Evacuation problems in the old patient

- Incontinence, urinary retention
- Bowel disorders, incontinence and discharge troubles

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BELGISCHE VERENIGING VOOR GERONTOLOGIE EN GERIATRIE

SOCIETE BELGE DE GERONTOLOGIE ET DE GERIATRIE

Geriatric patients: frailty

Medical:

- Cognitive disorder
- Falls
- Poly-médication
- malnutrition
- **Evacuation disorders**
- Hearing and visual disorders

Réf: Winograd JAGS 1991: 39;778-784

Frailty.

Winograd CH, and al.: Screening for frailty: criteria and predictors of outcomes. J Am Geriatr Soc 1991; 39: 778-784

- Risk of institutionnalisation:

  34% vs 12%

- 1 year Mortality

  47% vs 33%

- LOS

  24,8 jrs vs 16,9 jrs

Table 1: Added-value of Minimum Geriatric Screening Tools: proportion of screened

Risks for geriatric problems before or after Minimum Geriatric Screening Tools

• **Geriatric problems**	**Before MGST**	**After MGST**	**Gain**	***p***
• ADL-IADL	26%	89%	63%	<0.0001
• **Incontinence**	**4%**	**60%**	**56%**	**<0.0001**
• Falls	35%	46%	11%	0.1497
• Cognition	34%	68%	34%	<0.0001
• Depression	3%	49%	46%	<0.0001
• Social	7%	45%	38%	<0.0001
• Nutritional	17%	65%	48%	<0.0001
• Pain	8%	43%	35%	<0.0001
• **Total of suspected problems /patient**	**1.5±1.2**	**4.7±1.7**	**3.2**	**<0.0001**

Pepersack Th. Collège de gériatrie 2005

- Poorly concerning for gastro and urologist
- One of the main problem in the old person
  - Complaint, confort, social contact,….
- Can be
  - A specific problem
  - A consequence of a geriatric situation

Bowel disorders, Contipation and discharge problems

Small intestine

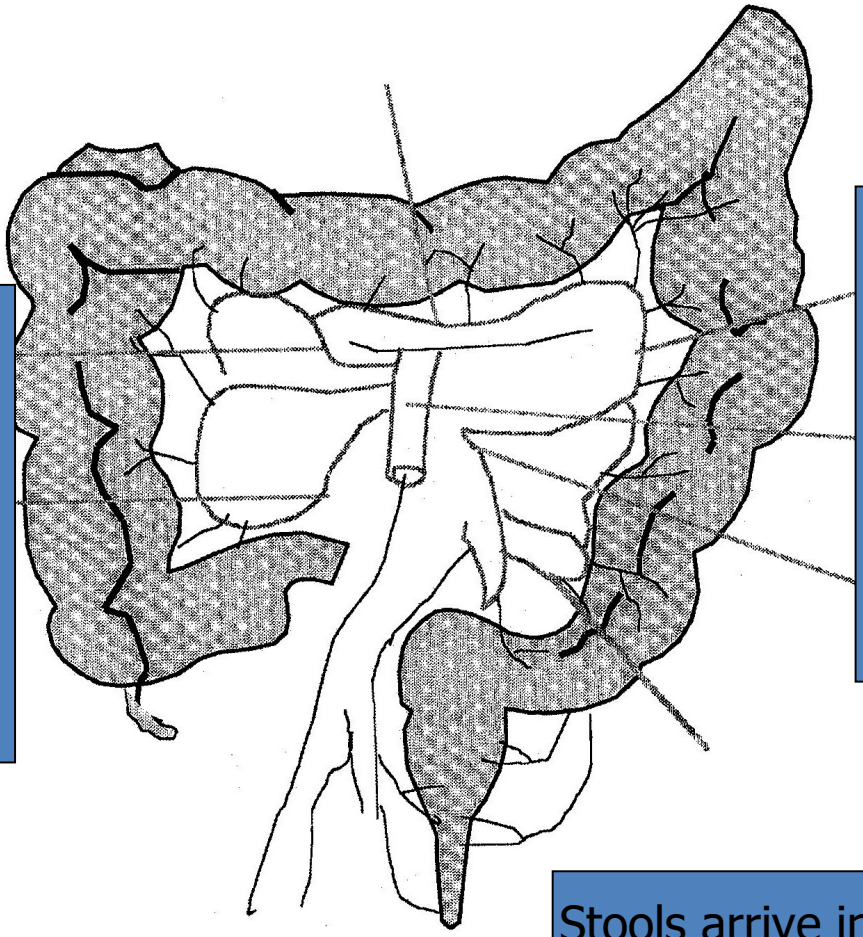
- Both mucosal anatomy and absorptive capacity for most nutrients are well preserved; however, a reduced adaptive reserve for these functions is also known. *(1989)*

- Excessive growth of certain bacteria becomes more common with age and can lead to pain, bloating, and weight loss. Bacterial overgrowth may also lead to decreased absorption of certain nutrients, such as vitamin B_{12}, iron, and calcium *(Merck manual 2012)*

- It is rare that the effects of aging alone are sufficient to explain the manifestations of disease *(Post grad med J. 2007)*

Function of the colon

Liquid stools passes through ileo caecal valves



Colon absorbs water and salts

Stools arrive in solid form in the rectum

Peristaltis

- Autonomic control>>>muscular contractions of the gut, secretion of acid and enzymes
- Enteric autonomic nervous system>>> interconnections to smooth muscles, micosa and vessels
- Vagus gives an excitatory/inhibitory stimulus and creates a reflex system
- Other transmitters: 5HT, ATP, nitric oxide, Y neuropeptide

UNDER the cortical control

Bowel control

- Normal average transit time 3 days
- Intact cerebral and spinal reflexes
- Proprioceptive sensation, intact autonomic nervous system
- 2 sphincters (internal and external well controlled and functionning
- Pelvic muscle floor strong enough

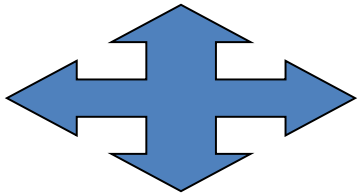
Aging bowel

- Age related reduction in mesenteric neurones, but stools frequency unchanged in healthy aging
- But more bowel evacuation difficulties
  - Multiple comorbidities
  - Functionnal disabilities
  - Medications

Women > men

Colopathies: main diseases

- Diverticulosis
- Ischemic colitis

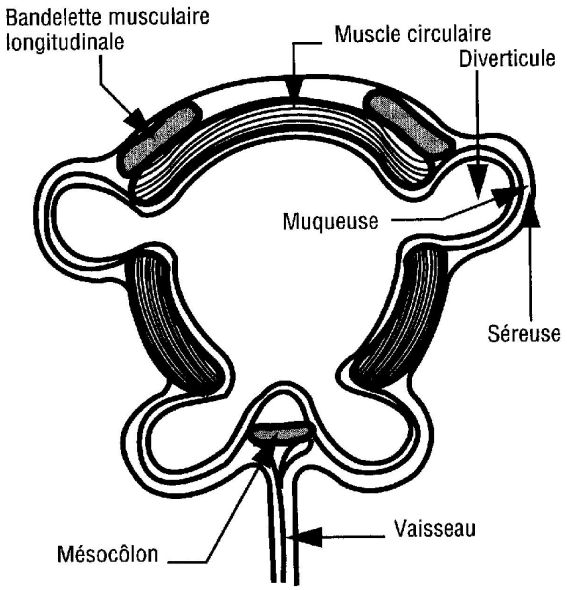


- Cancer

Not specific with age but very often associated

Diverticulosis

- Colic contraction in excess with hernia
- Loss of muscular fibers replaced by collagen and elastic fiber in the colic



Coupe transverse du côlon montrant un diverticule.

