

# Takayasu disease

## Is it still a room for intervention ?

**NO** **YES**

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## Disclosure

Speaker name:

TAZI MEZALEK Zoubida

- I have the following potential conflicts of interest to report:
- Consulting
- Employment in industry
- Shareholder in a healthcare company
- Owner of a healthcare company
- Other(s)
- I do not have any potential conflict of interest


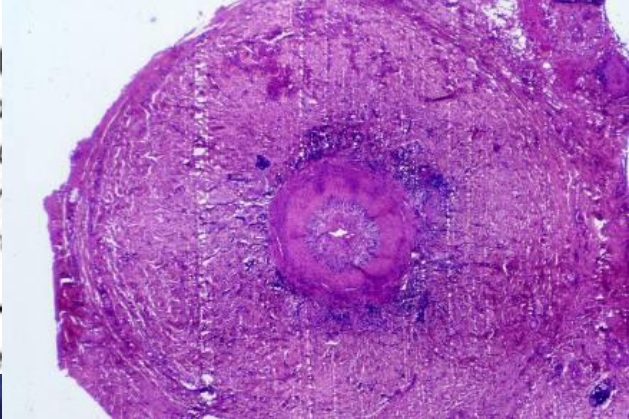
# Takayasu arteritis

**Immune Complex Small Vessel Vasculitis**  
Cryoglobulinemic Vasculitis  
IgA Vasculitis (Henoch-Schönlein Purpura)  
Hypocomplementemic Small Vessel Vasculitis (Anti-C1q Vasculitis)

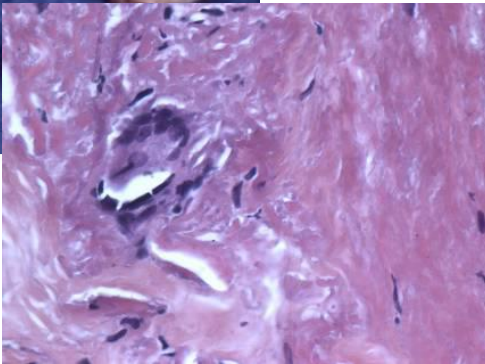
**Medium Vessel Vasculitis**  
Polyarteritis Nodosa  
Kawasaki Disease

**Large Vessel Vasculitis**  
Takayasu Arteritis  
Giant Cell Arteritis

**Anti-GBM Disease**



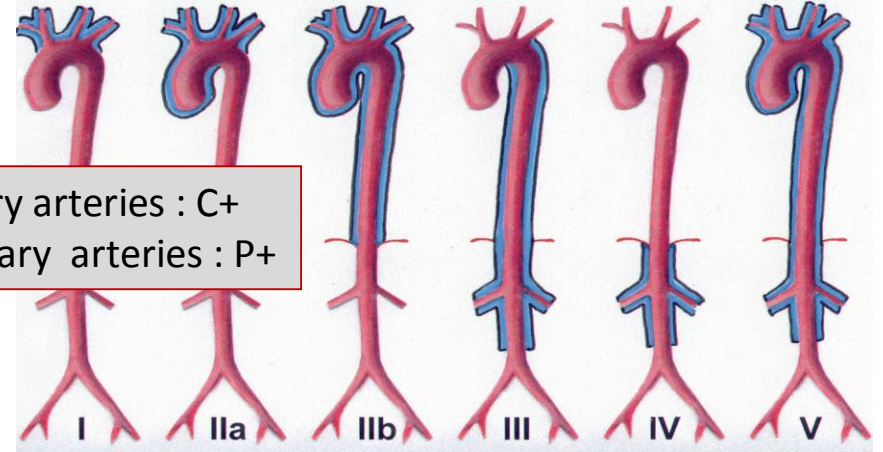
(Churg-Strauss)



The image is a composite educational slide about Takayasu arteritis. At the top, a grey box with a red border contains the title 'Takayasu arteritis'. Below this, a diagram on the left shows a branching vessel tree with three levels of vasculitis: 'Large Vessel Vasculitis' (Takayasu Arteritis, Giant Cell Arteritis), 'Medium Vessel Vasculitis' (Polyarteritis Nodosa, Kawasaki Disease), and 'Immune Complex Small Vessel Vasculitis' (Cryoglobulinemic Vasculitis, IgA Vasculitis/Henoch-Schönlein Purpura, Hypocomplementemic Small Vessel Vasculitis/Anti-C1q Vasculitis). To the right of the diagram is a photograph of a vessel wall with a ruler, labeled '(Churg-Strauss)'. Above this photograph is a histological section of a vessel wall. To the right of the Churg-Strauss photograph is another histological section showing a vessel with a prominent eosinophilic infiltrate.

