Gruppo di ricerca geriatrica

Seminari del Venerdì
Gruppo di Ricerca Geriatrica
Casi clinici in geriatria, 2° corso
19 maggio 2006

Diverticolite

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Caso clinico

Xy., 78 anni, maschio, viene ricoverato il xx/4/'06 presso IDR Alzheimer

Già noto per ricovero presso IDR Geriatrico (2003) per:

- Demenza di Alzheimer complicata da disturbi del comportamento (ansia e depressione), sindrome del colon irritabile, BPCO, adenocarcinoma prostatico (trattamento ormonale e radioterapico sospeso nel 2000 per remissione), rinite cronica con poliposi nasale e dei seni paranasali, dislipidemia di tipo misto, anemia da disordine cronico, gammopatia monoclonale IgG/k, poliartrosi" *(MMSE 19/30, GDS 2/15, Tinetti 28/28, Barthel Index 75/100)*

- Ultimo controllo Ambulatorio UVA: MMSE 14/30 (10/'05)

Caso clinico

Anamnesi fisiologica e familiare:

Coniugato, vive con la moglie (73enne, principale care-giver), ha 2 figli

5 anni di scolarità, muratore

Ha smesso di fumare 8 anni addietro; non abuso alcolico.

Lieve iporessia, con dieta semisolida per masticazione insufficiente; nessuna variazione di peso corporeo (negli ultimi 3 mesi)

Familiarità per neoplasie (4 fratelli) e per demenza (padre); negativa per ipertensione arteriosa, cardiopatie, diabete mellito, malattie psichiatriche.

Anamnesi patologica remota

- *Aponeurectomia mano dx (85)*
- *Ernia inguinale sx (91) e dx (03)*
- *Colica renale (92)*
- *Gammopatia monoclonale IgG/k*
- *Rinite cronica, poliposi nasale*

Anamnesi patologica prossima

Il 31/3/2006, per forti dolori addominali associati a vomito e diarrea, veniva accompagnato al PS di XCR dove si poneva diagnosi di addome acuto e sottoposto a laparotomia esplorativa in urgenza con evidenza di peritonite sottomesocolica secondaria a diverticolite complicata e quindi sottoposto a resezione ed anastomosi in unico tempo. Dopo un decorso post-chirurgico caratterizzato da delirium, i colleghi della UO di Chirurgia chiedono ricovero presso il nostro IDR-Alzheimer per controllo comportamentale.

Anamnesi farmacologica

• Donepezil	10mg	1 cp	(h. 8, PO)
• Sertralina	50 mg	1 cp	(h. 8-20, PO)
• Alprazolam	0.5 mg	1 cp	(h. 13-18, PO)

Valutazione clinica all'ingresso

Parametri vitali & stato nutrizionale

PA 135/90 mmHg (clino), FC 80 b/m, 16 AR/min

Esame obiettivo

Dentizione insufficiente**; cute e mucose** ipoelastiche e disidratate, lesione da decubito sacrale I° grado; **sottocute**: edemi declivi; **capo e collo:** collo non dolente, mobile, non dolorabile. Tiroide nella norma.

Cuore: toni ritmici (80 bpm) e validi, pause libere. **Torace**: ipoespansibilità delle basi, MV fisiologico, FVT normotrasmesso su tutto l'ambito.

Mammella: n.d.r. **Apparato urogenitale**: Giordano negativo bilateralmente.

Apparato locomotore: fibrosi dell'aponeurosi palmare, bilaterale.

Addome: globoso per adipe, dolente alla palpazione profonda (> ai quadranti inferiori), fegato all'arco in espirio, peristalsi presente e valida. Cicatrice chirurgica paramediana a margini netti, non segni di flogosi.

Esame neurologico: confuso e agitato, disorientato nello spazio e nel tempo. Ipertono muscolare ai quattro arti. ROT normo-evocabili ai quattro arti. Tremore e rigidità ai quattro arti. Romberg non eseguibile, Lasegue positivo bilateralmente.

Valutazione multidimensionale all'ingresso

Premorboso (1 mese):

- BARTHEL INDEX 70/100
- IADL (perse) 4/5

All'ingresso:

- BARTHEL INDEX 30/100
- IADL (perse) 5/5
- CAM positiva
- GDS n.v./15
- Tinetti 14/28

- MMSE 11/30

Orientamento diagnostico all'ingresso

- Delirium post-chirurgico: laparotomia per peritonite secondaria diverticolite perforata del sigma (stadio Hinchey 1) trattata con resezione ed anastomosi in unico tempo (31/3)
- Demenza di Alzheimer con disturbi comportamentali (ansia, agitazione, deliri di persecuzione, irritabilità, aggressività, wandering)
- BPCO
- Esiti di adenocarcinoma prostatico (ormono+radioterapia, '99)
- Dislipidemia mista
- Anemia da disordine cronico
- Poliartrosi

Obiettivi

Clinici:

- Controllo del delirium e disturbi comportamentali
- Monitoraggio evoluzione ferita chirurgica e della ripresa funzione intestinale

Riabilitativi:

- Ripristino sicurezza della deambulazione

Terapia

• Sertralina	50 mg	1 cp	(h. 8, PO)
• Lorazepam	1 mg	1 cp	(h. 20, PO)
• Aloperidolo		5 gtt	(h. 20, PO + 5 AB)

Dieta semisolida.

Diario clinico

1° giornata

Paziente agitato, disorientato. Non si conferma donepezil 10mg per l'eccessiva agitazione del paziente.

Eseguita medicazione della ferita chirurgica che risulta essere in ordine, non segni di infezione.

Si richiede routine, si imposta terapia.

ECG ingresso: bradicardia sinusale (51 bpm). Normale conduzione A-V. Asse cardiaco equilibrato. Non alterazioni della ripolarizzazione ventricolare.

PA 135/90 mmHg, FC 55 bpm

Esami ematochimici

Esami di laboratorio:		INGRESSO
Globuli bianchi	(4-10mila/mm^3)	6.2
G.rossi	(4.1-5.1F; 4.5-5.9 milioni/mm^3)	**3.5**
Hb	(12-16F; 14-18 M g/dl)	**12.2**
Hct	(37-47 F; 40-52 M%)	**33.3**
MCV	(82-96 fl)	94.2
Piastrine	(150-450 mila/mm^3)	298
Proteine totali	(6-8 g/dl)	6.9
Albumina	(55-68%; >3.5 g/dl)	**50.4/3.4**
alfa1	(1.5-5%)	4
alfa2	(6-12%)	9.8
beta	(7-14%)	12
gamma	(11-21%)	**23.8**
Colesterolo	(<200 mg/dl)	175
HDL	(40-85 F; 35-85 M mg/dl)	**28**
Trigliceridi	(40-200 mg/dl)	191
AST	(1-35 F; 5-45 M U/l)	24
ALT	(5-35 F; 5-45 M U/l)	44
gamma-GT	(5-35 F; 5-50 M U/l)	44
Fosf.alcal.	(75-240 F; 90-270 M U/l)	162
Colinesterasi	(6.4-15.5 mila U/l)	**5.1**
Bilirubina totale	(0.1-1 mg/dl)	0.6
Es.urine		
peso specifico	(1.002-1.030)	1.020
pH	(<8)	**5**
germi	(assenti)	**+**
proteine	(< 20 mg/dl)	**25**
Hb	(< 10 ul)	**50**
leucociti	(assenti)	**+**
eritrociti	(assenti)	**+**

		INGRESSO
Formula leucocitaria		
neutrofili	(40-75%)	**79.1**
eosinofili	(0-5%)	2.4
basofili	(0-2%)	1
linfociti	(20-50%)	**10.3**
monociti	(2-12%)	7.2
Reticolociti	(2-20n/1000)	**26**
VES	(1-12 mm/ora)	**19**
PCR	(<0.5 U/dl)	**0.7**
Glucosio	(65-110 mg/dl)	95
Urea	(18-50 mg/dl)	38
Creatinina	(0.5-1.1 F; 0.6-1.2 M mg/dl)	1
Sodio	(130-146 mmol/l)	140
Potassio	(3.7-5.4 mmol/l)	3.7
Cloro	(95-110 mmol/l)	107
Ferro	(50-150 F; 60-170 M ug/dl)	51
Transferrina	(200-360 ug/dl)	**182**
Ferritina	(8-140F; 30-400 M$_{ng/ml}$)	343.4
INR		1.19
PTT	(26-36 sec)	30
Fibrinogeno	(180-350 mg/dl)	**440**
TSH	(0.3-4.2 uU/ml)	2.41

Diario clinico

3° giornata

Ha riposato fino alle 4, poi wandering. Stamattina tranquillo.

Deambulazione cautelata.

Esami di routine: IVU, inizia ciprofloxacina 500mg x 2, PO per 7 giorni.