Prevalence

- Difficult, because a lot is asymptomatic
- from 10 to 50% after 75y
- Diverticulitis= illness

consequences

- Nothing (no treatment)
- Infection
- Perforation
- Stenosis
- Hemorragia

Diverticulitis
- Pain in iliac region
- Fever
- Nausea and vomiting
- Transit disorders
- Defense and tension sign in the abdomen palpation

Treatment

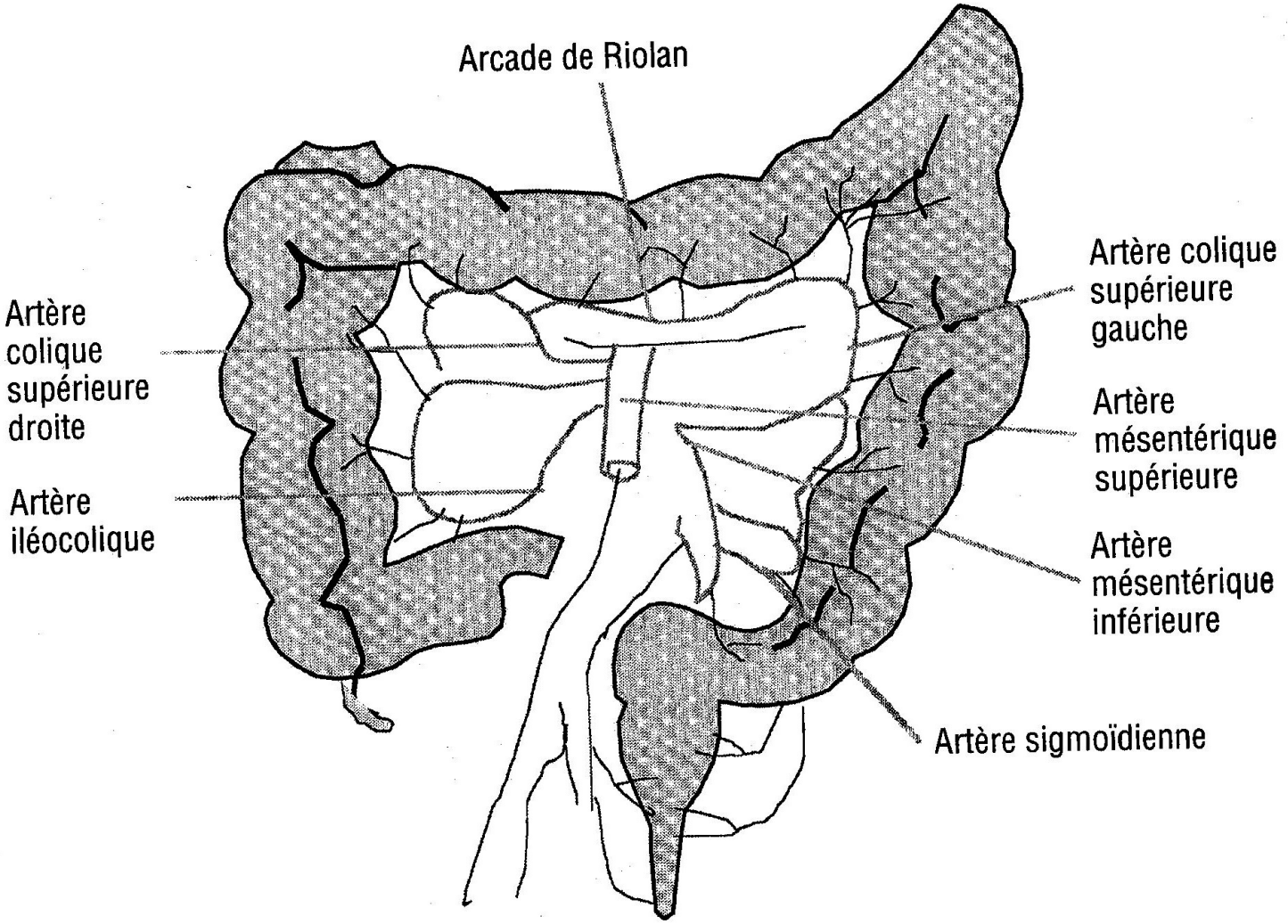
- AB if symptomatic during minimum one week; G- and anaerobes

- Sometimes surgical procedure
  - to spare life
  - Abcess
  - Fistula
  - peritonitis

Ischemic colitis

- 90% in person over 60 with cardiovascular problems
  - Association with AF, ischemic cardiac disease
- Prevalence and incidence unknown but very often underdiagnosis
  - Non gangrenous
  - Grangrenous
  - Chronic

  Bad prognosis >> control of vascular risks



Colon
vascularisation

Colitis ischemia

- Mesenteric ischemia (risk factors)
- Diverticulitis
- Infectious colitis, pseudomembreanous colitis
- Volvulus
- Bowel obstruction
- Inflamatory disease
- Pancreatitis

Belmin and Chassagne 2009

Consequences

- High risk of recurrence in the 2 following years

Gangrenous colitis

- Abces (local infection)
- Sepsis
- Occlusion
- Perforation and peritonitis

Treatment

- Hospitalisation
- Stop nutrition by mouth
- Aspiration tube
- Perfusion
- Antibiotics, if necessary
- Surgical procedure, if sepsis or gangrenous colitis
- Etiological treatment

Clinical casus:

- Old woman: 89 years

- Emergency department for AEG

and dyspnea in an pulmonary infection context with bronchospasm

Rp Avelox, médrol

Previous history

- Alzheimer disease
- Cardiac insufficency,
- Emphyseme
- Left hip fracture 3 y ago.

Treatment

- Alprazolam 0,5,
- Réminyl 16,
- Lasix 40,
- Daflon 500,
- Lanitop,
- Aérosols duovent

Clinical examination at the emergency department

- Sarcopaenia
- Delirium, no gait possibility
- Cardiac and vascular sounds: N
- Bronchopneumonia in the left basis
- Abdomen without pain, supple.
- Archaic reflexes present
- Protection wet