# Takayasu arteritis

## Clinical presentation / classification



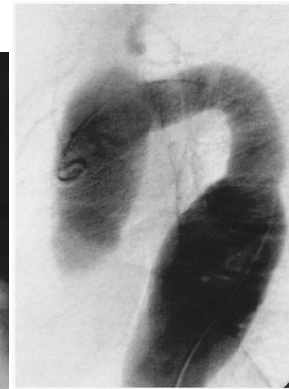
*Moriwaki R, Hata A et al. Angiology. 1997*

**-Phase 1 : systemic signs**

**-Phase 2 : vascular signs**

-Ischemic signs : 100%

-Aneurisms : 20%



# Takayasu arteritis

## Geographic differences in clinical phenotype

<b>Auteurs</b>	<b>Park</b>	<b>Vanoli</b>	<b>Arnaud</b>	<b>McKinnon</b>	<b>NS</b>
Année	2005	2005	2006	2007	<b>2012</b>
Pays	Corée	Italie	France	USA	<b>Maroc</b>
<b>n</b>	<b>108</b>	<b>104</b>	<b>82</b>	<b>75</b>	<b>126</b>
Age diag (an)	29.5	40.1	30.2	26	<b>32</b>
% femmes	84	87	83	91	<b>86</b>
Signes G (%)	65	71	23	55	<b>52</b>
Souffles	72	70	65	53	<b>74</b>
CI	38	59	46	48	<b>56</b>
Anomalie pls	6	75	51	57	<b>71</b>
HTA	7	60	33	28	<b>40</b>
AVC/AIT	8	10	10	8	<b>25</b>



# Takayasu arteritis : unmet needs

- **Epidemiology**

- **Rare disease / young women ?**
- Diagnosis and diagnosis criteria
- Accelerate atherosclerosis
- Other giant cell arteries
- Pregnancy

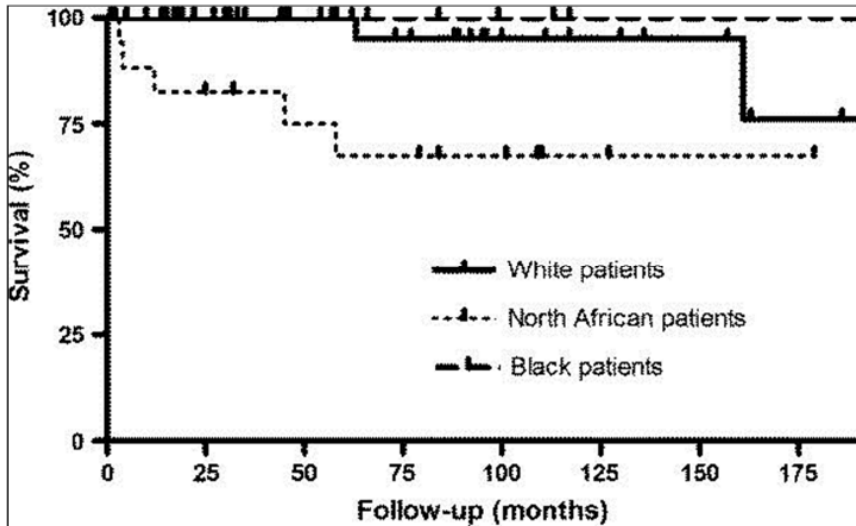
- Prognosis
  - morbidity
  - mortality

- Activity assessment
  - Biology
  - Radiology
  - TEP scan

- Treatment
  - Medical (old/new)
  - Revascularization
    - Surgery / Endovascular

# Takayasu arteritis : unmet needs

## • Epidemiology



## • Prognosis

- Morbidity → 75% disability
- Mortality → SMR 3

*Kerr GS et al. Ann Intern Med 1994*

*Maksimowicz-McKinnon K et al. Arthritis Rheum 2007*

*Arnaud et al. Medicine 2010*

## • Treatment

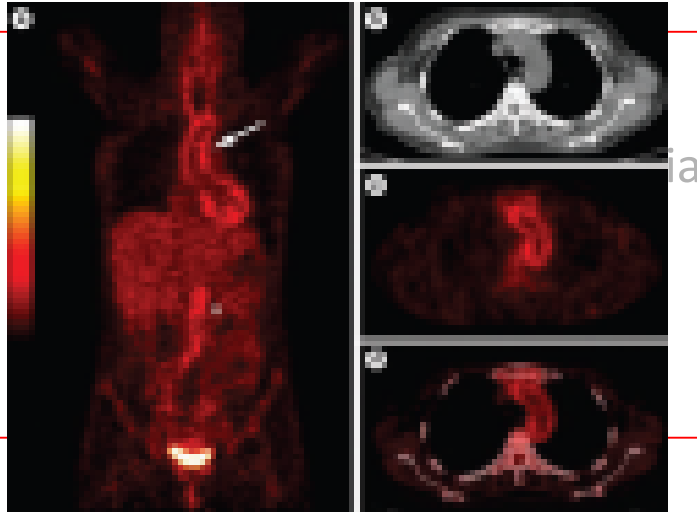
- Medical (old/new)
- Revascularization
- Surgery / Endovascular