Ore 12: paziente agitato. Apiretico. Normoteso. E.O. addome: teso e dolente, specie alla palpazione profonda della fossa iliaca sx, Blumberg negativo. Si richiede RX addome diretto.

Ore 16: Rx addome diretto: normale meteorismo, assenti livelli idroaerei e gas libero sottodiaframmatico.

4° - 6° giornata

Quadro clinico caratterizzato da ansia e wandering - a tratti affaccendato - durante il giorno ed insonnia notturna che viene trattata con terapia al bisogno aloperidolo 2mg im e lorazepam 2.5mg x os. Addome trattabile, ferita chirurgica in ordine.

7° giornata

Incremento dei disturbi del comportamento (wandering, affaccendamento e ansia), inizia quetiapina (50mg alle 17.00). Alvo pervio.

Diario clinico

8° giornata

Notte riposata a tratti, somministrato lorazepam 4mg im e quetiapina 50mg.

Durante il giorno wandering e affaccendamento. Quetiapina a 25mg x2.

Deiscenza della ferita chirurgica, prosegue medicazioni per favorire guarigione per seconda intenzione.

9° giornata

Mattinata senza variazioni significative sul piano comportamentale

Ore 16: 2 episodi di proctorragia; rifiuta di alzarsi dal letto, nega dolore, parametri vitali inalterati, apiretico.

EO addominale: alla palpazione dolore diffuso a tutti i quadranti, prevalentemente in fossa iliaca sx. Deboli segni di difesa alla parete addominale. Blumberg positivo.

OD] Sospetta diverticolite.

Si contatta PS chirurgico di XCR e si invia per consulenza.

Diario clinico

10° giornata

Al PS esegue RX diretta addominale, negativa per livelli idroaerei, ma evidenza di anse distese. Non segni di flogosi in atto agli esami ematochimici. Esplorazione rettale negativa per sangue in ampolla.

Alle ore 24, non avendo disponibilità di posto letto, il chirurgo rimanda il paziente in reparto consigliando osservazione.

12° giornata

EO addome negativo, risolto dolore, ferita in corso di guarigione. Disturbi del comportamento in riduzione. Il paziente si alimenta da solo. Notte riposata.

13° giornata

Si tenta reinserimento al domicilio e, in accordo con i familiari, si dimette temporaneamente.

Terapia in atto al momento della dimissione temporanea

• Sertralina	50 mg	1 cp	(h. 8, PO)
• Quetiapina	25 mg	1 cp	(h. 12 - 20, PO)
• Lorazepam	1 mg	1 cp	(h. 20, PO)

La malattia diverticolare del colon

Box 1: Terminology

Diverticulosis—the presence of diverticula that are asymptomatic

Diverticular disease—diverticula associated with symptoms

Diverticulitis—evidence of diverticular inflammation (fever, tachycardia) with or without localised symptoms and signs

Complicated diverticulitis—perforation*, abscess, fistula, stricture/obstruction

*As diverticulitis by definition means at least a microperforation in all cases,[6] in this review "perforation" means rupture of a peridiverticular abscess into the peritoneal cavity, causing either purulent or faecal peritonitis.

EPIDEMIOLOGIA

• Frequenza globale molto elevata nei Paesi “occidentali”:

5% sotto ai 40 anni;

oltre il 60% sopra ai 65 anni

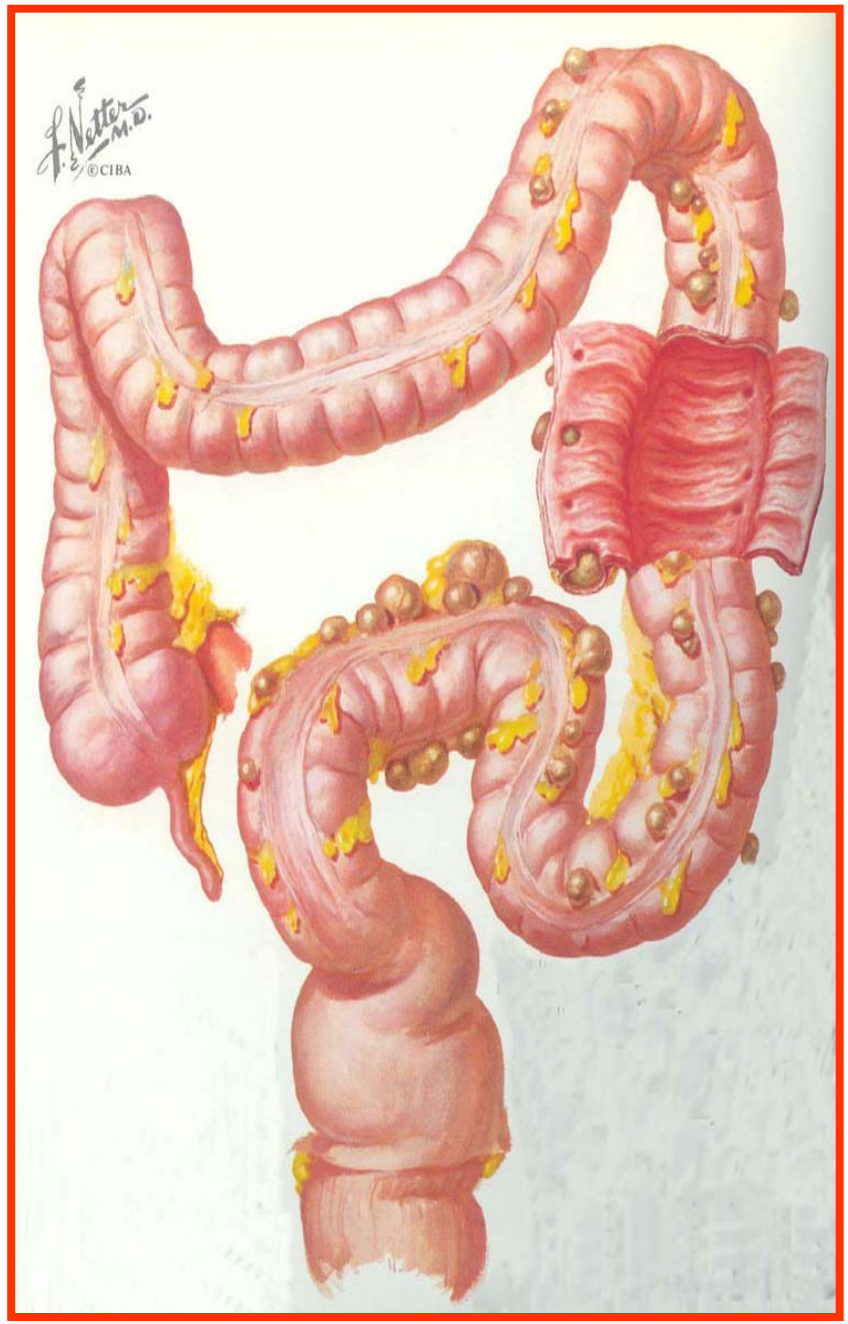
• Il 20% dei portatori di diverticoli manifesta sintomi.

• Di questi, il 2% necessita di uno o più ricoveri.

• Di questi, lo 0,5% richiede un intervento chirurgico.

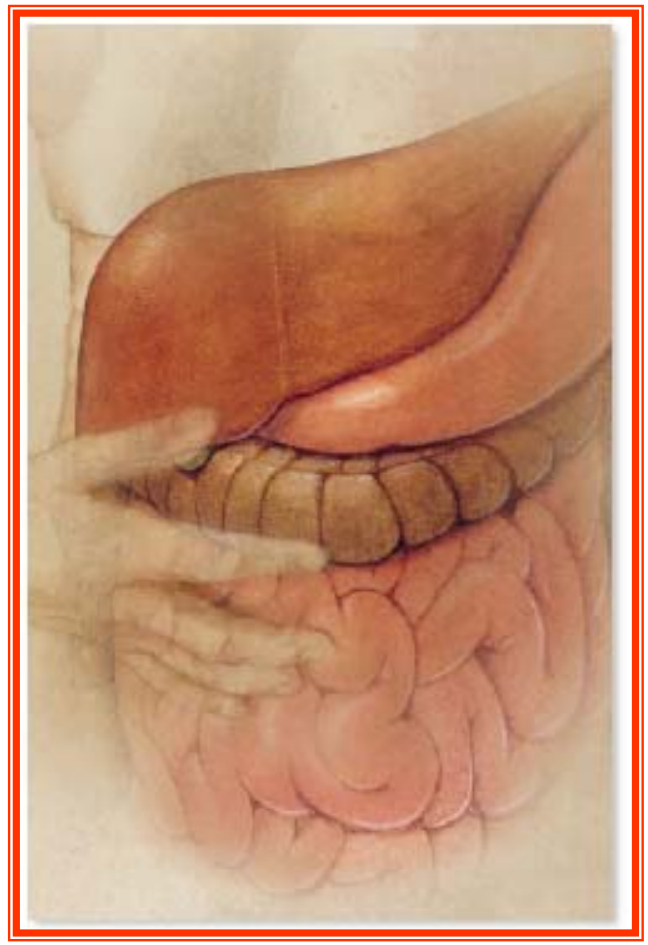
• La mortalità per cause legate ai diverticoli è di 1/10.000.