Complementary exams

- Biology: renal insufficiency and Hb 10 g/l

Chol 1,2g/l; prot and albumine low

- ECG: RSR with BAV 1st degree
- Rx thorax: normal; emphysema

Hypothesis

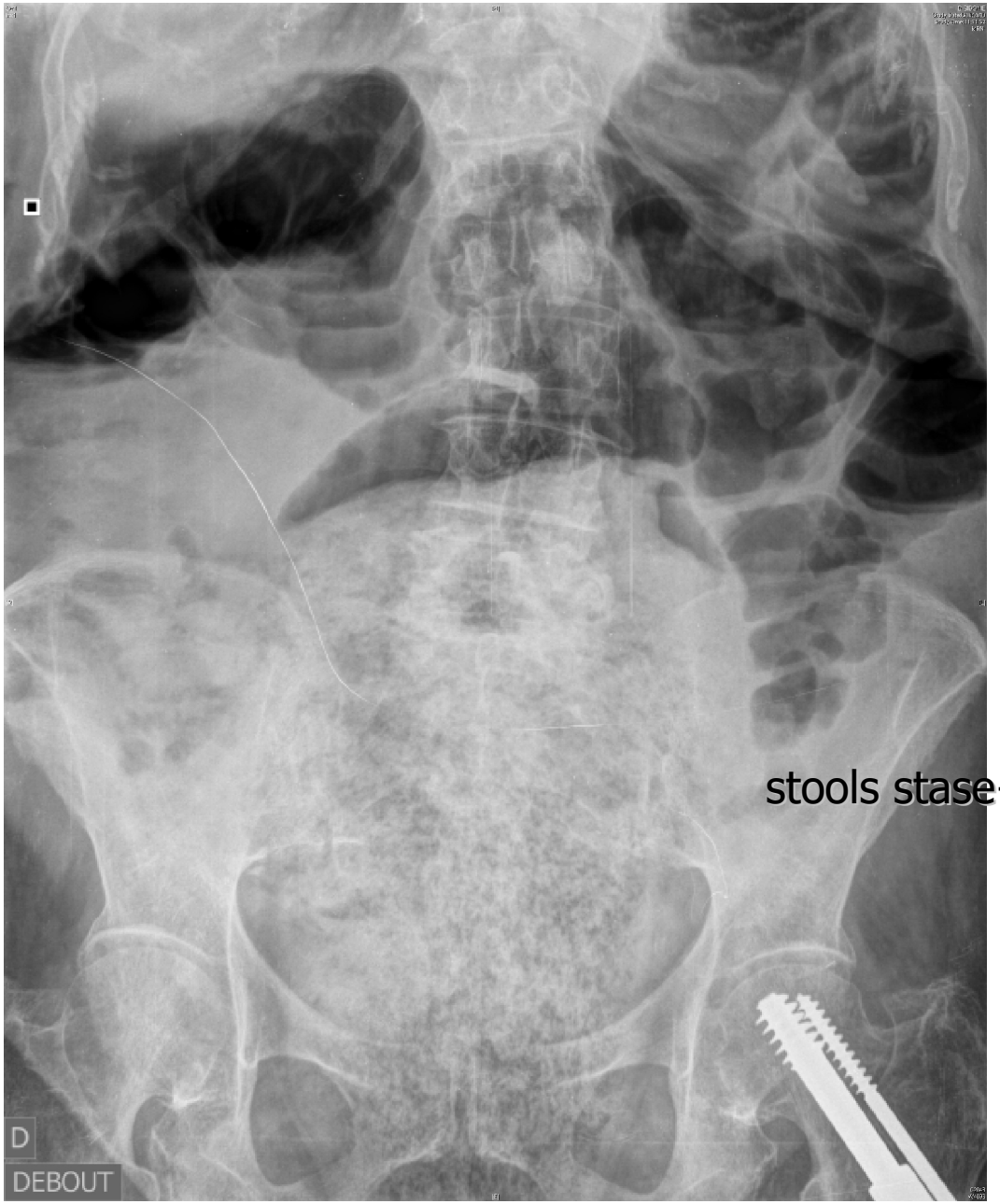
- Infection by atypical germs in BPCO
- Pulmonary embolism (but D-dimères -)
- Cardiac decompensation with asthma

Transfer in the geriatric unit with diagnosis:

- BPCO and infection (atypical germs).
  - Pulmonary embolism not excluded
- Cardiac insufficency in an infectious pulmonary context.
- Alzheimer disease

In the geriatric unit

- Whisling dyspnea.
- Sat O2 at 94%,
- Bloated abdomen with a little transit but no pain ???
- anosognosia and agitation.