## • Causes of death :

- Cardiac / renal insufficiency
- Stroke
- **Revascularization (10%)**

- TEP scan

# Takayasu arteritis : unmet needs



## • Prognosis

- Morbidity → 75% disability
- Mortality → SMR 3

*Kerr GS et al. Ann Intern Med 1994*

*Maksimowicz-McKinnon K et al. Arthritis Rheum 2007*

## • Activity assessment

- Biology
- Radiology
- TEP scan

**Sensitivity / specificity → 78% /87%**

**May be useful : active and relapsing**

*Cheng Y et al. Clin Exp Rheumatol 2013*

## • Treatments

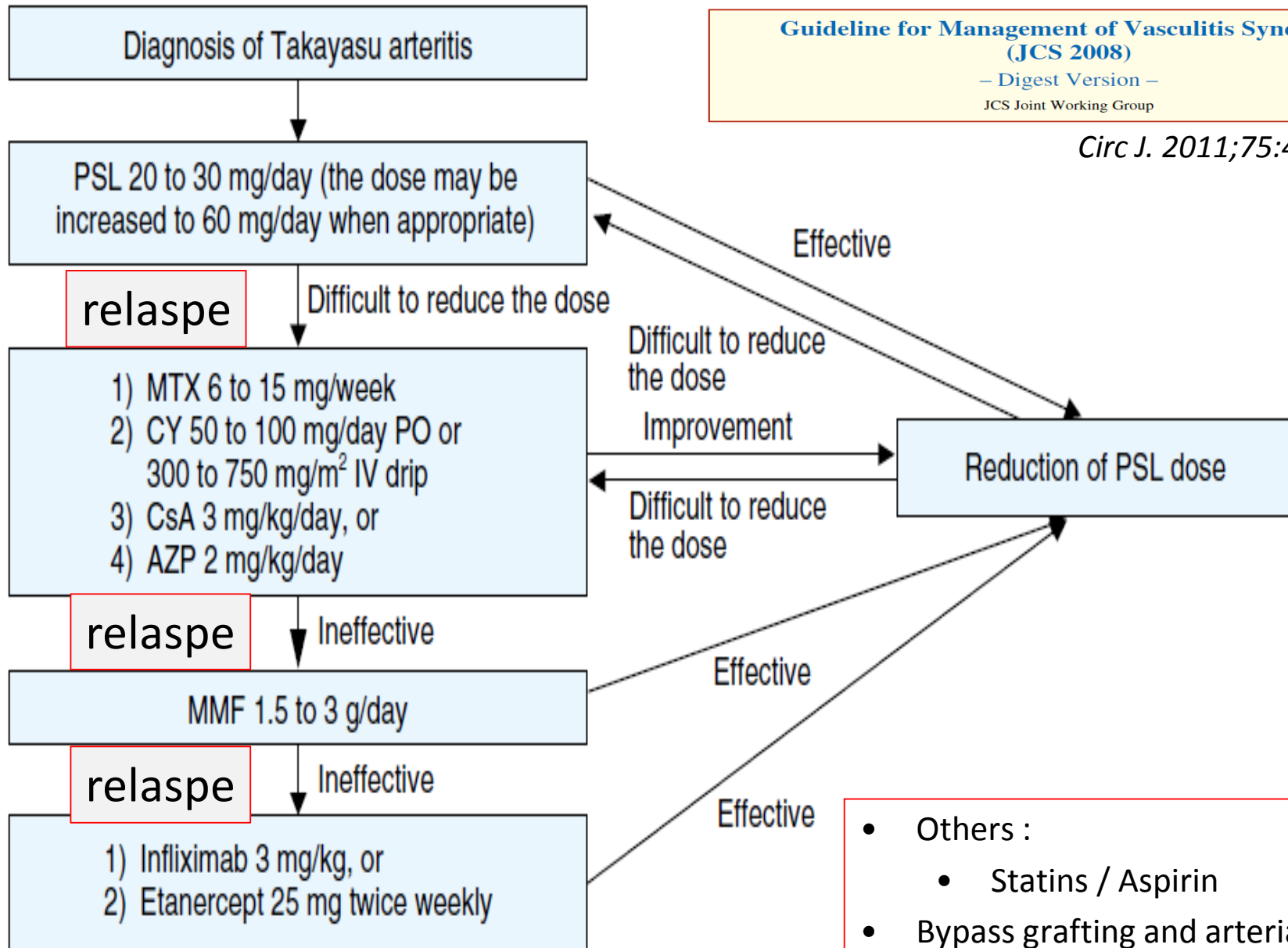
- Medical
  - classical / emerging
- Revascularization
  - surgery / endovascular