In generale il rapporto M/F è di 1 a 2



Prevalenza

- 5% to 10% before age 50
- 30% after age of 50
- 50% over age70
- 66% over age 85



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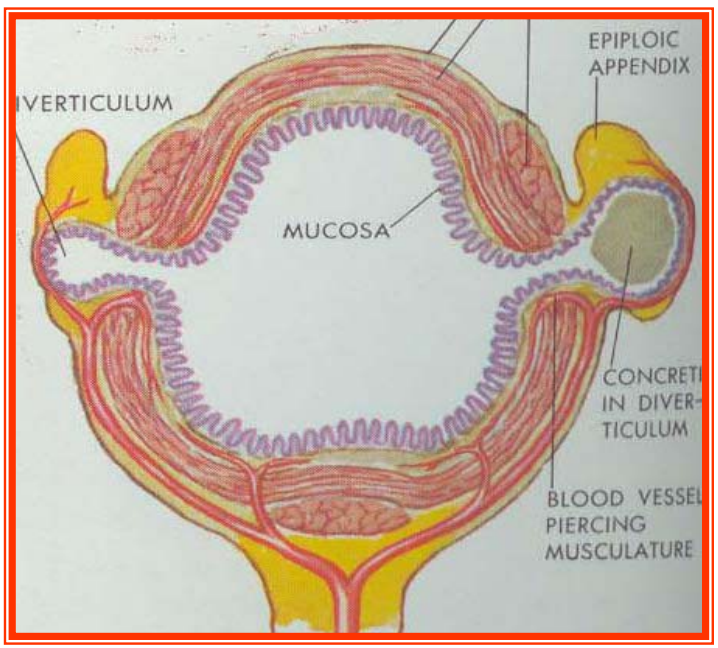
Patogenesi e localizzazione

Sono diverticoli acquisiti, da PULSIONE → *PSEUDODIVERTICOLI*

Erniazione di mucosa e sottomucosa attraverso la parete muscolare, solitamente situata in vicinanza delle "tenie", dove i vasi retti penetrano nella parete colica, indebolendola.



90% colon sinistro

65% sigma

30% sigma + altro

5% sigma non coinvolto

0.7-1.5% diverticoli solitari del cieco

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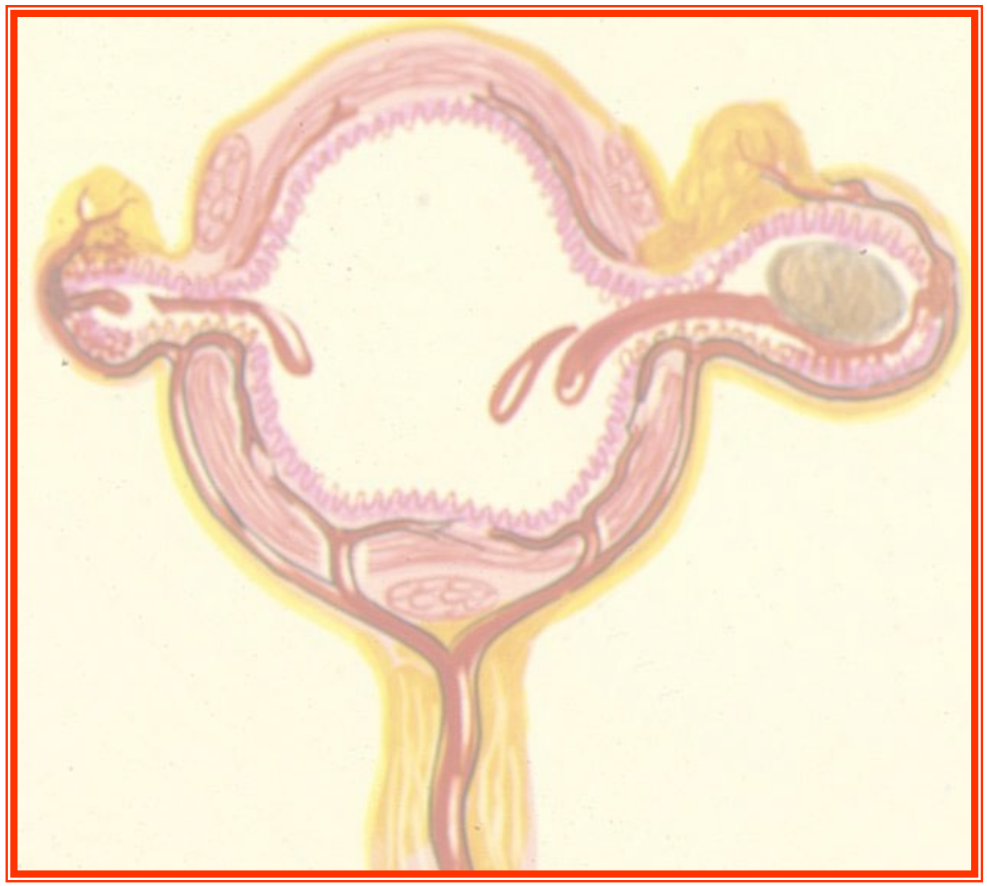
Clinical presentation

- Acute left lower quadrant pain (93% to 100%)
- Fever, chills (57% to 100%)
- Leukocytosis (69% to 83%)
- Nausea, vomiting
- Mass
- Constipation
- Diarrhea
- Urinary symptoms

COMPLICANZE della diverticolite

- **Ascesso pericolico**
- **Fistolizzazione:**

  colo-coliche, colo-vescicali, colo-vaginali, colocutanee
- **Perforazione in cavità libera**
- **Occlusione intestinale (stenosi)**
- **Emorragia**



COMPLICANZE (2)

ASCESSO: febbre e tensione localizzata, talvolta tumefazione palpabile

FISTOLA:

- colo-vescicale: cistiti ricorrenti, pneumaturia, fecaluria, ematuria, febbre, setticemia
- colo-vaginale: passaggio di aria o feci della vagina
- colo-enterica: dolore addominale, malassorbimento, diarrea
- colo-cutanea: fuoriuscita di materiale, drenaggio, ascesso parietale

PERFORAZIONE: tensione addominale, massa palpabile

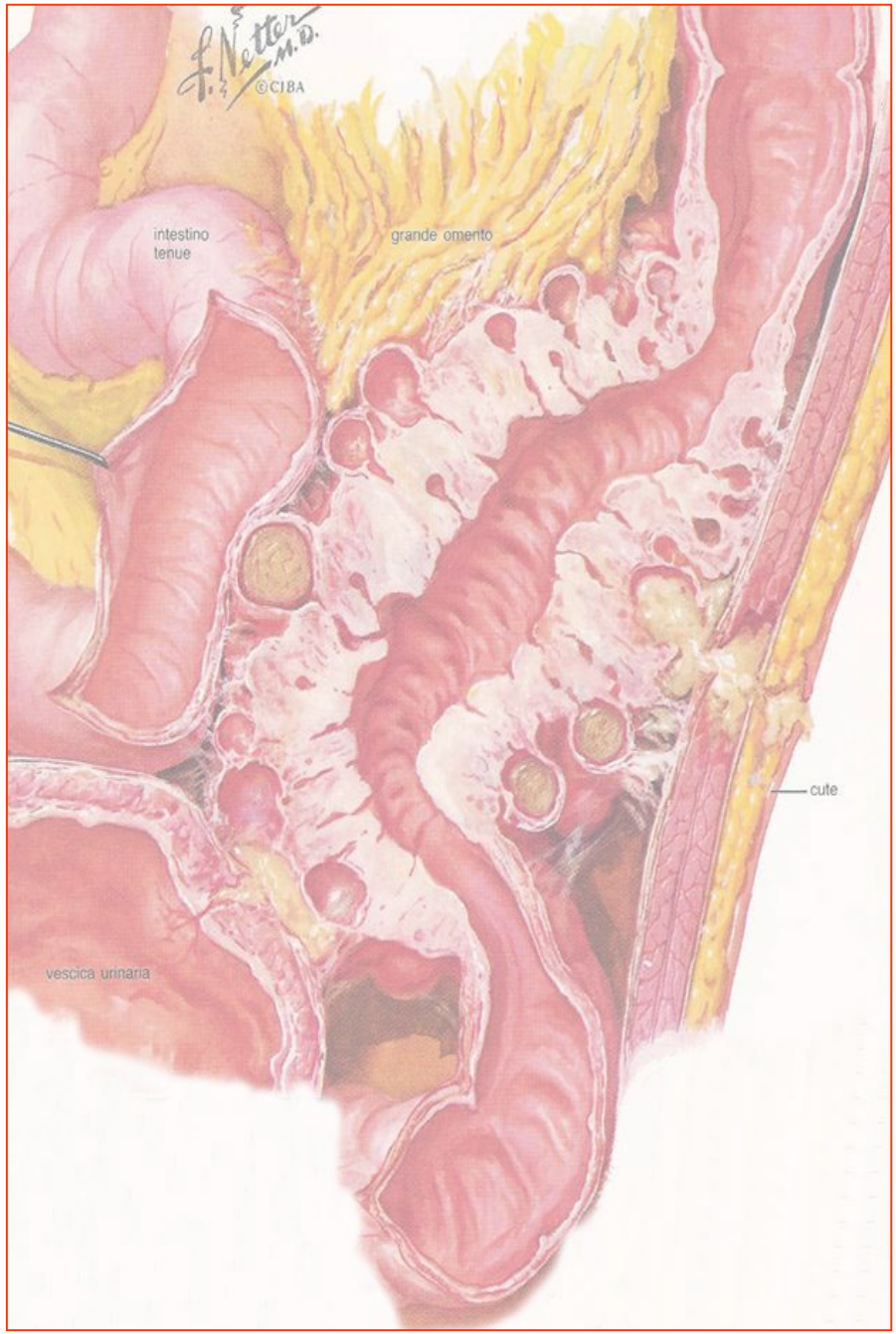
STENOSI: quadro di subocclusione o occlusione completa