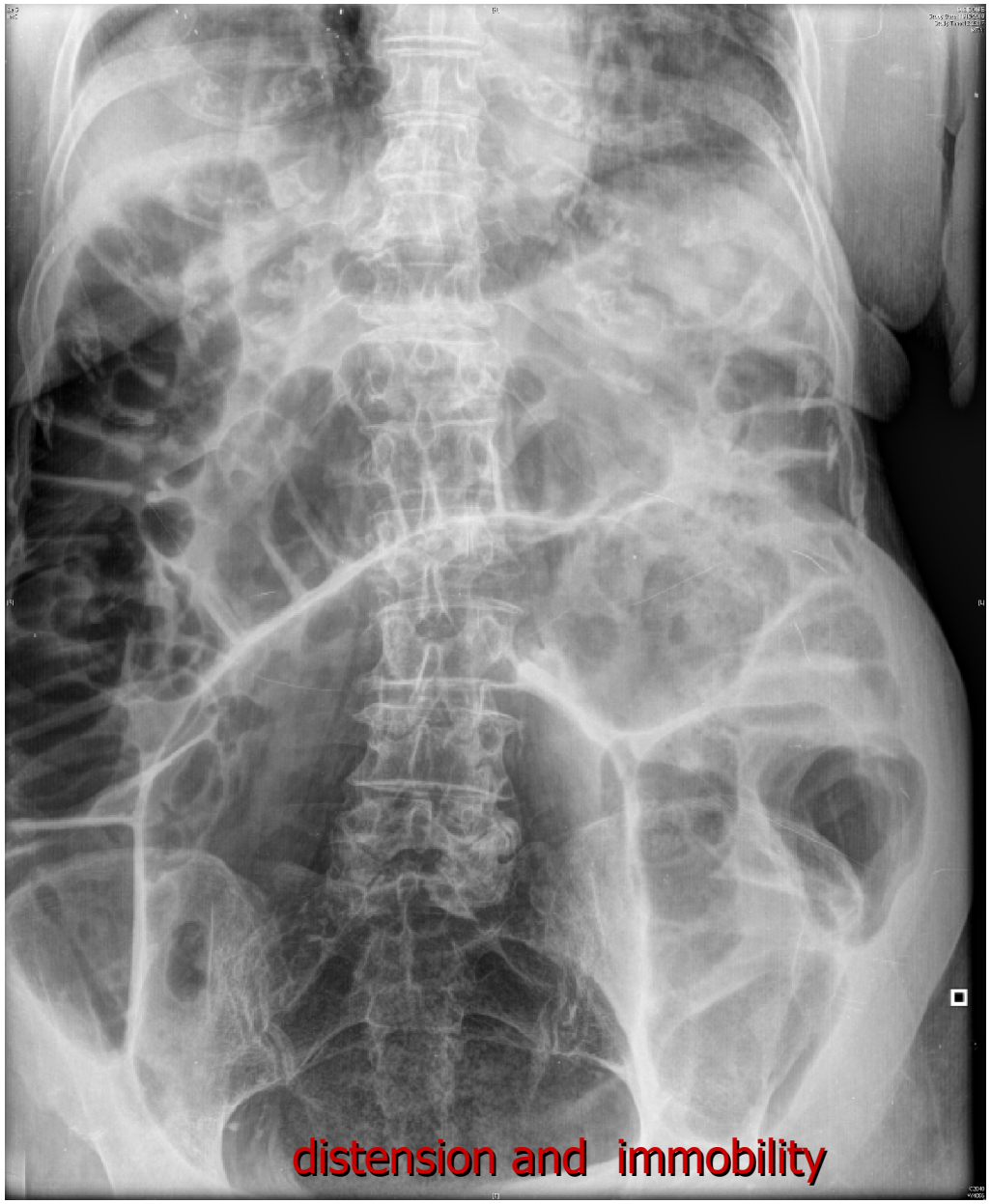


stools stase+++

- but
- laxatives, and enema under biological control

➔Little quantity of stools

➔ RX AAB



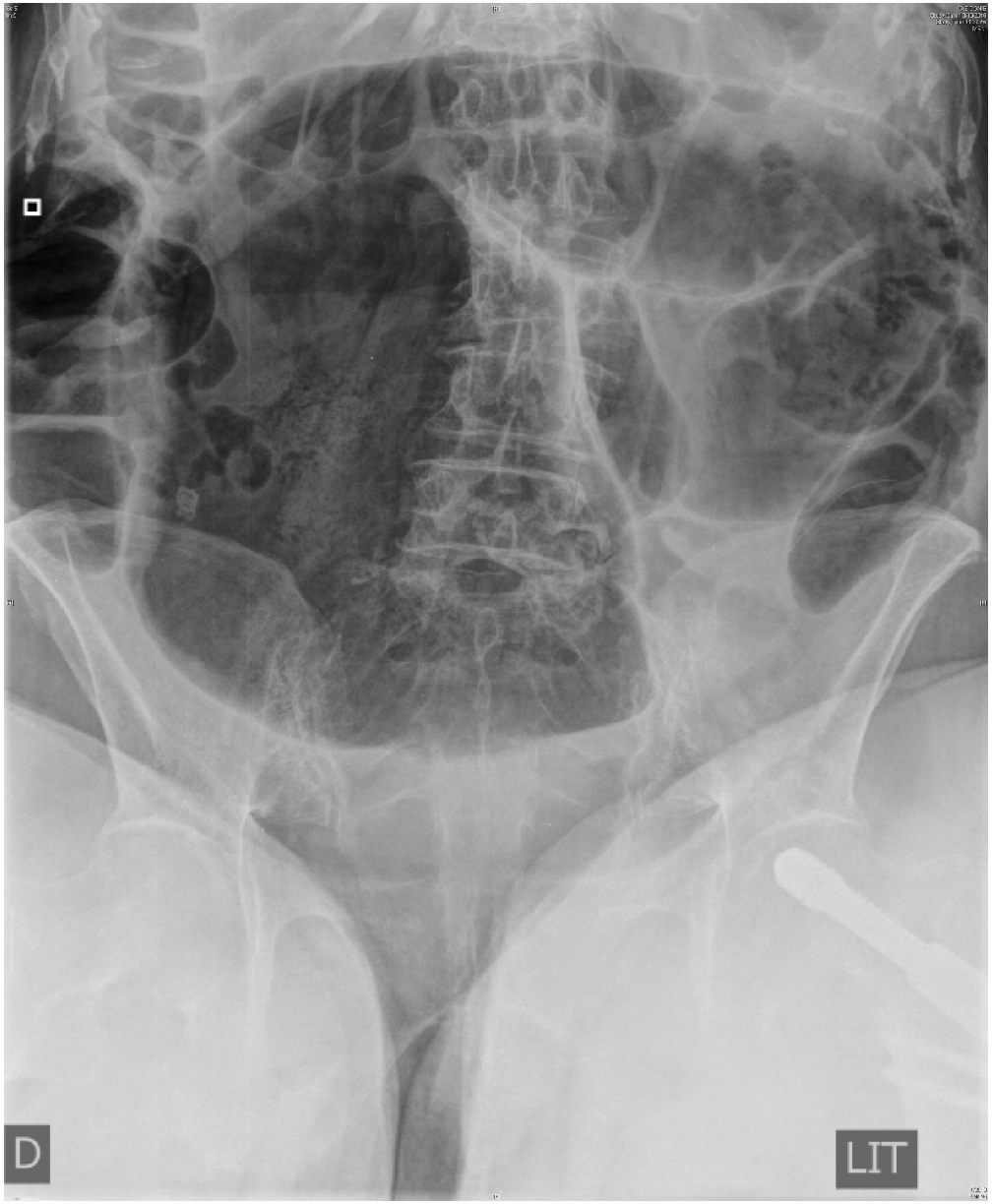
distension and immobility
without real obstruction

Large colic distension with perforation risk,

And evacuation of the air with a canula

➔new AAB 2 days later

Sigmoid volvulus



- Sigmoid volvulus ???

➔Colonoscopy >>>No volvulus but they have evacuated the colonic gaz

➔obstruction without obstacle

➔Synd d’Ogilvie in a demented patient

Syndrome d'Ogilvie or colonic pseudo obstruction

Sir W Ogilvie 1948

massive colonic dilatation
with the risk of ischemia et perforation of the colon

Epidemiology

- Prévalence unknown
- 1% patients over 80 with a ortho-surgical procedure and 0,3% of patients with severe burnings
- Prévalence higher after 60 ans
- + fréquent in males (60%)
- Mortality 25 to 31% and 40 to 50% if complication

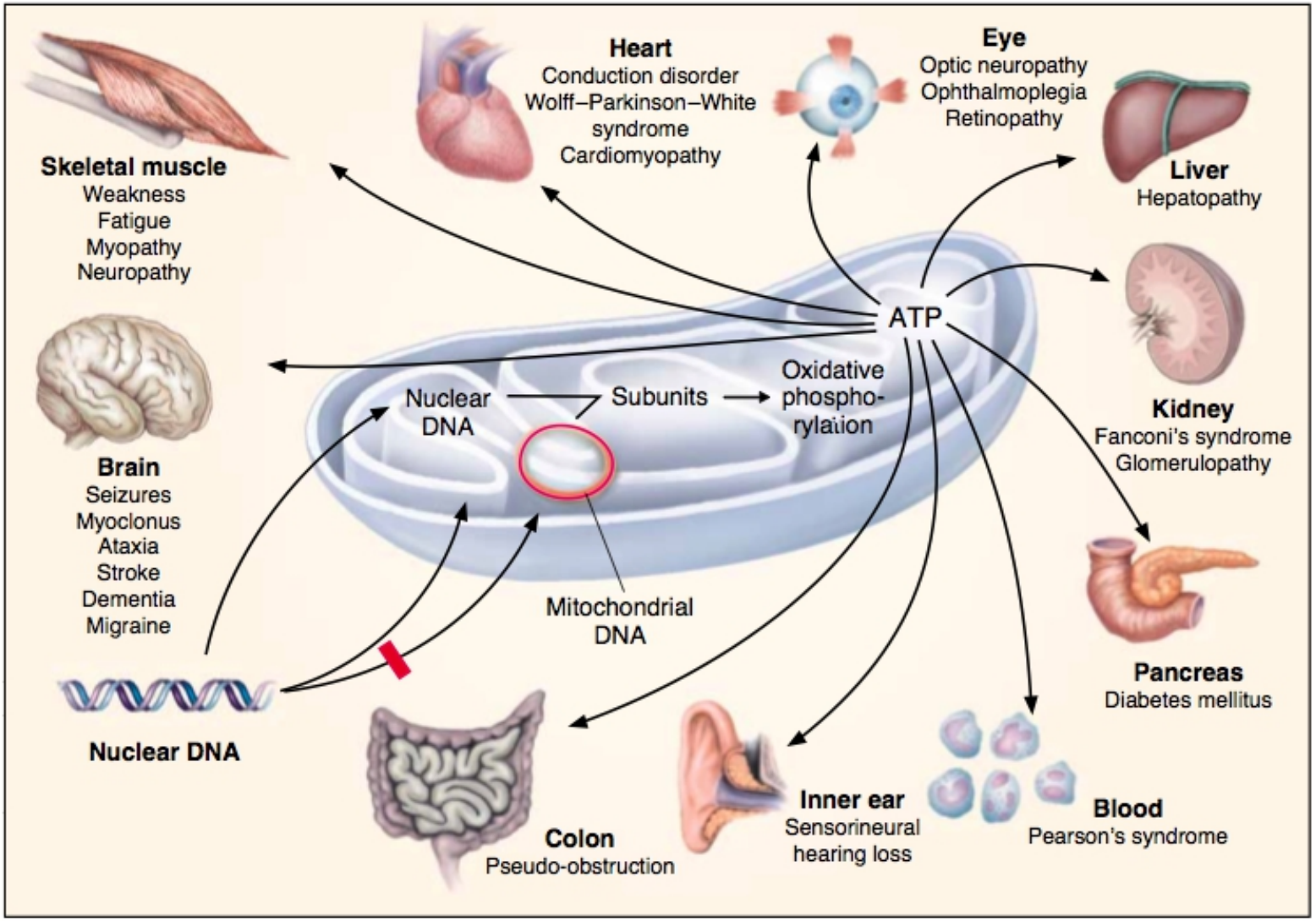
Prédisposing factors

- Traumatisms (11%)
- Infections (10%)
- Cardiac diseases(10%)
- Surgery: abdomino-pelvian, ortho, …
- Gynéco-obstétric
- Neurologic: Parkinson, Alzheimer, …
- Drugs: neuroleptics, morphine, …
- Others: cancer, rénal inufficiency,…

Physiopathology

- Not well understood
- Unbalance in the autonomous system unfovourable to the parasympathic
- Other hypothesis: mitochondrial dysfunction

  ➔ Link between Alzheimer and pseudo-obstruction



Source: Donald R. Johns, Mitochondrial DNA and Disease, NEJM, Vol. 333, No. 10, pp. 638-644, sept. 1995