**Guideline for Management of Vasculitis Syndrome (JCS 2008)**

– Digest Version –  
JCS Joint Working Group

*Circ J. 2011;75:474-503.*



relapse

relapse

relapse

**Relapses : 50-70%**

- Others :
  - Statins / Aspirin
- Bypass grafting and arterial reconstruction recommended (3C)
- Bypass surgery : standard of care

“absolute” revascularisation indications in TA :  
30-60%

- Renovascular stenosis with resistant hypertension
- Coronary artery stenosis with MI
- Severe extremity claudication induced by routine activity
- Cerebral ischemia and/or critical stenosis of 3 cerebral vessels
- Aortic regurgitation
- Thoracic or abdominal aneurysms larger than 5 cm in diameter
- Severe coarctation of the aorta

Ouf !!! saved

# Takayasu arteritis → surgery vs angioplasty

- **Surgery**
  - **re-stenosis rate : 15-35%**
- **Angioplasty ± stent ?**
  - **re-stenosis rate : 30-50% (75%)**

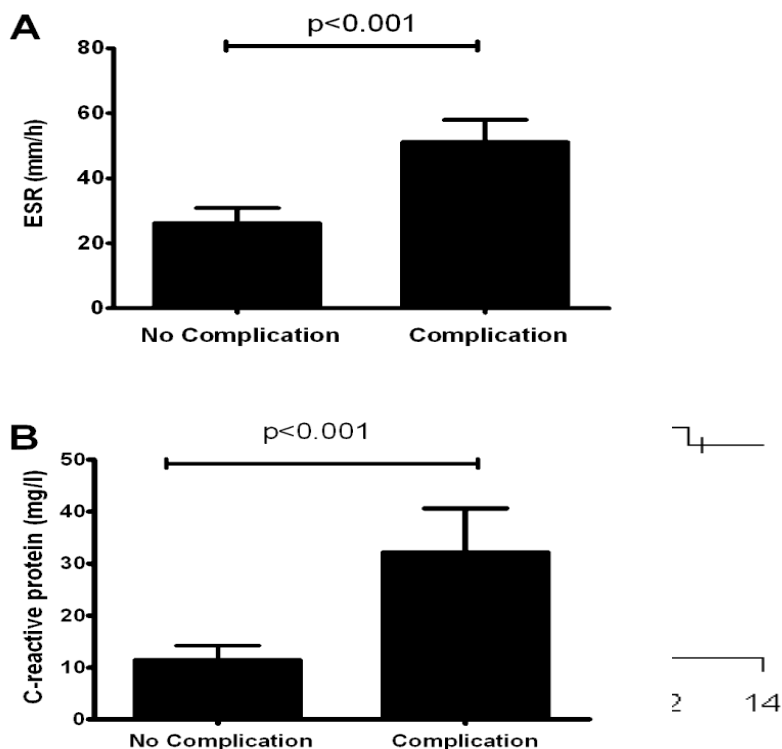


**Rate of post-procedure complications : X 7  
in cases without medical treatment**

## Retrospective Analysis of Surgery Versus Endovascular Intervention in Takayasu Arteritis : A Multicenter Experience

David Saadoun Marc Lambert Tristan Mirault Mathieu Resche-Rigon Fabien

- Retrospective analysis of 79 consecutive
- 166 vascular procedures : 104 surgery vs 62 angioplasties
- ➔ in multivariate analysis, endovascular procedure [OR 3.61 (1.3-10.3);  $p=0.021$ ] was independently associated with the occurrence of arterial complications
- ➔ patients who experienced complications had higher ESR, CRP and fibrinogen



# Optimizing the outcome of vascular intervention for Takayasu arteritis

A. H. Perera<sup>1</sup>, T. Youngstein<sup>2</sup>, R. G. J. Gibbs<sup>1</sup>, J. E. Jackson<sup>3</sup>, J. H. Wolfe<sup>1</sup> and J. C. Mason<sup>2</sup>

