante

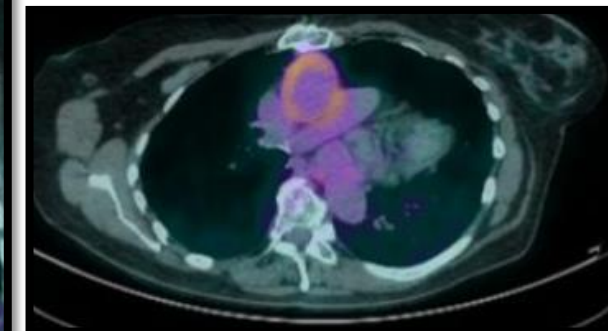
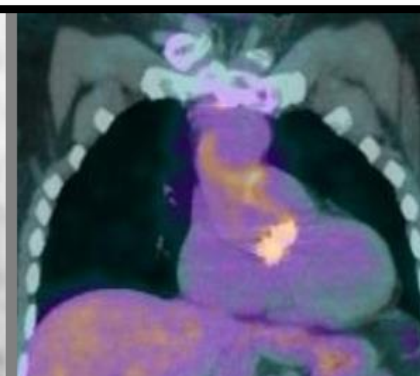
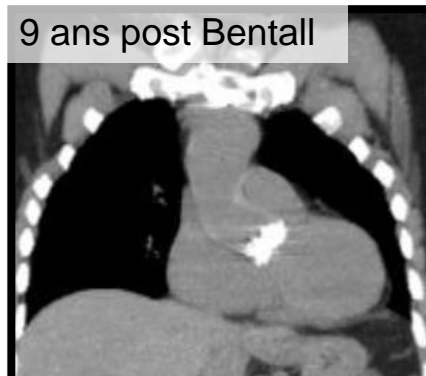


■ Idéalement:

- attendre 1 mois post chirurgie
- ATB <1 semaine



9 ans post Bentall



Résumé

TEP FDG: en cas de bilan initial douteux



- Pas de CI
- Matériel implantable
- Dg précoce
- Atteintes extra-valvulaires
- Embols (hors cerveau)
- Porte d'entrée



- Préparation
- Atteinte valvulaire
- FN: ATB (<1 sem)
- FP: inflammation
- Irradiation
- Coût