EMORRAGIA: da anemizzazione per stillicidio cronico fino a emorragia massiva

Hinchley staging system

Consente di classificare la progressione del processo infiammatorio iniziale nei pazienti con diverticolite

Stadio I	Piccolo ascesso peridiverticolare
Stadio II	Largo ascesso paracolico
Stadio III	Peritonite suppurativa
Stadio IV	Peritonite stercoracea



DIAGNOSI

Indagini Laboratoristiche:

Leucocitosi (assente nel 60%)

Indagini strumentali:

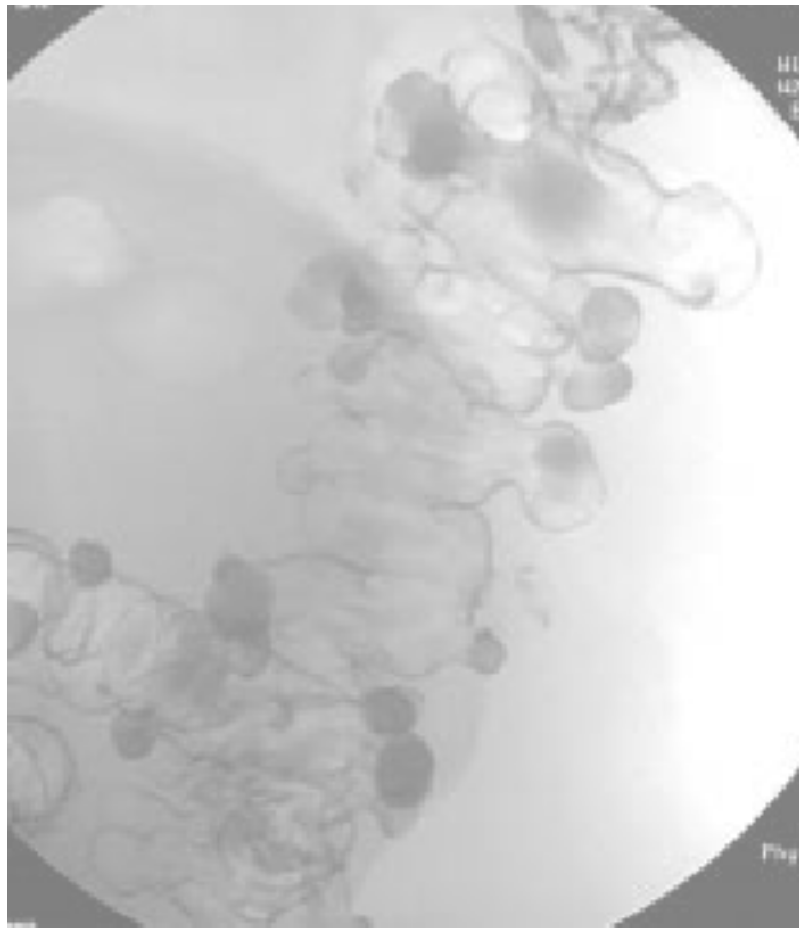
- Clisma opaco
- Ecografia
- TC
- Colonscopia
- Colonscopia virtuale
- RM

CLISMA OPACO

Esame gold-standard per la diagnosi di diverticolosi

Il clisma opaco a doppio contrasto con Bario previa preparazione intestinale offre i migliori risultati

L'utilizzo del m.d.c. idrosolubile (Gastrografin) senza preparazione intestinale è indicato nel quadro acuto



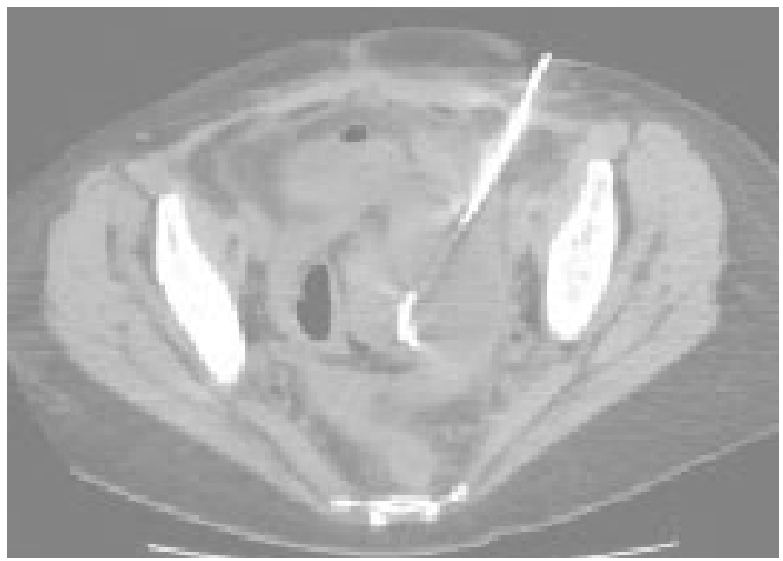
CLISMA OPACO

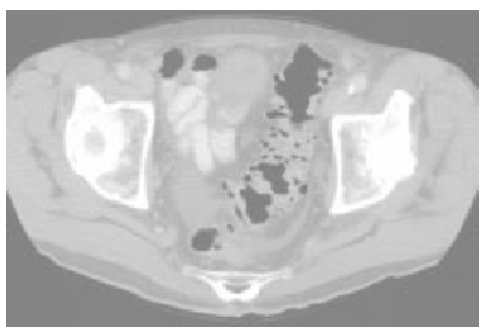
TOMOGRAFIA COMPUTERIZZATA

Esame gold-standard per la diagnosi di diverticolite, delle sue complicanze e per la diagnosi differenziale

Sensibilità: 85-97%

Guida il drenaggio percutaneo degli ascessi addominali da diverticolite





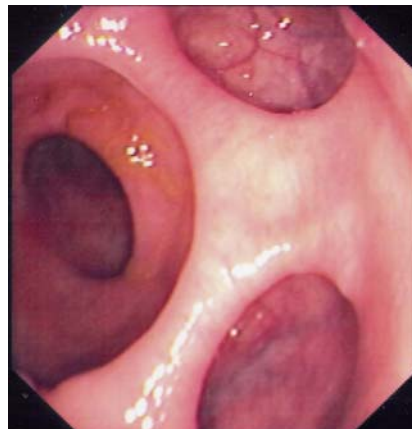
COLONSCOPIA

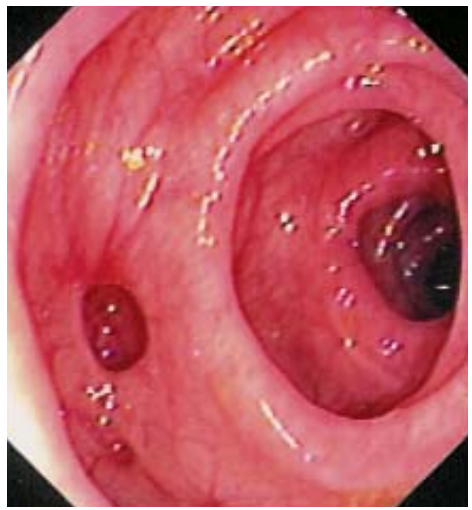
La diverticolosi è un comune reperto alla colonscopia specialmente nei pazienti anziani

Controindicata in caso di diverticolite acuta

Mediante biopsia può consentire la diagnosi differenziale tra stenosi diverticolare e neoplastica

In mani esperte permette di trattare l'emorragia diverticolare con iniezioni di adrenalina, evitando l'intervento chirurgico