Symptoms and clinics

- **anamnesis**:
  - abdominal distention
  - Pain in the abdomen(80%)
  - Sickness and vomiting (60%)
  - Stools and gaz présent in > 40%

- **Clinical examination**:
  - Abdomen as a baloon (in progress) and very heavy tympanism
  - Transit +++
  - Empty rectum
  - Spasm= complication

Complementary examinations

- **Biology**: no diagnostic interest . Bad ionogram ➔ conséquence more than a cause
- **AAB**: gaz colic dilatation (diffuse or local) poor hydro-aeric levels (DD with distal obstruction)
- **Baryte examination:** : to exclude an obstacle
- **Scan abdo**: obstacle, measure of the colic diamètre and the aspect of the mucuous appréciation (complication)
- **Colonoscopy**: much treatment than diagnostic

Diagnostic

- Clinic
- AAB

- 2 majors **diagnostics différencial diagnostics** :
  - Mechanical obstruction (baryte or scan abdo)
  - Toxical Mégacolon with Clostridium difficile (analysis of the stools)

Treatment

Systématicaly

- STOP nutrition by the mouth
- éventualy naso-gastric tube / rectum tube
- Correction hydro-électrolytic (kaliémie which can increase the risk of ileus)
- Stop médicamentions modifiing intestinal motility (opoïdes, anti-cholinergic, and anti calcic)
- If laxartive agents avoid lactulose which increase fermentation and production of gaz
- Mobilisation!!
- Regular survey and support

➔ Résults: (20 à 90% of success)

Pharmacologic treatment : based on the hypothesis (🡻 activité para-sympathic)

- **Néostigmine®** (prostigmine): réversible inhibitor of the acétylcholinestérase
- IV (dose 2 to 3 mg), quick and shiort duration
- **But**: salivation, nausea, vomiting, abdominal pain, bradycardie, hypotension and risk of bronchospasm.
- **CI**: mécanical obstruction, ischémie or perforation , pregnancy, arythmia (syncopes), broncospasme sévère and renal insufficiency syncopes
- A second injection can be done but very often think to a colonoscopic decompression

➔ Résults: 87% of décompression with 10% of récidive

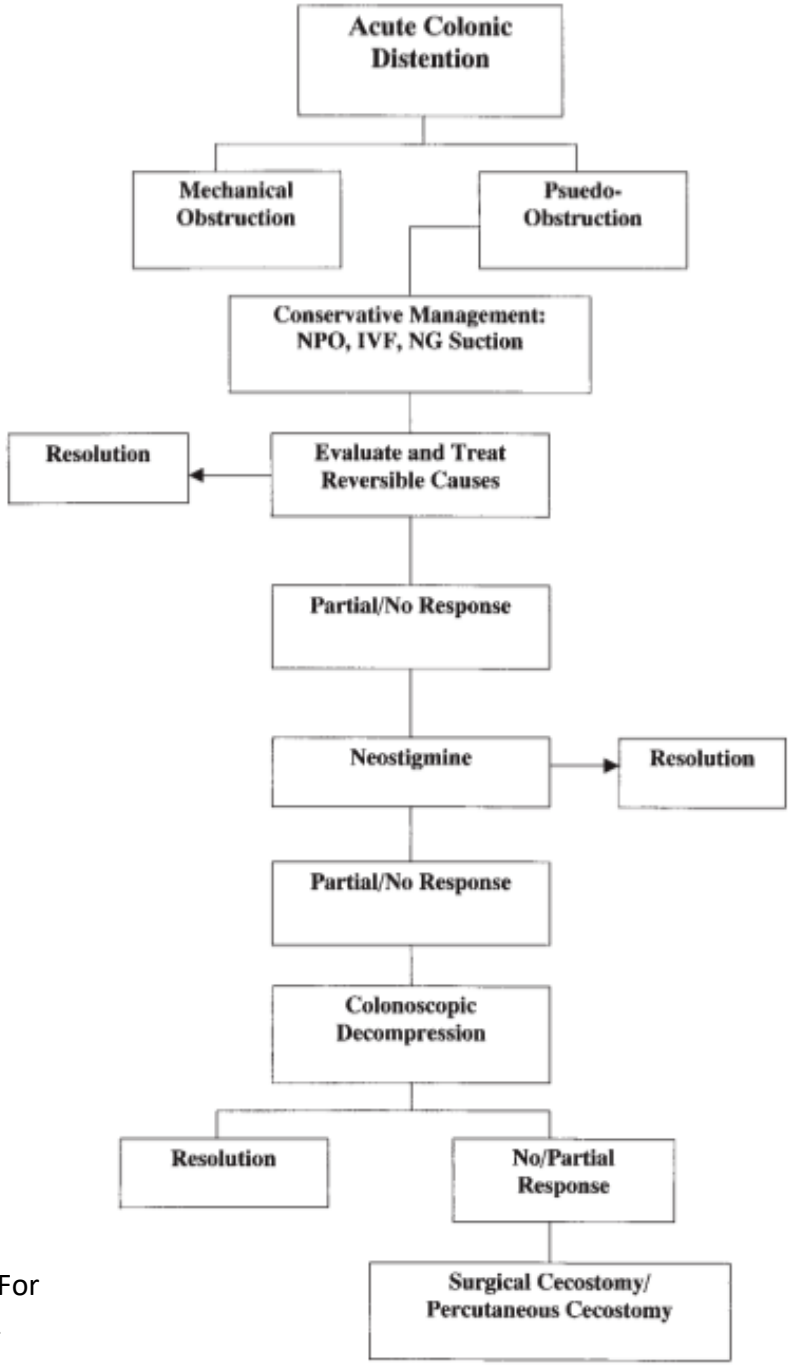
Colonoscopic treatment:

- [238][93]70% of success with risk of récidive of 30 à 40%.
- Complications (mainly perforations) in1 to 5%
- CI of colonoscopy if pneumopéritoine et muccuosal ischémia

Surgery:

- More invasive
- If ischemia or perforation, or no response to other treatments
- Surgical procedure if colic diameter > 12 cm (risk of perforation ++)
- Technical aspects (depend of the intestinal status)
  - if colon intact, resection of the caecum.
  - If complications, sometimes total colectomy
- Morbi mortality from 6% to 30%.

Algorythm



Source: Acute colonic pseudo-obstruction, American Society For Gastrointestinal Endoscopy, Vol. 56, No. 6, pp. 789-792, 2002

Place of the Ogilvie syndrome in the respiratory decompensation

- ↑ abdominal >>>>> diminution of the compliance
  → Restrictive syndrome (like in the obesity)

Cascade of pathology in our patient with restrictive syndrome, hypoxémia, cardiac insufficiency (diastolic dysfonction)

