Case 5

- 29 years old female
- Since age of 22
- Thickened skin
- Yellow papules
- Neck, crease of the elbow
- No other medical problem

Coll Hopital St Louis
Case 5

- No familial history of skin lesions
- Father died suddenly at 39 y (aneurysm or cardiac infarction)
- Mother deceased at 45 y (pulmonary embolism)
Case 5: biopsy of a papule of the neck

- Short, curled, basophilic elastic fibers
- Fibrous collagen
- Basophilic calcified Focus
- No inflammation (no histiocytes, no lipid deposit or xanthomisation)
Case 5: biopsy of a papule of the neck

Elastic fibers stained in black with orcein
Case 5: diagnosis

Yellowish papular lesions of the major folds with abnormal thickened elastic fibers

Pseudoxanthoma elasticum

or

Grönblad-Strandberg-Touraine syndrome
Case 5: Pseudoxanthoma elasticum

- Rare disorder of connective tissue with calcification and fragmentation of elastic fibers (Darier 1896)
- Frequently inherited (1/25000-1/100000)
- Involves skin, eyes, cardiovascular system
- Female predominance
Case 5: Pseudoxanthoma elasticum

- **Skin changes (100%)**:
  - Second decade (childhood)
  - Yellow papules wrinkled and thickened skin
  - Flexural creases (neck, axillae>groins, periumbilical area, popliteal fossae)
  - Acneiform lesions
  - Hyperlaxity
  - Oral lesions possible
  - Sometimes spontaneous resolution

- **Eyes changes (90%)**:
  - Ophthalmoscopy of the eye fundus (« fond d’œil »)
    - Angioid streaks ++ (90-100% after the age of 20)
    - Risk of hemorrhage (risk of blindness)
Case 5: Pseudoxanthoma elasticum

- Vascular changes: consequence of calcification of arteries with intimal and endocardial fibroelastosis (30-40% of cases / 65% before age of 40):
  - Risk of choroid, gastrointestinal or uterine hemorrhage (during pregnancy) +++
  - Hypertension
  - Cerebrovascular stroke
- Cardiac anomaly: rare (mitral prolapsus)
- Arteriopathy: frequent (limbs>coronary >carotid>vertebral arteries)
- Hyperphosphatiasia, nephrocalcinosis

Survival depends on the vascular damage that can reveal the disease (differential diagnosis: other elastopathy)
CASE 5: Pseudoxanthoma elasticum

Histological aspect:

- Superficial and mid dermis
- Short, curled, basophilic elastic fibers
- Papillary dermis spared
- No or scant inflammatory infiltrate

Orcein staining
Case 5: Pseudoxanthoma elasticum

- Calcification of elastic fibers
- Black with Von Kossa method
Case 5: Pseudoxanthoma elasticum

• Sometimes epidermal perforation
  Basophilic elastic fibers extruded through the focal erosion of epidermis
• Surrounding epidermal acanthosis
  (pseudo epitheliomatous hyperplasia)
• Differential diagnosis: acquired PXE; late onset, identical histology, absence of retinal or vascular stigmata (perforating calcific elastosis)
Case 5: Pseudoxanthoma elasticum

- Our patient: isolated case
- No familial history
- **Ophtalmological examination**: normal
- **Systematic cardiovascular explorations**: ECG, echography: normal
- **Vascular Echo-doppler** (carotids, lower limbs)
- Close survey of a future pregnancy
- **Genetic study** in progress
Case 5: Pseudoxanthoma elasticum

Genetic studies

- **Heterogenous phenotype**
  - Autosomal dominant inheritance (2 variants)
    - Type 1: skin, vessels, severe chorioretinitis
    - Type 2: skin, mild retinal changes, no vascular complications
  - Autosomal recessive inheritance (2 variants)
    - Type 1: classic skin changes, intermediate severity
    - Type 2: very rare generalized laxity without systemic complications

- **Mutation of gene**: encode for protein ABCC6
  Membran transporter ATP-binding cassette (ABC) chromosome 16 (16p13.1)

- **No correlation genotype-phenotype**
Case 5: Pseudoxanthoma elasticum

• TO REMEMBER

Detection of skin lesion
Confirmation by histology
Screening for eye and/or vascular involvement
Close survey especially if pregnancy
Familial examination
Genetic counseling
Conclusion

Many cutaneous lesions can reveal an underlying potentially serious disease
- cutaneous tumours or connective disorders
- cutaneous inflammatory lesions

Important place of the pathologist
- exact diagnosis of cutaneous lesion
- suspect the possibility of a peculiar syndrome with possible association with visceral involvement
- essential help for the dermatologist for the diagnosis and the management of these patients
• Thank you for your attention

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