American Society of Colon & Rectal Surgeons

Position Statement: **Computed Tomographic Virtual Colonoscopy**

- Virtual computed tomographic virtual colonoscopy (VCT) utilizes radiographic images obtained by CT technology for the purpose of rendering two and three-dimensional images of the colon. Patients still require a mechanical bowel preparation to remove solid stool and a period of time on a clear liquid diet. The colon is insufflated via a transanally placed tube using room air.
- Pickhardt et al (NEJM 2003) reported a sensitivity of 93.8% for polyps >7mm and 88.7% for adenomatous polyps at least 6mm in diameter. **The sensitivity and specificity in this study was equivalent to optical colonoscopy.**
- Another report by Iannaccone et al (Radiology 2003) reported **100% sensitivity for cancers**, **100% for polyps >1cm**, and **83% for polyps 6-9 mm**.
- Taylor et al (Radiology 2003) reported an **absence of hemodynamic changes** during VCT compared to a 30 fold increase in hypotension and a higher rate of bradycardia with optical colonoscopy.
- VCT appears to **offer significant promise as a screening modality** in **moderate risk** populations.
- It avoids the need and risks for sedation, avoids the risk of instrument perforation with optical colonoscopy, and compares favorably for time consumption (15 minutes for image acquisition).
- The **downside** is that patients require **mechanical bowel preparation** and **those with a suspected lesion** will either need to be referred for an optical colonoscopy or arrangements will need to be made for on-demand colonoscopy of positive tests.
- Further data is required to support full transition of screening for colorectal cancer to VCT.

DIAGNOSI DIFFERENZIALE

Carcinoma

Sindrome del colon irritabile

Colite ischemica

Colite pseudomembranosa

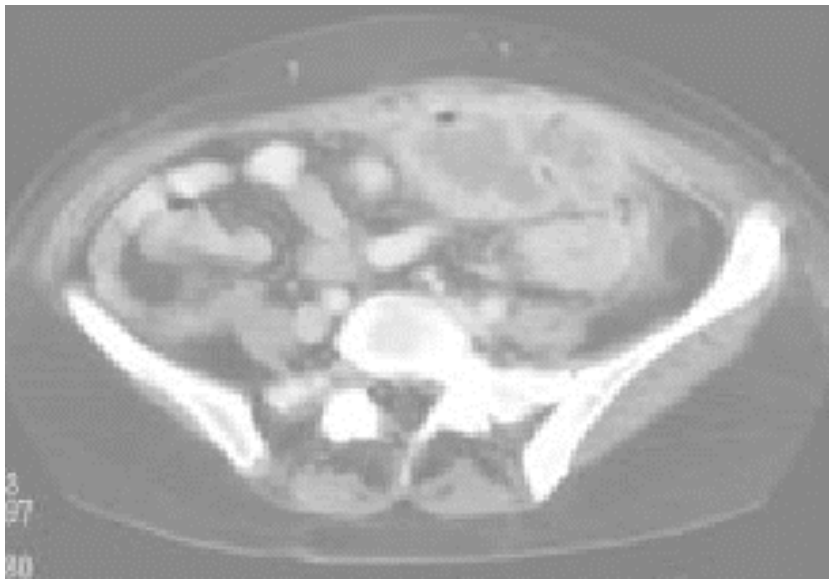
Appendicite acuta

Ulcera peptica perforata

Patologie urologiche

Patologie ginecologiche

DIAGNOSI DIFFERENZIALE



TC in paziente con ascesso adiacente ad un segmento ispessito del colon: cancro perforato o diverticolite complicata?

Clisma opaco con m.d.c. idrosolubile consente di porre diagnosi di processo neoplastico

Treatment of uncomplicated disease, what's news?

- Large prospective studies have identified a preventive effect of both dietary fibre and physical exercise in the development of diverticular disease.
- **Once symptoms have developed**, however, evidence of a **benefit from fibre is less convincing**.
- Another randomised controlled trial found that adding **rifaximin** to fibre supplementation decreased symptoms after **12 months** of treatment. Although some people may benefit from supplementary fibre, more evidence is needed from studies with longer follow-up before fibre supplementation can be widely recommended.
- **Mesalazine** has been shown to significantly reduce symptomatic recurrence at **four years** compared with placebo, but abdominal pain was more common with mesalazine.
- A more recent randomised controlled trial suggests that **mesalazine may be superior to rifaximin** in overall control of symptoms.
- **Long term use of opioids** (which increase intracolonic pressure) seems to increase the risk of diverticular perforation. Whether these associations are causal remains unclear, so insufficient evidence exists to make recommendations on use of calcium channel blockers or opioid analgesics in patients with diverticular disease.
- Use of **non-steroidal anti-inflammatory drugs** remains the **most consistently identified risk factor for diverticular perforation** but accounts for **only a fifth of** all cases of perforation.
- The hypothesised mechanism is due to the adverse affect of prostaglandin inhibition on mucosal blood flow. When considering nonsteroidal anti-inflammatory drugs for patients with diverticular disease, the risk of perforation.
- When considering nonsteroidal anti-inflammatory drugs for patients with diverticular disease, the risk of perforation should be balanced against the therapeutic benefit.

Antibiotic Therapy In Diverticulitis		
Usual Organisms	**Therapy**	**Dosage**
Enterobacteriaecea (E. coli, Serratia, Klebsiella, Enterobacter, Citrobacter), Enterococci Bacteriodes	Metronidazole	15 mg/kg IV over 1 hr Maintenance: 7.5 mg/kg PO/IV q6h
	Ampicillin	500 mg to 3 g IV q4-6h not to exceed 12 g/d or 250-500 mg PO q6h
	Ciprofloxacin	200 mg IV q12h or 250-500 mg PO q12h
	Ceftazidime	250 mg to 2 g IV/IM q8-12h
	Imipenem	250-500 mg IV q6h
	Meropenem	1 gr/IV q8h
	Gentamicin	1-2.5 mg/kg IV Maintenance: 1-1.5 mg/kg q8h

TERAPIA DELLE COMPLICANZE

Stadio Hinchley I - II

- Resezione e anastomosi in un unico tempo
- Alcuni studi mostrano minore morbidità e mortalità se l'intervento viene associato a wash-out

Stadio Hinchley III - IV

- Resezione e anastomosi in un unico tempo
- Resezione sec. Hartmann (in due tempi)
- *La tecnica prescelta varia in funzione dell'abilità del chirurgo e del quadro riscontrato al momento dell'intervento*

TRATTAMENTI CONSERVATIVI

ASCESSO: drenaggio TC guidato

STENOSI: dilatazioni endoscopiche

EMORRAGIA: iniezioni endoscopiche di adrenalina

Tali procedure possono permettere di procrastinare un intervento chirurgico o possono rappresentare l'unico momento terapeutico per pazienti con rischio operatorio eccessivamente elevato.

Acute Abdomen in the older patient

Definizione

- Sebbene il dolore addominale sia frequente e spesso non significativo, il dolore acuto e importante è quasi sempre sintomo di una patologia intra-addominale.
- Può essere la sola indicazione a un intervento chirurgico.
- Si deve decidere rapidamente se il paziente ha un addome chirurgico. La gangrena e la perforazione dell'intestino si possono verificare, infatti, entro 6 h dall'interruzione dell'irrorazione sanguigna per strangolamento o per embolia arteriosa.
- Il dolore addominale può essere acuto, nel quale caso si pone il problema dell'emergenza chirurgica, o può essere cronico, nel qual caso (almeno per un certo periodo di tempo) il trattamento è di tipo medico.