Faecal discharge

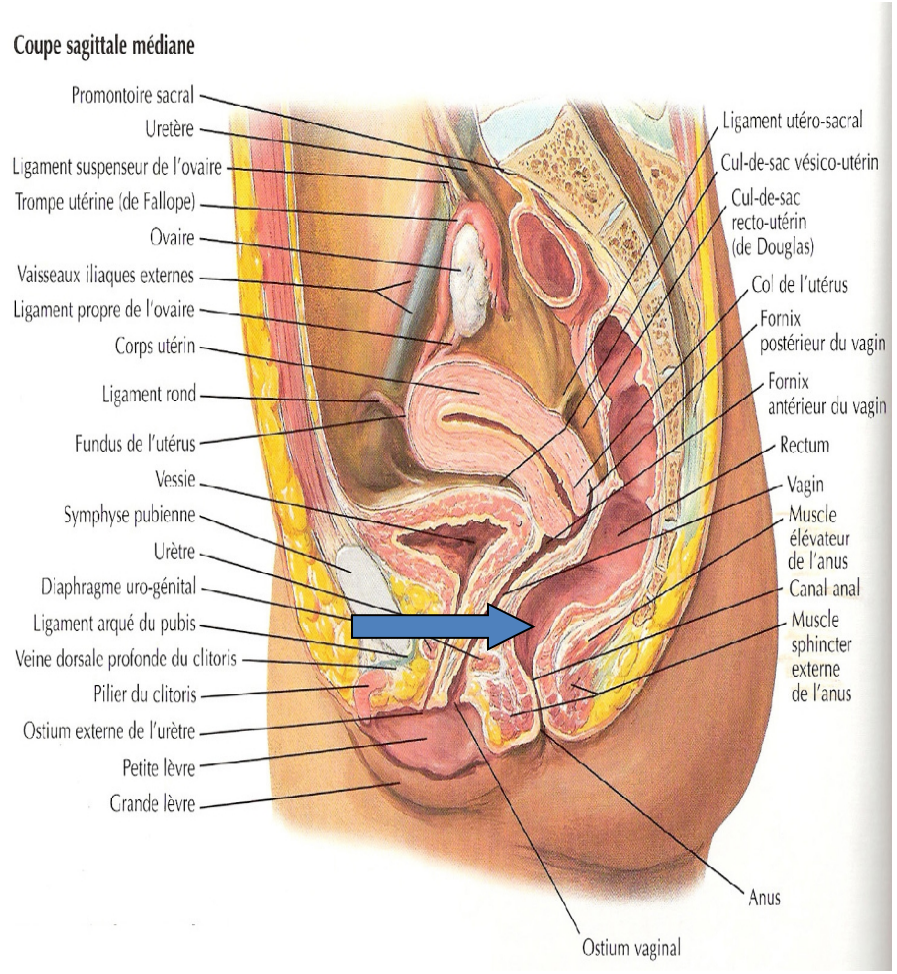
- Constipation problem
- Impaction problem

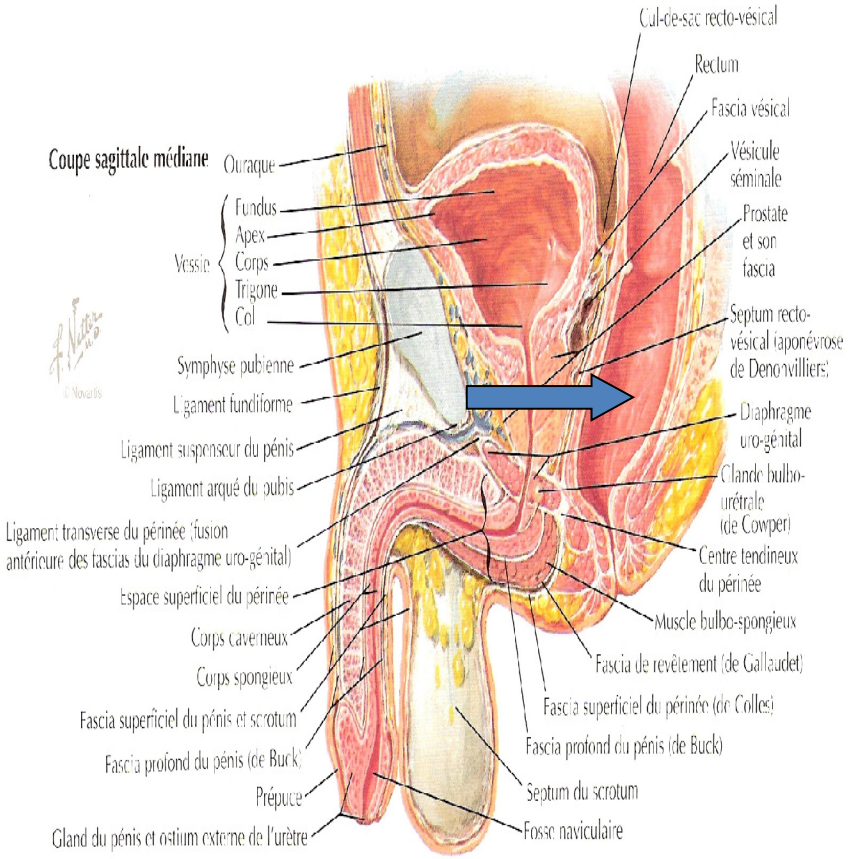
- Incontinence

A global overview

- Sarcopaenia
- Drugs
- Exercice
- Diets
- Illness
- History of life

Pelvian anatomy





Constipation: definition from Whitehead

- Unless 2 criteria > 12 months:
  - Intense effort of pushing to exonerate
  - Incomplet exoneration sensation
  - Hard and fragmented stools
  - Less than 3 stools per week without laxative drugs or

  Less than 2 stools per week from more than 1 year

Constipation

- Prevalence increase with the age (> 50% over 75)
- Not a common consequence of aging
- Associate with frailty and fonctionnal decline
- Evidence in treatment are slim
- Frequently complicated by fecal impaction and incontinence

Classification of constipation

- Functional
  - Normal colonic transit but symptoms
  - Slow colonic transit (frequent in frail and may develop megocolon)
- Irritable
- Pelvic disorders
  - Dysynergie, sarcopenia
  - Rectal prolaps, rectocele, reduce rectal sensation
  - megacolon

Risk factors in Nursing home

Quander. Am J Gastroenterol 2005

%	Constipation yes n = 80	no n = 436
Age (> 75 ans) *	66	331
LOS (USLD) *	48	27
ANTCD chir. Gynéco*	21	12
Demented	32	38
depression*	37	24
Antiparkinson medic *	6	13

* $p < 0,05$

- NS : sex, diet, morphinic, anticholinergic

Functionnal status

	Constipation	
	yes n = 80	Non n = 436
BMI (moyen)	24.7	26.02
Comorbidity*	5.76	5.37
ADL*	3.46	4.37
Transfert*	3.98	5.47
Geriatric Depression Scale*	6.19	4.87

* $p < 0,05$

Causes

- Dolicho-megasigmoid
- Rectal and left colonic cancer
- Functionnal colopathy

- Megarectum
- Sensitivity trouble
- Rectocèle, hemorroids,…
- dysynergia

But also extradigestive disorders

- Diabets, hypothyroidism
- Metabolic disorders (hypoCa, hypoK)
- Drugs
- Immobility
- environnement

Very often associated with fecal incontinency

Iatrogen Constipation
(n = 14 354 ; 42% > 75 years)

Antidépressants
Neuroleptics
Anti-épileptic
Opioïdes
Diurétics
Steel
Calcium

Talley. Am J Gastroenterol 2003

Common causes of constipation in the old person *Mounsey 2015*

Medications

- Analgesics (opiates, tramadol, NSAIDs)
- Tricyclic antidepressants
- Anticholinergic agents
- Calcium channel blockers
- Anti-parkinsonian drugs (dopaminergic agents)
- Antipsychotics (phenothiazine derivatives)
- Antacids (calcium and aluminum)
- Calcium supplements
- Bile acid resins
- Iron supplements
- Antihistamines
- Diuretics (furosemide, hydrochlorothiazide)
- Anticonvulsants