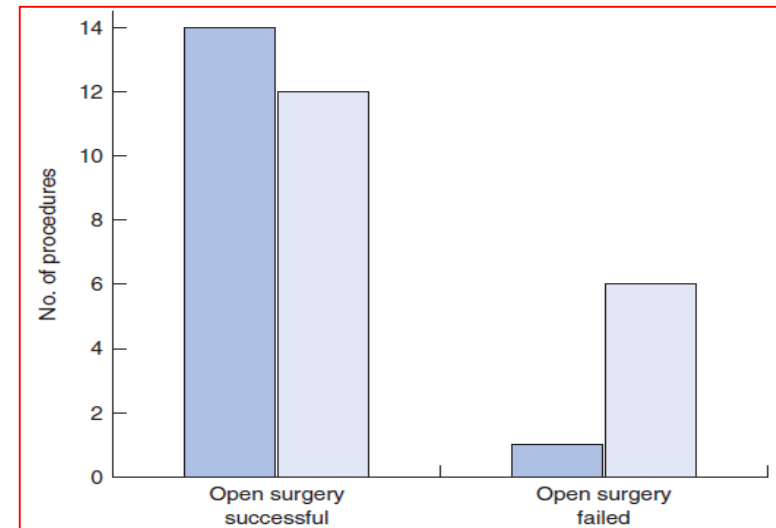
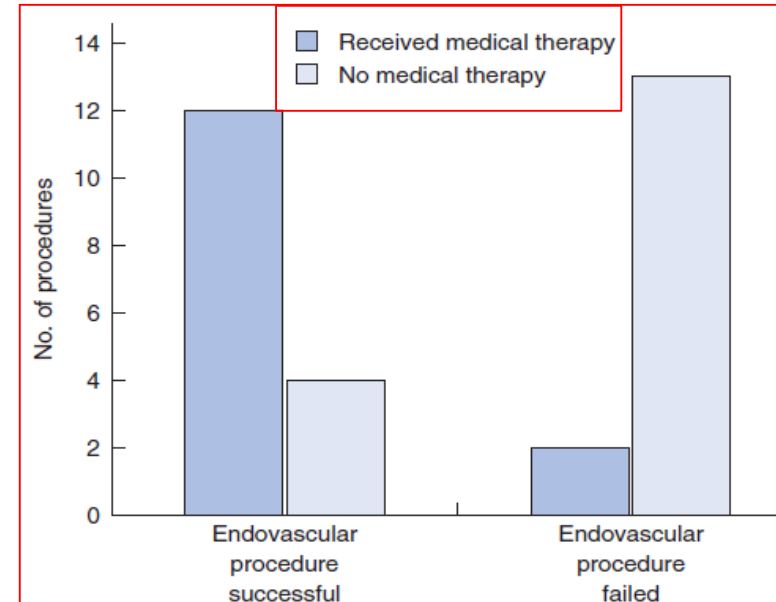
-97 patients / 38% → 64 procedures  
 -33 open surgery / 31 angioplasty

→ Overall success rate

Surgery vs endovascular

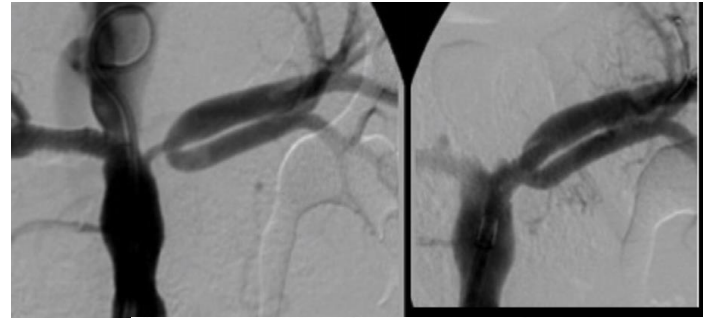
→ **79%** **52%** ( $p=0.035$ )

- Complications significantly reduced in endovascular procedure in patients **receiving immunosuppressant** ( $p=0.001$ )



# Takayasu arteritis → surgery vs angioplasty

- **Surgery**
    - **long stenosis / multiple lesions**
  - **Angioplasty ± stent ?**
    - **renal artery stenosis**
    - **isolated subclavian stenosis**
- **Local expertise + availability !!!**



# Conclusions

Early recognition and diagnosis

Early introduction of powerful anti-inflammatory drugs

→ change the face of TA evolution

→ reduce requirement of vascular interventions

Patients with TA require a **multidisciplinary approach** for optimal care. The team should include rheumatologic, imaging, cardiovascular, and surgical specialists