CAUSE COMUNI DI DOLORE ADDOMINALE

Organo	*Indicazioni alla terapia chirurgica*	*Indicazioni alla terapia medica*
Esofago	Perforazione iatrogena in corso di endoscopia, cateterismo, dilatazione con palloncino; perforazione da vomito (sindrome di Boerhaave)	Esofagite da reflusso, spasmo esofageo
Stomaco	Ulcera perforata, ernia paraesofagea, cancro dello stomaco	Ulcera gastrica benigna non complicata, gastritie, gastroenterite acuta, ernia iatale da scivolamento
Duodeno	Ulcera duodenale perforata	Ulcera duodenale non complicata
Digiuno, ileo	Ostruzione intestinale, diverticolo di Meckel	Gastroenterite, morbo di Crohn
Appendice	Appendicite	
Colon-retto	Diverticolo perforato o stenosante, volvolo (del ceco, del sigma), cancro, invaginazione, ostruzione del colon, fistola perianale, ragade anale	Colite ulcerosa, morbo di Crohn, diverticolite (lieve), fecalomi, dolore colico funzionale, disturbi della motilità, diarrea, costipazione, ileo
Fegato	Adenoma epatocellulare, sindrome di Budd-Chiari, ascessi	Malattia infiltrativa del fegato con distensione della capsula, ematoma sottocapsulare
Via biliare	Calcolosi, colecistite acuta, colangite acuta	Calcolosi
Milza	Rottura, ascessi	
Pancreas	Pancreatite (grave), pseudocisti	Pancreatite (lieve)
Vasi	Aneurisma aortico; trombosi o embolia dell'arteria o della vena mesenterica; angina abdominis	
Rene	Calcolosi	Pielonefrite
Vescica	Calcolosi	Cistite
Peritoneo	Peritonite o emoperitoneo da causa sconosciuta, deiscenza anastomotica postoperatoria, ascesso intraperitoneale (pelvico, sottofrenico, sottoepatico, laterale tra le anse)	Tubercolosi; peritonite primitiva; peritonite da talco o da amido; emoperitoneo secondario agli anticoagulanti; dolori "urenti" (eccetto da ulcera peptica); febbre tifoide; radicolite
Ernia	Esterna o interna (non complicata, incarcerata, o strangolata)	

Journal of Gerontology: MEDICAL SCIENCES
2005, Vol. 60A, No. 8, 1071–1076

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Etiology and Clinical Course of Abdominal Pain in Senior Patients: A Prospective, Multicenter Study

Lawrence M. Lewis,[1] Gerald A. Banet,[1] Michelle Blanda,[2] Fredric M. Hustey,[3] Stephen W. Meldon,[4] and Lowell W. Gerson[2]

"Physicians of older patients should know that despite improved diagnostic technology, a significant rate of inconclusive or incorrect diagnoses exists in older patients evaluated in an ED for abdominal pain. Many of these patients have serious conditions."

Table 2. Diagnoses for Patients With Abdominal Pain With Percentage Change Between Emergency Department and Final Diagnoses ($N = 337$)

ED Diagnosis	No. (%)	% Change*	Final Diagnosis	No. (%)
Nonspecific	70 (20.8)	28.6	Nonspecific	50 (14.8)
Bowel obstruction	29 (8.6)	6.9	UTI	29 (8.6)
UTI	28 (8.3)	−3.6	Bowel obstruction	27 (8.0)
Gastroenteritis	22 (6.5)	13.6	Gastroenteritis	25 (7.4)
Constipation	19 (5.6)	−5.3	Gallbladder dis.	22 (6.5)
Diverticulitis	15 (4.5)	−40.0	Diverticulitis	21 (6.2)
Pancreatitis	15 (4.5)	13.3	Constipation	20 (5.9)
Cardiac	14 (4.2)	28.6	Cancer/mass	19 (5.6)
Cancer/mass	13 (3.9)	−46.2	PUD/GERD	15 (4.5)
Gallbladder disease	13 (3.9)	−69.2	Pancreatitis	13 (3.9)
Urinary retention	12 (3.6)	0.0	Urinary retention	12 (3.6)

Notes: *Percent (%) change is positive when the proportion of patients with the ED diagnosis was larger than that of the final (2-week follow-up) diagnosis.

Table 3. Emergency Department Radiologic Utilization by Age, Race, Sex, and Patient Subtype

Characteristic	Plain Radiograph, No. (%)	CT, No. (%)	Radiograph + CT, No. (%)	Ultrasound, No. (%)
Age	139 (39)	135 (38)	50 (14)	36 (10)
60s ($n = 149$)	47 (32)	60 (40)	20 (13)	14 (9)
70s ($n = 121$)	45 (37)	42 (35)	15 (12)	10 (8)
80+ ($n = 90$)	47 (52)‡	33 (37)	15 (17)	12 (13)
Race*	137 (38)	134 (38)	50 (14)	35 (10)
White ($n = 185$)	78 (42)	76 (41)	26 (14)	17 (9)
Other ($n = 171$)	59 (34)	58 (34)	24 (14)	18 (10)
Sex	139 (39)	135 (38)	50 (14)	36 (10)
Women ($n = 236$)	100 (42)†	82 (35)	36 (15)	24 (10)
Men ($n = 124$)	39 (32)	53 (43)	14 (11)	12 (10)
Patient subtype	139 (39)	135 (38)	50 (14)	36 (10)
Surgical or invasive ($n = 58$) make #63	33 (57)‡	27 (47)	15 (26)†	12 (21)†
Nonspecific AP ($n = 62$)	25 (40)	30 (48)	9 (14)	5 (8)
All others ($n = 240$)	81 (34)	78 (32)†	26 (11)	19 (8)

Table 4. Disposition and Outcomes of Geriatric Emergency Department Patients With Abdominal Pain

	Categories	No. (%)
Disposition ($N = 337$)	Return ED visits	17 (9)
	Rehospitalization*	12 (6)
	Discharged	143 (42)
	Return ED visits	20 (14)
	Rehospitalization	11 (8)
Outcomes ($n = 360$)	Hospital LOS ≥ 3 days	144 (40)
	Operative procedure	63 (18)
	Death within 2 weeks	17 (5)

Table 5. Association of Age, Race, and Sex With Adverse Outcomes

Characteristic	Categories ($N = 337$), No. (%)	LOS ≥ 3 days ($N = 138$), No. (%)	Surgery ($N = 58$), No. (%)	Mortality ($N = 16$), No. (%)
Age				
60s	135 (40)	51 (38)	23 (17)	4 (3)
70s	117 (35)	49 (42)	19 (16)	2 (2)
80+	85 (25)	38 (45)	16 (19)	10 (12)*
Race				
White	178 (53)	75 (42)	32 (18)	10 (6)
Other	156 (47)	62 (40)	26 (17)	6 (4)
Sex				
Women	222 (66)	89 (40)	22 (19)	7 (3)
Men	115 (34)	49 (43)	36 (16)	9 (8)

Clinical Picture

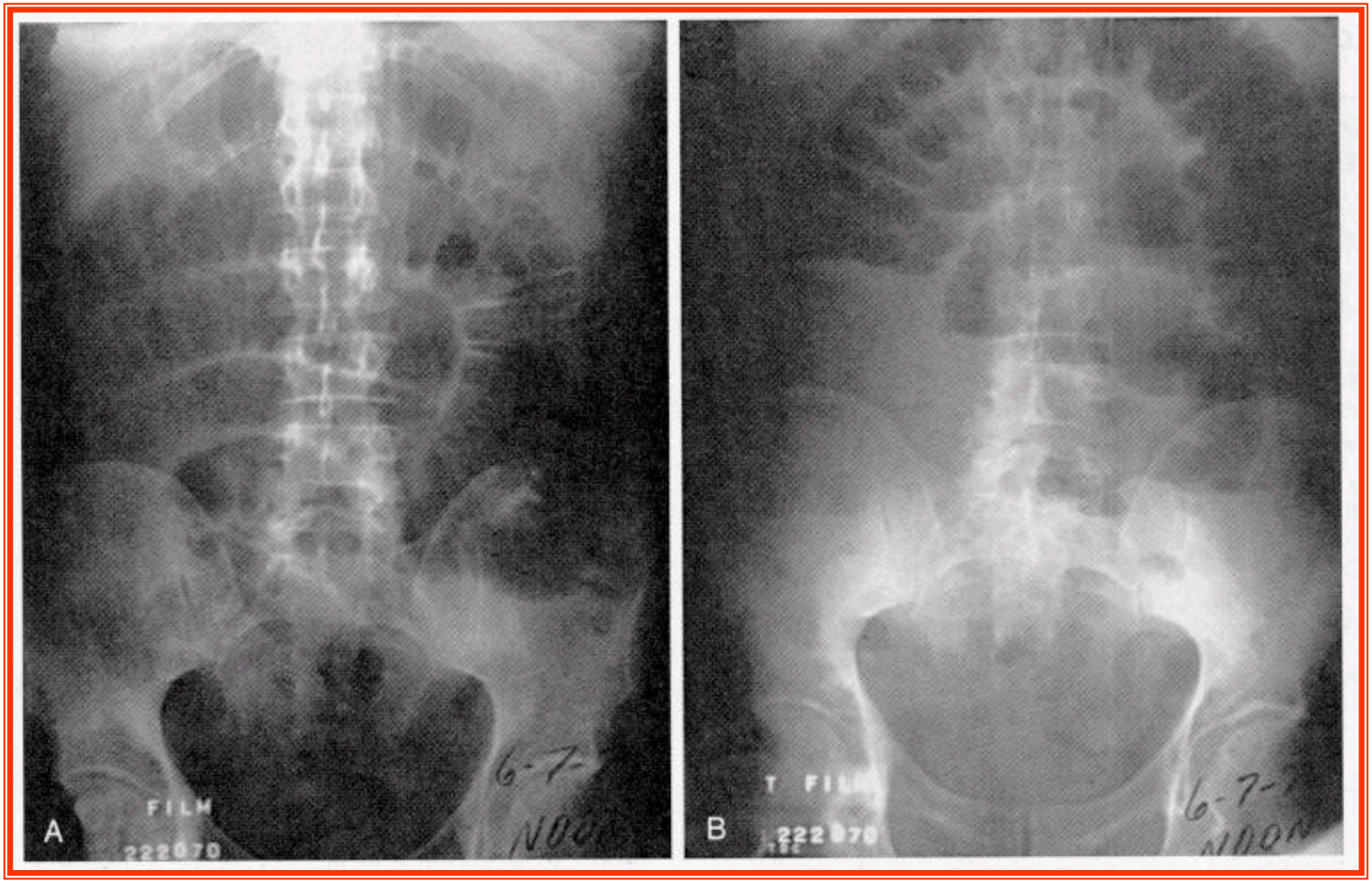
- Colicky abdominal pain
- Abdominal distension
- Vomiting
- Decreased passage of stool or flatus