Endocrine and metabolic diseases

Diabetes mellitus

Hypothyroidism

Hyperparathyroidism

Chronic renal disease

Neurologic disorders

Cerebrovascular disease and stroke

Parkinson’s disease

Multiple sclerosis

Autonomic neuropathy

Spinal cord lesions

Dementia

Myopathic disorders

Amyloidosis

Scleroderma

Others

Depression

General disability

Poor mobility

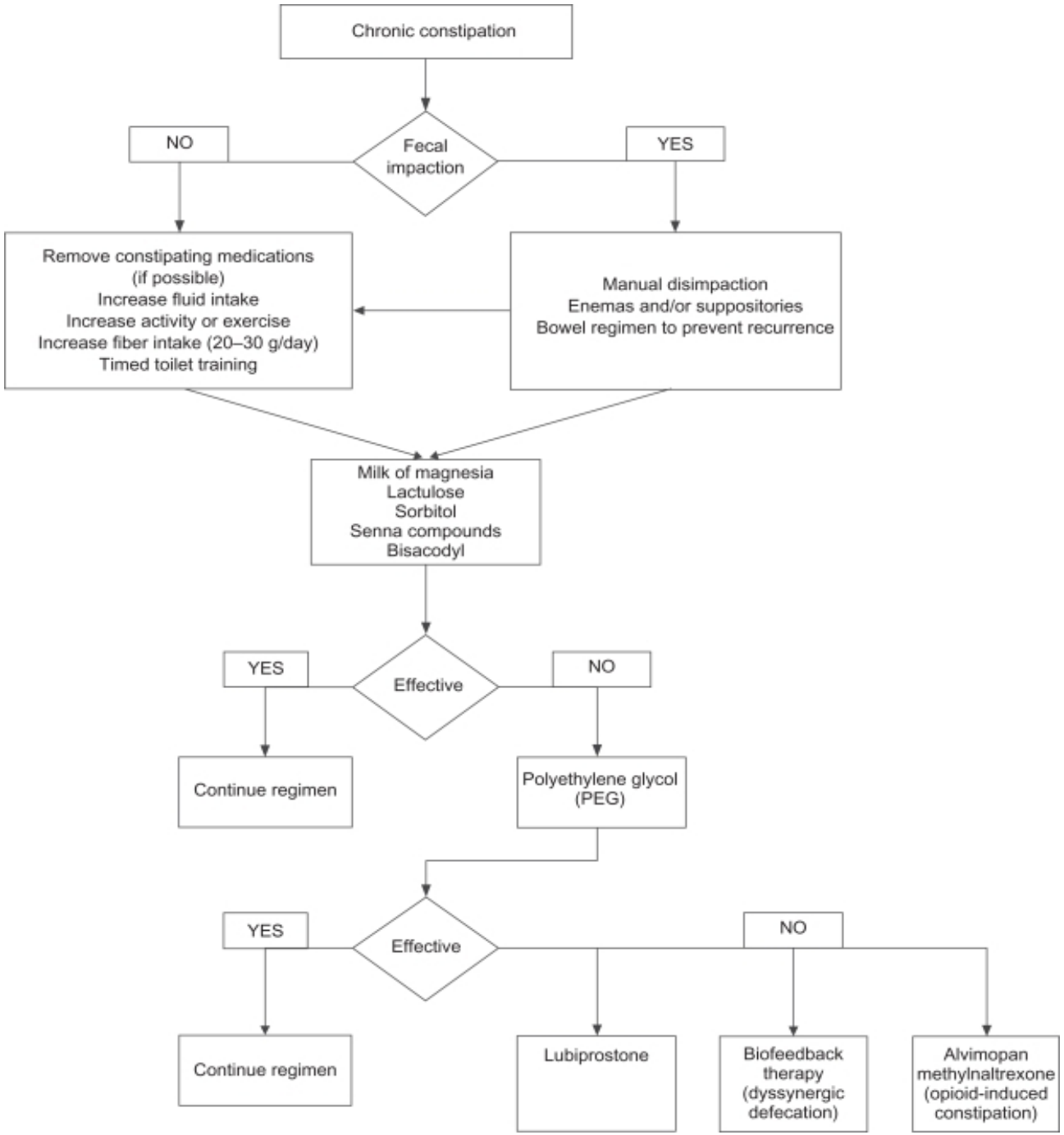
Consequences of constipation

- Feeling of incomplete evacuation
- Impaction
- Abdominal or low back pain
- Flatulence
- Nausea, vomiting, headache
- Bladder dysfunction
- Delirium
- Hemorroids,
- Prolapse rectal/ vaginal

Fecal impaction

- Faecal impaction is less well recognised than constipation but it is estimated[2] that 40% of hospitalised older patients in the UK experience it. *(2012)*
- Ironically, faecal impaction can also involve loose stools from above being squeezed around the blockage and the person having no control over their bowels. Often, watery stools

- People with dementia in the later stages of the illness may be unable to describe the pain they are experiencing due to the mass of impacted stools developing in their bowel.
- Faecal impaction is also linked to acute states of confusion and delirium in the demented but also ols stressed persons
- If someone has dementia, faecal impaction is likely to make their dementia symptoms worse.


Chronic constipation
Fecal impaction
NO
YES
Remove constipating medications (if possible)
Increase fluid intake
Increase activity or exercise
Increase fiber intake (20–30 g/day)
Timed toilet training
Manual disimpaction
Enemas and/or suppositories
Bowel regimen to prevent recurrence
Milk of magnesia
Lactulose
Sorbitol
Senna compounds
Bisacodyl
Effective
YES
NO
Continue regimen
Polyethylene glycol (PEG)
Effective
YES
NO
Continue regimen
Lubiprostone
Biofeedback therapy (dyssynergic defecation)
Alvimopan methylnaltrexone (opioid-induced constipation)

Therapy

- Less of evidence except polyethylene glycol
- New drugs approved:
  - Colonic secretagogue lubiprostone
  - 5HT4 agonist prucalopride
  - Methylnaltrexone (Relistor°) antagonist receptor specific to morphinic approved in terminally patients

Incontinence

- Fecal incontinence increase the likehood of nursing home referral more than urinary incontinency.
- It has a great influence (p< 001) on the outcome of frail old person with mobility and cognitive decline, in order with institutionalisation

Grover M and al in J Am Ger Soc 2010 Jun 58(6): 1058-62

Fecal incontinence: definition

- Fecal incontinence is the inability to control bowel movements
- 2 types:
  - Conscious and impossible to control
  - Non conscious

“If you're not aware that the stool is there, by the time you know it's too late and the stool leaks out.“ BGS 2012

People with severe cognitive problems may become less concerned or less aware about their bowel habits.

- Prevalence increase with the age
- Not a common consequence of aging
- Associate with frailty

- Frequently complicated by fecal impaction and incontinence

Risk factors

	Constipation	Incontinence
	RR	
Aging (>75 y) (1)	1,9	1,68
Women	2,32	1,39 (2)
Dementia	2,34	1,44
AVC, SEP..	1,1	1,88
Diabets	1,33	1,7 (3)

(1) Talley. Am J Gastroenterol 2003,(2) Denis. Gastroenterol Clin Biol 1992, (3) Quander. Am J Gastroenterol 2005

Causes

- Dolicho-megasigmoide
- Rectal and left colonic cancer
- Fonctionnal colopathy

- Megarectum
- Sensitivity trouble
- Rectocèle, hemorroides,…
- dyssynergia

Other main problems

- Diverticulosis
- Ischemic colitis
- Cancer

Not specific with age but very often associated

Causes of faecal incontinence.

1 Overflow due to faecal impaction

2 Loose stools
- laxative overuse
- medications
- SSRIs
- Infections (*Clostridium difficile)*
- lactose intolerance

3 Ano-sphincter weakness
diabetes mellitus
sphincter damage

4 Neurological disease
spinal cord disease

5 Functional
loss of mobility
loss of manual dexterity
cognitive impairment
SSRI =

Soiling clothes while sitting or standing. Such behaviour may represent:

- true incontinence

or

- apathy due to depression or frontal disease

- fear of moving due to:
  - fear of the unknown
  - fear of falling
  - worries about the flooring

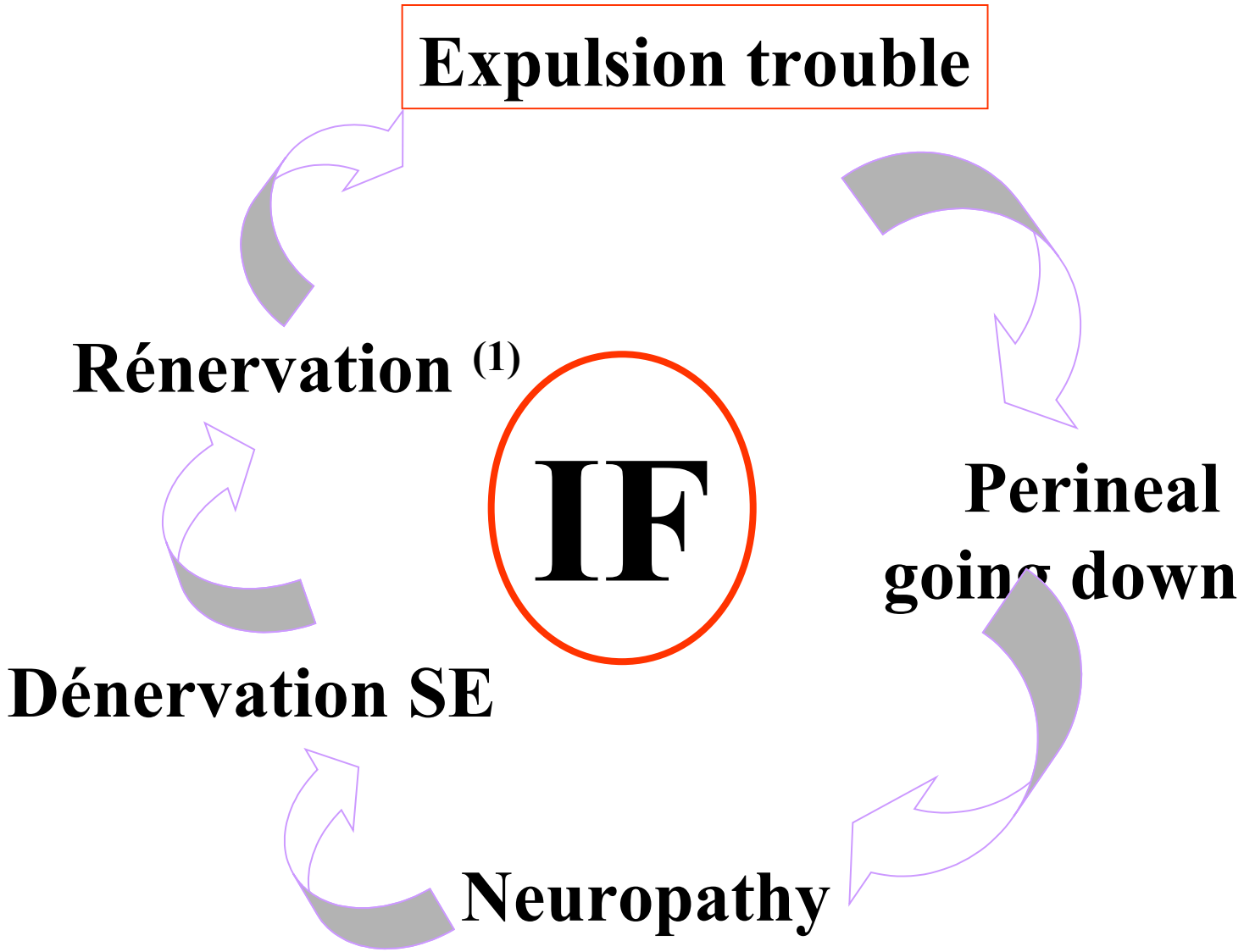
- difficulties communicating fears.

Distal constipation and incontinence : A chronological association

- 30 à 60 % of incontinent have also evacuation troubles [1,2]

- It has as consequence a perineal descent which has an influence on defecation and evacuation

(1) Neill Br J Surg 1981
(2) Henry Br J Surg 1982
(3) Kiff Br J Surg 1984



(1) Snooks. Gastroenterology 1985;977-981

Constipation/ Faecal Incontinence : diagnosis

Anamnesis + clinical examination+ rectal touch

⇩

Full rectum

⇩

distal constipation

Even, if the patient looses stools

If nervous system disorders
Sarcopenia
Dementia
Local problem

Faecal incontinency : diagnosis

Anamnesis + physical examination+ rectal touch

Empty rectum

↓

Have a look after a disease

Full rectum

↓

Distal constipation
or trouble in evacuation
Sarcopenia

Conclusions

Constipation and incontinence are frequently associated with common risk factors

These symptoms are geriatric markers according with geriatric syndromes
(cognition, dépendance, médicaments…)

Rectal touch is the major examination because anamnesis is often difficult

Patient at risk should be assessed regularely .

The objective must be an empty rectum as long as possible.

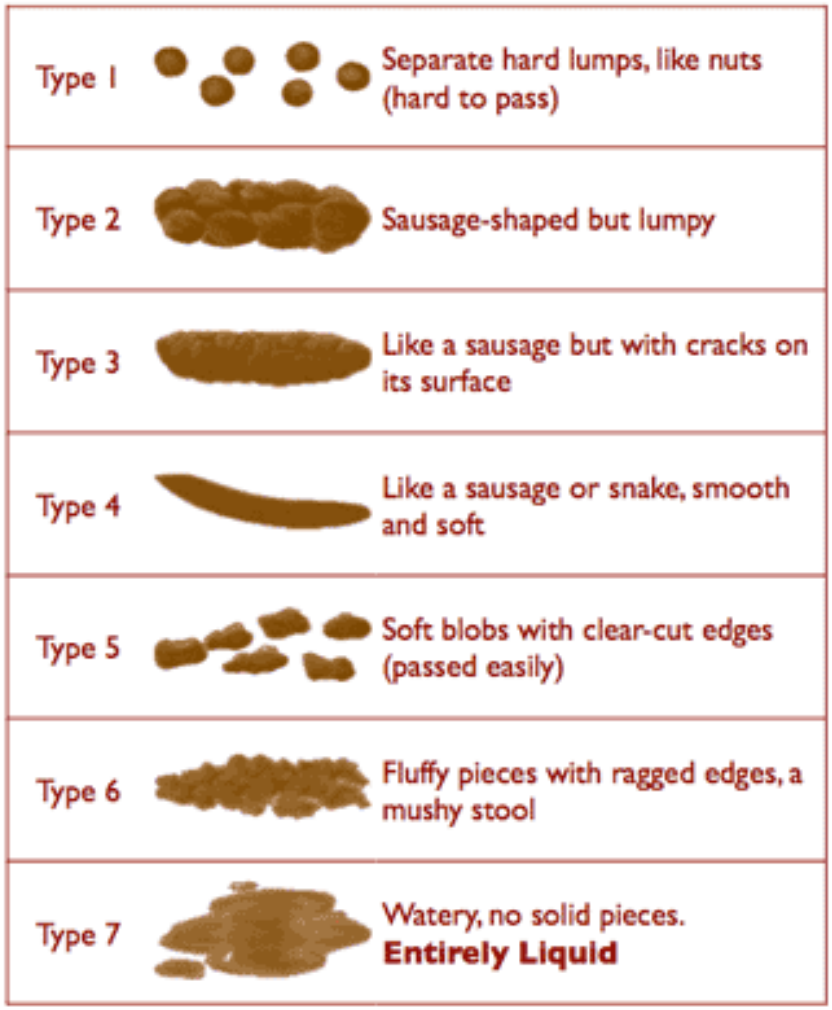
Key points for clinical practice

- Constipation is a symptom not a diagnostic

(quite different with exoneration disorders)

- Use clinical skills to obtain a working diagnosis
- Realistic goals treatments based on symptoms
- Life style factors
- Tailor medication to the individual
- A bowel management program can improve (or cure) a majority of patients
- Constipation and incontinence are very often associated particularely in demented patients
- Bristol chart can be usefull

Bristol Stool Chart



Types 1, 2 and 3 = hard or impacted stools. (unfrequent stools)

Type 4 and 5 = normal or optimal.

Type 6 = loose stool, subnormal, or suboptimal

Type 7 = diarrhea.