Adynamic Ileus vs Mechanical Obstruction

- Gas diffusely through intestine, incl. colon
- May have large diffuse A/F levels
- Quiet abdomen
- No obvious transition point on contrast study
- Peritoneal exudate if peritonitis

- Large small intestinal loops, less in colon
- Definite laddered A/F levels
- “Tinkling”, quiet= late
- Obvious transition point on contrast study
- No peritoneal exudate

Mechanical Obstruction



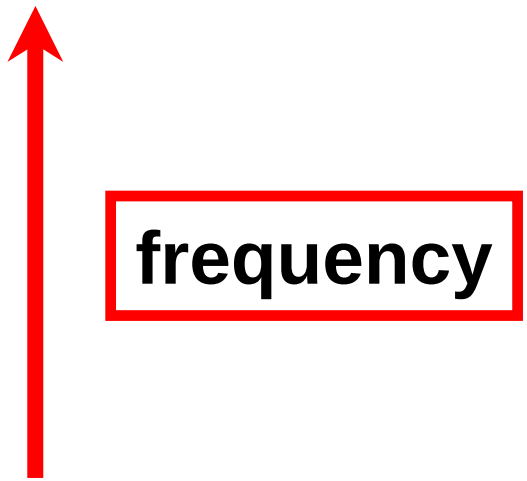
Adynamic Ileus

Site? Small Bowel vs. Large Bowel

- Scenario
  - prior operations, Δ in bowel habits
- Clinical picture
  - scars, masses/ hernias, amount of distension/ vomiting
- Radiological studies
  - gas in colon?, volvulus?, transition point, mass
- (Almost) always operate on LBO, often treat SBO non-operatively

Common Causes of Lower Bowel Obstruction

1. Colon cancer
2. **Diverticulitis**
3. Volvulus
4. Hernia



Unlike SBO, adhesions very unlikely to produce LBO

Partial vs Complete

- Flatus
- Residual colonic gas above peritoneal reflection /p 6-12h
- Adhesions
- 60-80% resolve with non-operative
- Must show objective improvement, if none by 48h consider

- Complete obstipation
- No residual colonic gas on Abdomen XR
- Almost all should be operated on within 24h

Gastroenterology

Acute abdominal pain

Four classifications can guide assessment and management

Chat Dang, MD Patrick Aguilera, MD Alexis Dang, BS Leon Salem, MD

Geriatrics March 2002 Volume 57, Number 3

Table Four classifications of acute abdominal pain

Peritonitis

Localized (acute appendicitis, cholecystitis, diverticulitis)

Generalized (perforated viscus)

Bowel obstruction

Strangulated hernia

Volvulus

Abdominal vascular catastrophe

Abdominal aortic aneurysm (leaking or ruptured)

Acute mesenteric infarction

Nonspecific abdominal pain or medical conditions

Drug-induced

Constipation, acute gastroenteritis

Acute MI, lower lobe pneumonia

Source: Prepared for Geriatrics by Chat Dang, MD, Patrick Aguilera, MD, Alexis Dang, BS, and Leon Salem, MD

Acute Abdominal Pain

Considerations:

- Stable or unstable?
- **P Q R S T**
  - **P**recipitating or alleviating factors
  - **Q**uality
  - **R**adiation- scapula, inguinal, supraclavear
  - **S**everity- 1 to 10 scale
  - **T**iming- sudden, insidious
    - Crampy or continuous

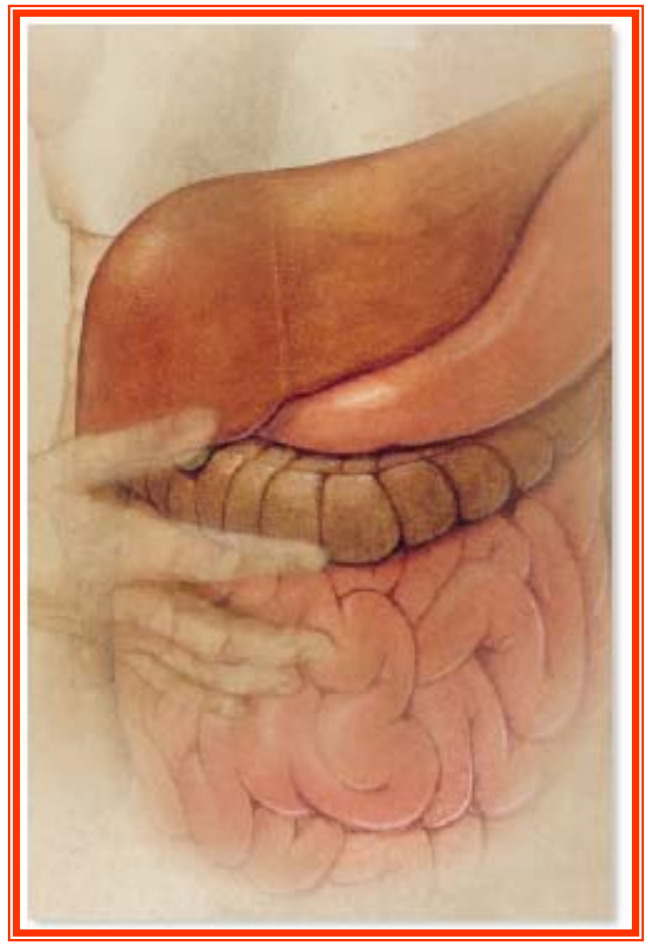
Acute Abdomen in the Older Patient

Morbidity and mortality: higher in geriatric patients

Delayed diagnosis: “high index of suspicion needed”

Symptoms vague/atypical:

- Rebound and guarding absent in 50-70%
- WBC: “normal” but may have left shift
- Confusion, anorexia



Diagnostic Approach

- Essential Questions:
  - Stable or Unstable?
  - Do I need the surgeon now?
  - Is it obvious that they need an operation?

Abdominal pain is a common occurrence in older persons and a frequent catalyst for office and emergency room visits. Complaints must be investigated thoroughly because they often indicate serious underlying pathology such as infection, mechanical obstruction, malignancy, biliary disease, cardiac problems, and GI ischemia. One means of overcoming a sprawling differential diagnosis is to determine whether the problem falls into one of four general categories: peritonitis, bowel obstruction, vascular catastrophe, or nonspecific abdominal pain. A comprehensive history, careful physical examination, and use of abdominal imaging studies facilitate effective assessment. As atypical presentations are frequently encountered in older persons, liberal use of ultrasound and contrast CT and early surgical consultation are recommended.

Dang C, Aguilera P, Dang A, Salem L. Acute abdominal pain: Four classifications can guide assessment and management. Geriatrics 2002; 57(March):30-42.

Prognostic factors of perforated sigmoid diverticulitis in the elderly.

Makela et al, Dig Surg. 2005

Mortality is related to age but age alone is not an independent predictor of mortality. The Manheim Peritonitis Index (MPI score) is useful in predicting the risk of death in patients with perforated diverticulitis.

Surgical treatment of perforated diverticular disease: evaluation of factors predicting prognosis in the elderly.

Pisanu A et al.Int Surg. 2004

In patients over 70 years of age, postoperative mortality rate was 40%, and diameter of perforation, duration of symptoms, and MPI score seemed significantly related to postoperative death.

In the elderly, prognosis is strongly related to **duration of symptoms**, and **treatment delay** is caused by late hospitalization because of a **low sensibility to the disease symptoms** in old people.

Assessment of pain in older adults with severe cognitive impairment.

Ann Long-Term Care:Clin Care Aging 2004;12(4):46-52.

"... it is imperative that health care professionals' knowledge and skills related to pain assessment in older adults be improved and aggressive approaches to comprehensive pain assessment be adopted."

REVIEW

Experience assessment and management of pain in people with dementia

MARIA FRAMPTON

Pain is an inherently subjective experience that is difficult to prove. In a cognitively impaired older person whose verbal fluency is declining, both the experience and expression of pain are altered. Assessment poses many difficulties. Consequently the older person with dementia and pain may be under-treated and poorly managed. This review addresses each of these issues and makes recommendations for more effective care in the future. The search strategy for this review was carried out using Medline (1990–2002), Embase (1989–2001) and ClinPSYCH (1990–2001) databases. References cited within these sources were also reviewed. Searches were limited to English language studies. The quality of relevant studies retrieved was assessed and information from relevant papers synthesised using narrative summary.

Table I: Common Pain Behaviors in Cognitively Impaired Elderly Persons

Facial Expressions
- Slight frown; sad, frightened face
- Grimacing, wrinkled forehead; closed or tightened eyes
- Any distorted expression
- Rapid blinking

Verbalizations, Vocalizations
- Sighing, moaning, groaning,
- Grunting, chanting, calling out
- Noisy breathing
- Asking for help
- Verbally abusive

Body Movements
- Rigid, tense body posture, guarding
- Fidgeting
- Increased pacing, rocking
- Restricted movement
- Gait or mobility changes

Changes in Interpersonal Interactions
- Aggressive, combative, resisting care
- Decreased social interactions
- Socially inappropriate, disruptive
- Withdrawn

Changes in Activity Patterns or Routines
- Refusing food, appetite change
- Increase in rest periods
- Sleep, rest pattern changes
- Sudden cessation of common routines
- Increased wandering

Mental Status Changes
- Crying or tears
- Increased confusion
- Irritability or distress

Note: *Some patients demonstrate little or no specific behavior associated with severe pain. Source: AGS Panel on Persistent Pain in Older Persons. The management of persistent pain in older persons. J Am Geriatr Soc 2002;50:S205-S224.*

The Painful Abdomen

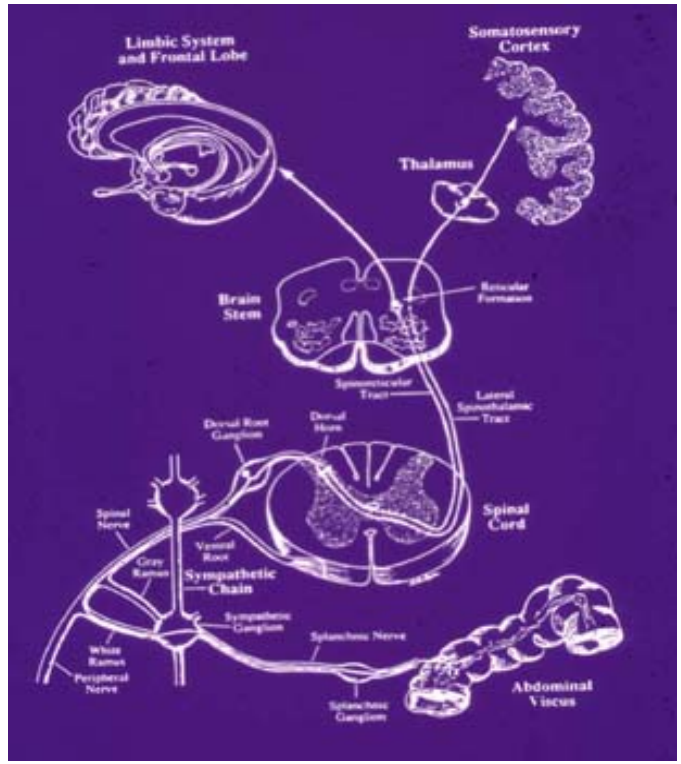
- Pain vs Tenderness
  - Distinction is critical to making the diagnosis
  - Be precise:
    - Conceptually,
    - Verbally
    - Written Documentation

Pain- is a subjective symptom

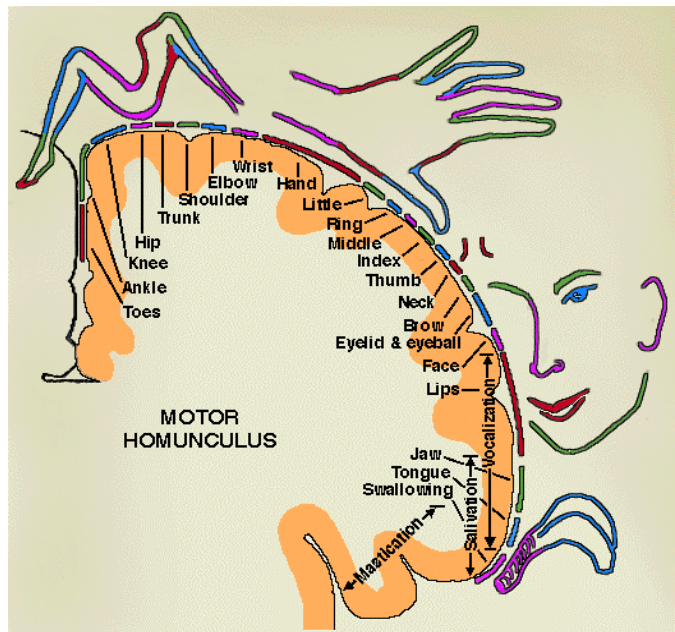
Tenderness is an objective sign

Pain vs Tenderness

- Based on abdominal innervation:
  - Visceral Pain
    - Sense stretching and ischemia only
    - mediated via <u>Visceral Afferent fibers</u>
      - Follow the blood supply
      - Difuse, not mapped 1:1 on sensory cortex



- Tenderness
  - Somatic Afferent Innervation
    - Parietal peritoneum
    - Abdominal Wall
  - Precisely mapped on sensory cortex



Who needs hospitalisation?

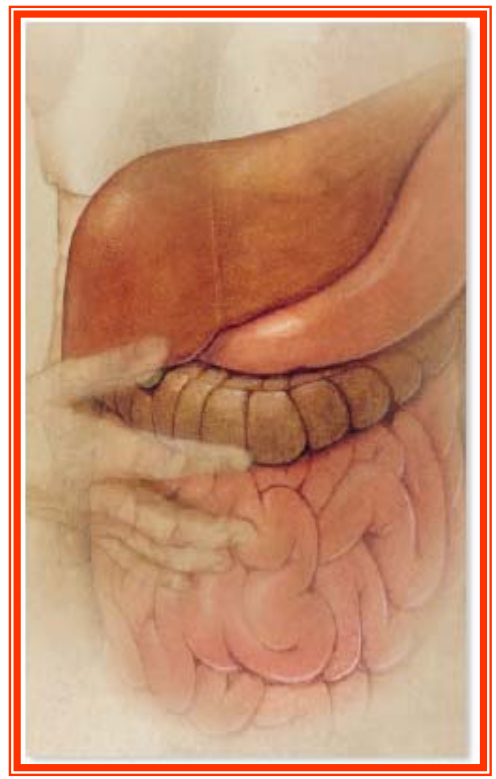
- Anyone who needs or is likely to need surgery e.g. acute appendicitis, **perforation** etc.
- Anyone with major constitutional upset e.g. low blood pressure, rapid respiration, rigid abdomen
- Anyone in severe pain
- Anyone in whom a confident diagnosis cannot be made
- Very old and very young

Dang, 2002

When to call the surgeon?

Box 3: Indications for surgery

- Purulent or faecal peritonitis
- Uncontrolled sepsis
- Fistula (fig 3)
- Obstruction (fig 4)
- Inability to exclude carcinoma



Which ‘acute abdomens’ can the General Practitioner ‘sit on’ or treat

- Abdominal pain without non-gi symptoms or signs (may be ‘wind’)
- Where clear diagnosis is possible and patient not at risk by age or other cause e.g.
  - diverticulits
  - acute gastroenteritis
  - urinary tract infections (some renal colics)
  - cholecystitis (with known GBD and no jaundice)

Principles

- Fluid resuscitation
- Electrolyte, acid-base correction
- Close monitoring
  - foley, central line
- NGT decompression
- Antibiotics controversial
- TO OPERATE OR NOT TO OPERATE

Chores in the interim

- ABCs
  - Does this pt need intubated, O_2?
  - IVs
    - Resuscitation- NS vs LR
    - Bolus therapy- 20cc/kg, repeat if necessary
  - Foley Catheter
  - ?Central line
- Type and Cross
- Antibiotics- Gram Neg and Anaerobic
    - Cipro/Flagyl
    - Pip-Tazo
    - Cefotetan
  - Pain Medication

When is it safe NOT to operate?

- SMALL bowel obstruction if adhesions suspected etiology i.e. CANNOT have a “virgin” abdomen
- No signs of strangulation
- Adynamic ileus

Clinical research questions that remain unanswered

- Why diverticula are so common in the colon in Western societies
- Whether changes in lifestyle, especially diet, by young people would prevent development of diverticula in later life
- Why some people get symptoms from diverticular disease, but most do not
- Why some people have an associated abnormality of muscle in the colon
- What leads to infection or other complication of a diverticulum
- How treatment of symptoms or complications can be improved

Golden Rule

NEVER LET THE SUN RISE

OR FALL ON A PATIENT WITH

BOWEL OBSTRUCTION